JOURNAL OF THE AMERICAN GERIATRICS SOCIETY

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JOSEPH G. OUSLANDER, MD, AGSF, Editor-in-Chief | ALEXANDER K. SMITH, MD, MS, MPH, Executive Editor

American Geriatrics Society 2022 Annual Scientific Meeting

WILEY

AGS Geriatrics Healthcare Professionals
Leading Change. Improving Care for Older Adults.

About the American Geriatrics Society

WHO WE ARE

Founded in 1942, the American Geriatrics Society (AGS) is a nationwide, not-for-profit society of geriatrics healthcare professionals dedicated to improving the health, independence, and quality of life of older people. Our members include thousands of geriatricians, advanced practice nurses, social workers, family practitioners, physician assistants, pharmacists, and internists who are pioneers in advanced-illness care for older individuals, with a focus on championing interprofessional teams, eliciting personal care goals, and treating older people as whole persons.

The Society provides leadership to healthcare professionals, policymakers, and the public by implementing and advocating for programs in clinical care, research, professional and public education, and public policy that can support us all as we age.

OUR MISSION

To improve the health, independence, and quality of life of all older people.

OUR VISION FOR THE FUTURE

We are all able to contribute to our communities and maintain our health, safety, and independence as we age.

We all have access to high-quality, person-centered care informed by geriatrics principles and free of ageism.

We all are supported by and able to contribute to communities where ageism, ableism, classism, homophobia, racism, sexism, xenophobia, and other forms of bias and discrimination no longer impact healthcare access, quality, and outcomes for older adults and their caregivers.

STRATEGIES FOR ACHIEVING OUR VISION

1. Expanding the geriatrics knowledge base by disseminating basic, clinical, and health services research focused on the health of all older people.
2. Increasing the number of healthcare professionals employing geriatrics principles when caring for diverse older persons by supporting the integration of geriatrics concepts into health professional education.
3. Recruiting diverse healthcare professional trainees into geriatrics by focusing on the rewards and potential of a career caring for older people.
4. Advocating for public policy that promotes the health and independence of diverse older Americans, with the goal of improving health, quality of life, and healthcare systems serving us all as we age.
5. Creating awareness about the ways geriatrics can support diverse older people remaining active, independent, and engaged in our communities.
6. Working across our other strategic priorities in health care to identify and eliminate ageism, ableism, classism, homophobia, racism, sexism, xenophobia, and other forms of social and structural bias/discrimination given their impact on health, safety, and independence as we age.

LEARN MORE

Visit *www.americangeriatrics.org* to learn more about the Society and its programs.

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Dear Annual Meeting Attendee:

The American Geriatrics Society Annual Scientific Meeting is the premier educational event in geriatrics, providing the latest information on clinical geriatrics, research on aging, and innovative models of care delivery. The 2022 Annual Meeting will address the professional and educational needs of geriatrics professionals from all disciplines through state-of-the-art educational sessions and research presentations.

This supplement of the *Journal of the American Geriatrics Society* is devoted to abstracts of the scientific presentations that are scheduled for the 2022 AGS Annual Scientific Meeting. We are hopeful that this supplement will be helpful to those of you who are planning to attend the meeting so as to maximize your attendance at educational, research, and clinical presentations of interest to you.

We are also pleased to provide these abstracts to subscribers of the Journal. We believe that they are an important way of keeping JAGS readers up-to-date on the latest advances in the field.

Sincerely,

Christine Bradway, PhD, CRNP, FAAN, AGSF
Program Chair

Peter Hollmann, MD, AGSF
President

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AMERICAN GERIATRICS SOCIETY 2022 ANNUAL SCIENTIFIC MEETING

May 11–14, 2022

WALT DISNEY WORLD SWAN & DOLPHIN HOTEL
ORLANDO, FL

RESEARCH PRESENTATIONS SCHEDULE AT A GLANCE

THURSDAY, MAY 12, 2022

8:15 AM – 9:15 AM
EPIDEMIOLOGY PAPER SESSION

P1 - Postoperative Gabapentin Use and Adverse Clinical Events in Older Adults After Major Surgery: A Retrospective Cohort Study
Chan Mi Park, MD

P2 - Trends in Cannabis-Related Emergency Department Visits Among Older Adults in California
Benjamin H. Han, MD

P3 - The Epidemiology of Community-Initiated Functional Disability
Claire K. Ankuda, MD, MPH, MSc

P4 - Mean and Variability of Morning Hour Activity Predict Risk of 5-Year Mortality and Frailty Decline in National Sample of Older Adults.
Wendy J. Chen, MD

9:30 AM – 10:15 AM
PLENARY PAPER SESSION

P5 - EQUiPPED Study: Enhancing the Quality of Prescribing Practices for Older Adults Discharged from the Emergency Department in the Largest Health System in Rhode Island
Elizabeth M. Goldberg, MD, ScM

P6 - Comparative Effectiveness of a Nurse Driven Early Mobility Protocol in Preventing Undesirable Outcomes during Hospitalization
Lynnae A. Edwards-Carolina, MD

P7 - Development and Internal Validation of a Mortality Prediction Model in Community-Dwelling Older Adults with Dementia
W. James Deardorff, MD

11:30 AM – 12:30 PM
GERIATRIC EDUCATION PAPER SESSION

P8 - A Survey of Fellowship-Trained Physicians Who Let Their Geriatric Medicine Certification Lapse: Preliminary Findings
Kathryn Ross, MBE

P9 - Tech Allies for Health: Increasing Telehealth Access for Older Adults during COVID-19
Alicia V. Neumann, PhD, MPA

P10 - ECHO in Action: Impact, Barriers, and Lessons Learned Across Six Age-Friendly Geriatric ECHOs
Catherine P. Carrico, PhD

P11 - Implementation of Standardized Questions in Geriatrics Fellowship Interviews
Jessica L. Colburn, MD

12:30 PM – 1:30 PM
POSTER SESSION A

1:30 PM – 2:30 PM
OPTIMIZING MEDICATIONS FOR OLDER ADULTS WITH CHRONIC CONDITIONS PAPER SESSION

P12 - Older Adults' Priorities Around the Benefits and Harms of Cardiovascular Primary Prevention Therapies
Frances M. Wang, MS

P13 - Osteoporosis Medications Prevent Second Fracture in Frail Older Adults
Tanchanok Chattaris, MD

P14 - A Universal Medication Schedule to Promote Adherence to Complex Drug Regimens
Guisselle A. Wismer, MPH

P15 - Comparative Effectiveness and Safety of Direct Oral Anticoagulants Versus Warfarin Among Adults with Cancer and Atrial Fibrillation
Hemalkumar B. Mehta, MS, PhD

2:45 PM – 3:45 PM
INNOVATIONS IN AGE-FRIENDLY CARE PAPER SESSION

P16 - Examining the ALONE Scale: A Novel Loneliness Screening Tool Designed for Clinical Use
Ekamjit S. Deol, BASc

P17 - Frailty Screening in Geriatric Clinic
Eric M. Davied, MD

P18 - Geriatricians Excluded in Aging-Related Content in Popular Media
Anna Liggett, MD

P19 - Long-Term Survival Rates Following Elective Surgery with the VA Perioperative Optimization of Senior Health (VA-POSH) Initiative
Shelley R. McDonald, DO, PhD

5:00 PM – 6:00 PM
PRESIDENTIAL POSTER SESSION B

FRIDAY, MAY 13, 2022

7:30 AM – 8:30 AM
CONSIDERING 'WHAT MATTERS MOST' ACROSS SETTINGS OF CARE PAPER SESSION

P20 - What Matters Most: Addressing Follow Through Gaps in Advance Care Planning
Audrey Y. Li, BA & Swathi Nair Kavitha Sukesh, BS

P21 - Evaluation of ALIGN: Aging, Life Innovations, Goals & Needs for High-Risk Older Patients
Minji Kim, BS

P22 - Longitudinal Associations of Self-Reported Visual, Hearing, and Dual Sensory Difficulties with Symptoms of Depression Among Older Adults in the United States
Olivia J. Killeen, MD

P23 - Determining What Matters Most to Hospitalized Patients: A Qualitative Analysis
Alexandra E. Petrakos, MD

10:30 AM – 11:30 AM.
RECOGNIZING FRAILTY AND PROMOTING RESILIENCE PAPER SESSION

P24 - Frailty Index at the Beginning of Elderhood and Accumulation of Age-Related Diseases, Disability, and Death Over 10 Years
Jieun Jang, PhD

P25 - Using the AM-PAC to Predict Discharge Disposition Among Hospitalized Patients
Daniel Young, DPT, PhD

P26 - Innovative Goal-Based Automated Text Messaging System Implementation to a Nationally Recognized Group Exercise, Gerofit-To-Home Program: A Feasibility Study
Sungyub Lew, MD

P27 - Association of Frailty with Receiving Social Work Services for Elder Abuse in a National Health System
Lena K. Makaroun, MD, MS

12:30 PM – 1:30 PM
POSTER SESSION C

1:30 PM – 2:30 PM
CLINICIAN-SCIENTISTS TRANSDISCIPLINARY AGING RESEARCH (CLIN-STAR) PAPER SESSION

P28 - Association of Plasma Biomarkers of Alzheimer's Disease and Neurodegeneration with Physical Performance in Older Adults without Dementia
Daniel C. Parker, MD

P29 - Evaluation of Antipsychotic Reduction Efforts Among Patients with Dementia in Veterans Health Administration Nursing Homes
Lauren B. Gerlach, DO, MS

P30 - Age-Related Changes in Structure, Function, and Transcriptomics of the Human Proximal Pulmonary Artery (PPA)
Edward P. Manning, MD, PhD

P31 - Preoperative Factors Predict Neurocognitive Disorder after CABG or PCI in a Population-Based Cohort of Older Adults
Elizabeth L. Whitlock, MD, MSc

2:45 PM – 3:45 PM
POSTER SESSION D (Students & Residents)

SATURDAY, MAY 14, 2022

7:30 AM – 8:30 AM
HEALTH SERVICES AND POLICY RESEARCH PAPER SESSION

P32 - Frailty, Glycemic Control, and Patterns of Healthcare Utilization among Older Adults with Type 2 Diabetes Mellitus
Kathryn E. Callahan, MD, MS

P33 - The Paycheck Protection Program and Nursing Home Staffing
Jasmine L. Travers, PhD, MHS, RN, AGPCNP-BC

P34 - Demographic Characteristics of Adults Participating in Clinical Trials of Anti-Amyloid Monoclonal Antibodies to Treat Alzheimer Disease
Audrey D. Zhang, MD

P35 - Development and Evaluation of a Patient Engagement Questionnaire: PEQ
Stephanie Batio, MS

11:45 AM – 12:45 PM
MENTATION: A FOCUS ON MENTAL AND COGNITIVE HEALTH PAPER SESSION

P36 - Hearing Impairment Is Common in Hospitalized Older Adults, But Has an Attenuated Impact on Delirium with Age
Reni Raj, MD

P37 - In Sickness and in Health: Loneliness and Depression among Older Adults Married to Persons With Dementia
Kristie Y. Hsu, MD

P38 - Fog Ahead: Delirium and Post-Discharge Cognitive Impairment in Severe COVID-19
Thiago J. Avelino-Silva, MD, PhD

P39 - Does Initiation of Cholinesterase Inhibitors or Memantine Improve Survival and Delay Antipsychotic Initiation among Older Nursing Home Residents with Dementia?
Matthew Alcusky, PharmD, PhD

Paper Session
EPIDEMIOLOGY

Thursday, May 12
8:15 am – 9:15 am

P1 Student Presentation

Postoperative Gabapentin Use and Adverse Clinical Events in Older Adults After Major Surgery: A Retrospective Cohort Study

C. Park,[1] J. J. Lie,[1] S. Inouye,[2] E. R. Marcantonio,[5] E. Metzger,[2] B. Bateman,[4] S. Lee,[3] R. Levin,[3] D. Kim.[2] *1. Harvard University T H Chan School of Public Health, Boston, MA; 2. Hebrew SeniorLife, Roslindale, MA; 3. Brigham and Women's Hospital, Boston, MA; 4. Standford University, Palo Alto, CA; 5. Beth Israel Deaconess Medical Center, Boston, MA.*

Background

Gabapentin is widely used for postoperative pain management based on clinical trials that showed the benefit of achieving pain control and reducing opioid use. However, these trials are insufficiently powered to evaluate adverse outcomes. We investigated the adverse clinical events potentially associated with postoperative gabapentin use in older patients.

Methods

This retrospective study used the Premier Healthcare Database, including 1,044,883 patients who were ≥65 years old and underwent major surgery in 2009-2018. We performed 1:1 propensity score matching to compare new postoperative gabapentin users vs. non-users, defined by exposure to gabapentin on postoperative days 0, 1, or 2. The primary outcome was delirium, and secondary outcomes were new antipsychotic use, pneumonia, and in-hospital mortality, measured from postoperative day 3 until discharge. We used logistic regression to estimate the odds ratio (OR) and 95% confidence interval (CI) in the entire sample and by subgroups.

Results

The rate of postoperative gabapentin use was 12.7%. After propensity score matching, we identified 132,362 pairs of gabapentin users and non-users (mean age [standard deviation], 74.4 [6.8] years; 169,037 [63.9%] women). Compared with non-users, gabapentin users had significantly increased rates of delirium (4,732 [3.6%] vs 3,738 [2.8%]; OR [95% CI], 1.28 [1.22-1.33]), new antipsychotic use (1,172 [0.9%] vs 923 [0.7%]; OR [95% CI], 1.27 [1.17-1.39]), and pneumonia (1,762 [1.3%] vs 1,507 [1.1%]; OR [95% CI], 1.27 [1.06-1.52]), with no difference in in-hospital mortality (404 [0.3%] vs 402 [0.3%]; OR [95% CI], 1.01 [0.88-1.15]). The association between gabapentin use and delirium was stronger for those with age <80 years (OR, 1.32 vs 1.18), high comorbidity burden (OR, 1.33 vs 1.22), and chronic kidney disease (OR, 1.42 vs 1.26).

Conclusion

Postoperative gabapentin use was associated with increased risk of delirium, antipsychotic use, and pneumonia in older adults after major surgery. These results warrant careful risk-benefit assessment before prescribing gabapentin for postoperative pain management.

P2

Trends in Cannabis-Related Emergency Department Visits Among Older Adults in California

B. H. Han, J. J. Brennan, F. A. Lopez, E. M. Castillo. *University of California San Diego, La Jolla, CA.*

Background: The use of cannabis among older adults is increasing sharply in the United States. While cannabis may be helpful for chronic symptoms commonly experienced by older adults, its potential adverse effects may lead to unintended consequences, including increases in acute healthcare utilization related to its use. The objective of this study was to examine trends in cannabis-related emergency department (ED) visits in the state of California.

Methods: We conducted a trend analysis of cannabis-related ED visits from all non-Federal acute care hospitals in California from 2008 to 2018 using data from the Department of Healthcare Access and Information. For each calendar year, we determined the number and cannabis-related ED visit rate per 10,000 ED visits for adults age ≥65 utilizing primary or secondary ICD 9 or 10 diagnosis codes within the following categories: (1) cannabis abuse and unspecified use, (2) adverse effect of cannabis, (3) cannabis dependence, and (4) cannabis poisoning. We then estimated the absolute and relative changes in cannabis-related visit rates per 10,000 ED visits during the study period and calculated linear trend p-value for the following age ranges: 65 to 74, 75 to 84, and ≥85.

Results: The cannabis-related ED visit rate increased significantly for adults age ≥65 and for all older adult age ranges ($p<0.001$). Among adults age 65 to 74, the cannabis-related visit rate per 10,000 ED visits increased from 7.6 in 2008 to 71.0 in 2018 (an 834% relative increase), for adults age 75 to 84, the rate increased from 1.6 in 2008 to 18.9 in 2018 (a 1081% relative increase), and for adults age ≥85 the rate increased from 0.4 in 2008 to 5.3 in 2018 (a 1225% relative increase). Compared to younger age groups, adults ≥65 had the highest relative increases in cannabis-related ED visit rates during the study period.

Conclusions: Following the legalization of cannabis and its increased use among older adults, the cannabis-related ED visit rate increased rapidly in this population. While the availability of cannabis use continues to increase, addressing the potential harms from its use among older adults who are often at higher risk for adverse effects, including the use of acute medical care, is urgently required. Education and discussions about cannabis use should be done during clinical encounters, and screening for risky use is imperative to help prevent cannabis-related harms for older populations.

P3

The Epidemiology of Community-Initiated Functional Disability

C. K. Ankuda,[1] K. Covinsky,[2] A. Kelley.[1] *1. Icahn School of Medicine at Mount Sinai, New York, NY; 2. University of California San Francisco, San Francisco, CA.*

Background: While hospitalization often follows or precipitates the onset of disability, little is known about the experience of older adults with community-initiated disability, who are not hospitalized around the time of disability onset. We aim to characterize the population and subsequent health care use of older adults with community-initiated disability (CID) vs. hospital-initiated disability (HID).

Methods: Using the National Health and Aging Trends Study (NHATS) from 2011-2017 linked to Medicare claims, we identified a nationally-representative cohort of adults age ≥65 who began to receive help with self-care or mobility in the prior year. CID (vs. HID) was defined as those who were not hospitalized or in the Emergency Department 2 months before and after disability onset. We compared the characteristics of older adults with CID vs. HID. We then compared the use of home health, durable medical equipment (DME), and physical therapy of these two groups in months 1-6 and 6-12 after disability.

Results: Among 1,676 older adults with new disability, 42% experienced CID. While not different in age or gender, those with CID vs. HID were less likely to be non-Hispanic White (79.7% vs. 89.1%), more likely to be non-Hispanic Black (7.6% vs. 5.6%) or Hispanic/Latino (8.0% vs. 3.1%), and more likely to be enrolled in Medicaid (19.4% vs 13.7%). They were more likely to have dementia (24.3% vs. 15.9%), although rates of other comorbidities were similar. They had lower 12-month mortality (39.1% vs. 53.6%) but among those who survived to the next NHATS survey after disability (on average

6 months later), those with CID were also less likely to have recovered functional independence (23.9% vs. 42.8% no longer received help). In months 1-6 after disability, those with CID vs. HID had lower ($p<0.05$) rates of use of DME (32.7% vs. 51.2%), home health (13.3% vs. 42.7%) and physical therapy (21.0% vs. 47.3%) although there were no differences in months 6-12.

Conclusions: Older adults with CID are more likely to be from minoritized populations and have high levels of functional need. However, they use services thay may be helpful to recovery such as DME and physical therapy at lower rates than those with HID. This may be due to barriers obtaining these services in the community.

P4

Mean and Variability of Morning Hour Activity Predict Risk of 5-Year Mortality and Frailty Decline in National Sample of Older Adults

W. Chen,[1] K. Wroblewski,[2] P. Schumm,[2] D. Hedeker,[2] M. Huisingh-Scheetz.[1] *1. Geriatrics, University of Chicago Division of the Biological Sciences, Chicago, IL; 2. Public Health Sciences, University of Chicago Division of the Biological Sciences, Chicago, IL.*

Background: Free-living accelerometry may allow non-invasive, remote monitoring of frailty in the community. Whether and which aspects of mobility patterns meaningfully predict frailty decline are unknown. In a nationally representative sample of community-dwelling older adults, we have previously shown frail adults are differentiated uniquely by their low morning hour activity and by their high between and within-subject (WS) hourly activity variance (HAV) across awake hours of the day in cross-section.

Objective: To determine whether mean morning hourly activity and WS morning HAV were related to 5-year mortality and frailty progression among survivors in a national sample.

Methods: Using free-living wrist accelerometry data collected from respondents participating in the 2010-11 and 2015-16 rounds of the National Social Life, Health and Aging Project (n=584; n=104 died, n=480 were alive at 5 years), we first employed a mixed effect location scale model to generate mean morning (7:00-11:00 am) hourly activity (counts per minute z-score) and WS morning HAV (z-score) for each participant, adjusted for time of day, day of week and month of wear. Second, the 5-year mortality and then adapted frailty phenotype scores (range 0-4) were regressed on baseline frailty scores, mean morning hourly activity z-scores and WS morning HAV z-scores in a 2-stage model, logistic and ordinal regression, respectively.

Results: After adjusting for baseline frailty, higher mean morning hourly activity significantly predicted lower 5-year mortality risk (OR=0.53, $p<0.001$ for 1 SD higher z-score) and better (lower) frailty scores among survivors (OR=0.75, $p=0.006$ for 1 SD higher z-score). Higher morning activity WS variance independently predicted lower 5-year mortality (OR=0.62., $p=0.008$ for 1 SD higher z-score) and better (lower) frailty scores among survivors (OR=0.78, $p=0.05$ for 1 SD higher z-score).

Conclusions: These findings indicate that lower and consistently lower morning activity of community older adults accelerates risk of frailty progression and death. These findings further lend support to the complexity and potential value of biometric data like wrist accelerometry for remote frailty monitoring.

Paper Session
PLENARY

Thursday, May 12
9:30 am – 10:15 am

P5

EQUiPPED Study: Enhancing the Quality of Prescribing Practices for Older Adults Discharged from the Emergency Department in the Largest Health System in Rhode Island

E. Goldberg,[1] N. M. Davoodi,[1] T. R. Lin,[1] C. B. Cunha,[3] N. Mujahid,[3] C. Vaughan.[2] *1. Department of Emergency Medicine, Brown University, Providence, RI; 2. Emory University, Atlanta, GA; 3. Brown University, Providence, RI.*

Background: Four in ten adults ages 65 and older in the United States take more than five medications and two in ten take more than ten medications. We sought to examine the effectiveness of the Enhancing the Quality of Prescribing Practices for Older Adults Discharged from the Emergency Department (EQUiPPED) medication safety program, aimed to reduce potentially inappropriate medication (PIM), in three emergency departments (EDs) within the largest health system in Rhode Island (RI).

Methods: 362 clinicians who prescribed medications to older adults in the ED during the pre- and post-intervention periods from August 2018 to January 2021 were included in this quality improvement study. We determined the monthly rate of PIM prescribing among older adults discharged from the ED, according to the American Geriatrics Society Beers Criteria, using Poisson regression. EQUiPPED is a three-prong intervention including geriatric education, academic detailing and clinician feedback, and medication order sets with a goal of reducing PIM prescribing to 5% or less per month among older adults discharged from the ED.

Results: 362 clinicians (48% attendings, 37% residents, 34% advanced practice providers) were included in EQUiPPED across all three hospital sites, of which 77% were emergency medicine trained clinicians and 88% prescribed a PIM during the study period. In the pre-implementation period (August 2018 – July 2019) the average monthly rate of PIM prescribing was 8.93% (95% CI: 8.5%, 9.36%). In the post-implementation period (October 2019 – January 2021) the PIM prescribing rate decreased significantly to 6.59% (95% CI: 6.2%, 6.98%, $p<0.001$). During pre-implementation 1,495 of the 16,681 prescribed medications were considered inappropriate, while only 1,044 of the 15,818 prescribed medications in post-implementation were considered inappropriate. The greatest reduction was observed among antihistamines, skeletal muscle relaxants, and benzodiazepines.

Conclusions: EQUiPPED contributed to a significant improvement in PIM prescribing to older adults amongst clinicians in these RI EDs. This intervention should be implemented in other states and, with greater replication, could shape national policy regarding quality of care for older adults.

P6

Comparative Effectiveness of a Nurse Driven Early Mobility Protocol in Preventing Undesirable Outcomes during Hospitalization

L. A. Edwards,[1] U. Ohuabunwa.[2] *1. Geriatrics, Emory University, Atlanta, GA; 2. Medicine, Emory University School of Medicine, Atlanta, GA.*

Background: Acute medical illness that requires hospitalization among older adults is associated with irresolvable tension between promoting early mobility and preventing falls. According to a 2009 estimate, the average hospital patient spends over 95% of their time in bed. We examined the comparative effectiveness of a nurse driven early mobility program, Get Up and Go™ (GuG) with usual care, on undesirable outcomes during hospitalization.

Methods:

Project Setting: 953-bed academic urban safety-net hospital.

Participants: Patients over the age of 65 admitted to an Acute Care for the Elderly Unit (ACE) and a General Medical Unit (GMU).

Procedure: All patients on the ACE Unit were evaluated by nursing staff on admission and daily during their hospital stay to determine their mobility level based on their GuG score, ranging from a score of 1 (patient able to GuG without assistance) to 9 (bed rest ordered). Each mobility level correlated with an expected activity plan that was carried out by the nurses and support staff for the duration of their hospital stay. The activities included getting out of bed daily, sitting up for meals, using the bathroom/bedside commode and walking. Physical Therapy (PT) also saw the patient early in their hospital stay to evaluate for further functional mobility needs and implemented PT as needed. Patients on the GMU were similarly evaluated and assigned GuG scores but were not mobilized per protocol.

Results: A total of 1479 hospitalized older adults were studied. Of these, 1090 patients managed on the ACE Unit received the GuG mobility protocol while 389 patients managed on the GMU received usual care. There was no significant difference between the intervention and control groups respectively in length of stay (4.8 vs 4.5 days), discharge disposition (72% vs 76% home discharges), incidence of delirium (5.8% vs 5.1%). There was however a significant difference in improvement in delirium scores (11.6% vs 1.3%), and degree of functional decline based on the difference in mean Lawton scores (0.2 vs 0.31) on admission and at discharge.

Conclusion: Early mobilization of hospitalized older adults using the GuG mobility protocol showed no significant difference in length of stay, discharge disposition and incidence of delirium. However, it was associated with improvement in delirium and reduction in degree of functional decline.

P7

Development and internal validation of a mortality prediction model in community-dwelling older adults with dementia

W. J. Deardorff, S. Y. Jeon, W. J. Boscardin, D. Barnes, E. L. Whitlock, A. K. Smith, S. J. Lee. *Division of Geriatrics, University of California San Francisco, San Francisco, CA.*

Background: Estimating mortality risk in older adults with dementia is important for guiding clinical decisions and future planning. Given limitations in previous mortality prediction models, we developed and internally validated a prognostic model for mortality in community-dwelling older adults with dementia.

Methods: We included community-dwelling older adults aged ≥65 enrolled in the Health and Retirement Study (HRS) from 1998-2016 with a diagnosis of dementia based on a validated algorithm (n=4,267). The primary outcome was time to death due to any cause. Candidate predictors included demographic factors, behavioral/health factors, functional measures (e.g., activities of daily living (ADL) and instrumental activities of daily living (IADL)), and chronic conditions. We used a Cox proportional hazards model with backward selection and multiple imputation to develop the model. Model performance was assessed by discrimination (integrated area under the receiver operating characteristic curve (iAUC)) and calibration (creation of calibration plots). Internal validation was performed via bootstrapping to quantify the optimism of the prediction model.

Results: The final study cohort included 4,267 participants (mean age 82.2 years (SD=7.6), 68.7% female, and 18.4% Black individuals). By the end of study follow-up, 3,466 (81.2%) of the participants had died. Variables in the final model included age, sex, body mass index, smoking status, ADL dependency count, IADL difficulty count, difficulty walking several blocks, level of vigorous physical activity, and specific chronic conditions (cancer, heart disease, diabetes, lung disease). The overall optimism-corrected iAUC after bootstrap internal validation was 0.756 with values of 0.727 (95% CI 0.720-0.732) at 1 year and 0.805 (95% CI 0.796-0.809) at 10 years. Calibration plots suggested good calibration at 1, 2, 5, and 10 years.

Conclusions: We developed a mortality prediction model in community-dwelling older adults with dementia that showed good discrimination and calibration. The risk predictions obtained from this model can help guide discussions for clinicians and patients in disease management and advance care planning.

Paper Session
GERIATRIC EDUCATION

Thursday, May 12
11:30 am – 12:30 pm

P8

A Survey of Fellowship-Trained Physicians Who Let Their Geriatric Medicine Certification Lapse: Preliminary Findings

K. Ross,[1] L. Lynn,[1] K. Foley,[2] J. Colburn,[3] S. Barczi,[6] E. Widera,[4] S. M. Parks,[5] C. Luz,[2] B. Leff.[3] *1. American Board of Internal Medicine, Philadelphia, PA; 2. Michigan State University, East Lansing, MI; 3. Johns Hopkins University, Baltimore, MD; 4. University of California San Francisco, San Francisco, CA; 5. Family and Community Medicine, Thomas Jefferson University, Philadelphia, PA; 6. University of Wisconsin, Madison, WI.*

Background

62% of American Board of Internal Medicine (ABIM) certified geriatricians maintain certification in geriatric medicine (GM), the lowest rate compared to other internal medicine (IM) subspecialties. Understanding reasons for this can inform geriatrics workforce development. The goal of this study is to explore issues related to maintaining GM certification.

Methods

We developed an 18-item survey on issues related to maintaining GM certification, professional identity, current professional duties, & demographic characteristics. In Fall 2021, the survey was emailed to internists who completed a GM fellowship, earned initial certification in GM between 1999-2009, & maintained certification in IM and/or another specialty but not GM.

Results

723 internists meet inclusion criteria. To date, 127 surveys are completed (17% response rate). Initial findings include:

Reasons for not maintaining GM certification are time (61%), cost of maintenance of certification (MOC)(48%), low Medicare reimbursement (34%), & no employer requirement to maintain GM certification (33%).

Though respondents do not maintain GM certification, 67% still practice GM.

Perceived value by employers is low as illustrated in one response, "*My pay does not change regardless of my geriatric certification status. My current job requires only internal medicine certification, but they/I rely heavily on my geriatric training daily.*"

Reflecting on early career decisions, 52% would complete a GM fellowship again, 22% would not, 26% are unsure.

53% considered recertifying in GM.

46% reported flexible MOC assessment options would increase likelihood of recertifying.

Conclusions

Preliminary data suggest physicians who completed a GM fellowship & initial certification requirements found training valuable. However, certification is often not required. Exploring reasons why employers do not require certification in GM is essential. Given that >50% report that recertification in GM is a consideration, ABIM & other stakeholders must develop new approaches to motivate those physicians to recertify.

P9

Tech Allies for Health: Increasing Telehealth Access for Older Adults during COVID-19

A. V. Neumann. *Medicine-Geriatrics, University of California San Francisco, San Francisco, CA.*

Background: The COVID-19 pandemic increased the use of telehealth, which negatively affected isolated older adults with limited access to technology. To improve access among older adults living alone, the UCSF Geriatrics Workforce Enhancement Program (UCSF-GWEP) in partnership with Little Brothers Friends of the Elderly-San Francisco (LBFE-SF) created and studied a remote educational intervention to improve digital literacy.

Methods: LBFE-SF recruited older adults from their members, and paired each one with a device and volunteer trainer to cover 7 lessons, ranging from email setup to patient portal access. Older adults completed surveys to self-assess their online abilities before, immediately after, and 3-months post training. On the same schedule, subsets of trainees were interviewed about their training experience. UCSF-GWEP conducted descriptive and inferential analysis of survey data and coded interview transcripts to iteratively identify emergent themes and group them into such evaluative constructs as training obstacles, supports, and impact.

Results: LBFE-SF enrolled 43 older adults with a median age of 76; 48% identified as people of racial or ethnic minorities. At baseline, 70% of trainees reported using the internet for health-related activities at least occasionally, but 67% and 77% of the group reported no or little confidence making provider appointments or using their health system portal, respectively. Of the 31 trainees who completed all training sessions, 64% and 62% reported increased confidence making provider appointments and using their health system portal after completing the program, respectively, and these percentages held 3 months later. Interview data revealed health issues and password management as barriers to learning, while self-pacing and repetition provided support: "…you just have to continue to do it." Reported training benefits included access to health information: "I get a more complete understanding of the medications..." as well as improved social connections and a greater sense of purpose/control: "I can contact anybody I want." Additionally, respondents emphasized the importance of technology: "…anything you do in life, you just have to put technology in it…to move forward."

Conclusions: This study demonstrates that technology and training can improve access to telehealth for isolated older adults. It also shows that older adults find empowerment and inclusivity from such learning.

P10

ECHO in Action: Impact, Barriers, and Lessons Learned Across Six Age-Friendly Geriatric ECHOs

C. Carrico,[1] C. McKibbin,[1] K. Bennett,[2] C. Brunker,[3] K. Thompson,[4] T. V. Caprio,[5] A. Faul.[6] *1. Psychology, University of Wyoming College of Arts and Sciences, Laramie, WY; 2. University of Washington School of Medicine, Seattle, WA; 3. The University of Utah School of Medicine, Salt Lake City, UT; 4. University of Chicago Division of the Biological Sciences, Chicago, IL; 5. University of Rochester Medical Center, Rochester, NY; 6. University of Louisville, Louisville, KY.*

Background: Project ECHO has become a widespread method for transforming care through education on best practices and mentorship on real, anonymized cases across many fields. The number of geriatric-focused ECHOs have increased significantly in recent years, in part due to the emphasis on the Project ECHO approach by Geriatric Workforce Enhancement Programs (GWEPs) funded by the Health Resources and Services Administration. Since 2019, GWEPs have incorporated the Institute for Healthcare Improvement Age-Friendly Health System initiative throughout educational and clinical projects. **Methods:** This presentation describes the impact, barriers, and lessons-learned by six GWEPs who have organized and facilitated geriatric-focused ECHOs with an emphasis on the 4Ms of Age-Friendly Health Systems. Program evaluation data (quantitative and qualitative) from the Utah, Washington, University of Chicago, Wyoming, Louisville, and University of Rochester GWEPs is used to describe impact and barriers. Qualitative data from the local project leads informs lessons-learned and innovations. **Results:** Cumulatively, these geriatric ECHO programs have engaged over 7,500 participants from 64 professions. Evaluation data demonstrate high satisfaction and significant change in knowledge of age friendly healthcare. Practice change data indicates improved ability to assess and address the 4Ms. Barriers reported by project leads include challenges in recruiting case presenters and maintaining consistent engagement of participants. Lessons Learned/Innovations: Partnerships are key to the success of geriatric ECHOs. The ECHO model provides a flexible and valuable platform for education on COVID-19. **Conclusions:** Age-Friendly geriatric ECHOs provide the hallmark "all teach, all learn" model for best-practice dissemination, but also present unique challenges which are important to identify and address. Cumulative evaluation data across geriatric ECHOs provides unique insights into impact, barriers, and potential innovations for other ECHO programs.

P11

Implementation of Standardized Questions in Geriatrics Fellowship Interviews

J. Colburn, B. LaCour, D. Cayea, M. Robertson. *Johns Hopkins University School of Medicine, Baltimore, MD.*

Background: There is little evidence about best practices for selecting geriatrics fellowship candidates. Standardized interview questions are one approach to candidate selection that have been shown to reduce bias. We aimed to pilot the use of standardized questions in geriatrics fellowship interviews to determine feasibility of including standardized questions in geriatrics fellowship interviews.

Methods: 4 standardized questions were adapted for geriatrics fellowship interviews from prior research. Questions asked applicants about experiences related to patient-centered care, complex problem solving, interdisciplinary teamwork, and receiving feedback. A scoring rubric was created for faculty scorers using characteristics identified as important for future geriatricians. Each faculty interviewer was assigned 2 of the 4 questions to ask during a 30-minute interview. Interviewers were asked to provide a score for each question (1-5) as well as a general interview score considering an applicant's application and interview. The rank list committee reviewed the standardized question scores, general interview scores, and overall scores for all applicants.

Results: 34 applicants were interviewed by 2 faculty members each for a total of 68 faculty interviews (conducted by 22 unique faculty members). 66 interviews (97%) included at least 1 of the 2 standardized questions and 60 interviews (91%) included both standardized questions. Scores ranged from 1 to 5. 99% of the scores were between 3 and 5 with an average score of 4.45. Of the 34 applicants, the standardized question scores improved the overall score for 23 applicants and lowered the overall score for 2 applicants; 9 applicant scores were unchanged.

Conclusions: Standardized questions were successfully integrated into geriatrics fellowship interviews. Future plans include surveys of applicants and faculty members about the use of the standardized questions in fellowship interviews.

Paper Session
OPTIMIZING MEDICATIONS FOR OLDER ADULTS WITH CHRONIC CONDITIONS

Thursday, May 12
1:30 pm – 2:30 pm

P12 Student Presentation

Older Adults' Priorities Around the Benefits and Harms of Cardiovascular Primary Prevention Therapies

F. M. Wang,[1] H. G. Yebyo,[2] C. Boyd,[1] M. A. Puhan,[2] K. Matsushita,[1] M. J. Blaha,[1] N. L. Schoenborn.[1] *1. Johns Hopkins University, Baltimore, MD; 2. Universitat Zurich, Zurich, Switzerland.*

Background: Personalized cardiovascular disease (CVD) preventive therapy for older adults is important as older adults likely have multiple chronic conditions, are at higher risk for medication side effects, and may have different preferences when weighing multiple health outcomes. However, little is known about preferences for outcomes related to CVD preventive therapies in older adults.

Methods: In May 2021, using a nationally representative online panel, we surveyed US older adults (age 65-84 years) on outcome preferences related to statin (benefit-outcomes: heart attack, stroke; side effect-outcomes: diabetes, abnormal liver test, muscle pain) or aspirin (benefit-outcomes: heart attack, stroke; side effects: brain bleed, bowel bleed, stomach ulcer). Using best-worst scaling, a novel stated-preference research method, to quantify relative priorities, we constructed 5 choice tasks, each displaying 4 of the 5 outcomes, and asked participants to choose among each set the most and least worrisome outcomes. We used marginal conditional logit regression to quantify the relative importance of the outcomes.

Results: 304 older adults completed the statin survey and 303 completed the aspirin survey. The median age was 74 years, 277 (46%) were male, and 493 (81%) identified as non-Hispanic White. For both therapies, the benefit outcomes—stroke and heart attack—were considered more worrisome than the side effects (**Table**). The relative importance of outcomes was consistent within age, sex, and race subgroups.

Conclusions: These findings suggest that older adults generally consider outcomes related to benefits of CVD preventive therapies more important than their side effects. Integrating individualized patient preferences with risk prediction to guide personalized shared decision making is an important next step.

Table. Relative importance of the benefit and harm outcomes*

Statin Outcomes	Odds Ratio (95% CI)	Aspirin Outcomes	Odds Ratio (95% CI)
Stroke	85.70 (69.46, 105.75)	Stroke	372.39 (263.01, 527.27)
Heart Attack	80.96 (65.64, 99.86)	Heart Attack	321.96 (227.45, 455.73)
Diabetes	9.55 (8.02, 11.39)	Brain Bleed	221.37 (156.53, 313.06)
Liver Abnormal	4.53 (3.88, 5.28)	Bowel Bleed	7.39 (6.06, 8.99)
Muscle Pain	1 (Reference)	Ulcer	1 (Reference)

***For example, the odds that one would consider stroke to be more important than muscle pain in statin therapy is 85.7.**

P13

Osteoporosis medications prevent second fracture in frail older adults

T. Chattaris, G. Oh, N. A. Gouskova, D. Kim, D. P. Kiel, S. D. Berry. *HSL, HMS, Boston, MA.*

BACKGROUND: Frailty is common in older adults with fractures (fx). Osteoporosis medications reduce second fx, but there are limited data on efficacy in frail individuals. Our objective was to determine if medications prevent second fx in frail older adults.

METHODS: A retrospective cohort of Medicare fee-for-service beneficiaries between 2014-2016 (n=4.6 million) was conducted. We included adults aged ≥65 years who were hospitalized with any fx except head, hands, and feet. Individuals without continuous Parts A, B, and D coverage, with a claim for osteoporosis treatment, or receiving hospice during 6 months before the index fx were excluded. Pre-fx frailty was defined by the claims-based frailty index ≥0.2. Exposure to any osteoporosis treatment (bisphosphonates, denosumab, and teriparatide) was categorized according to the cumulative treatment time: none, ≤90 days, and >90 days. Cox hazard models with time-varying exposure were fit to examine the association between osteoporosis treatment and second fx and death, controlling for relevant covariates.

RESULTS: Among 29,904 patients hospitalized with fx, 15,345 (51.3%) were frail, and 2,148 (7.2%) received osteoporosis treatment after index fx. Patients who received treatment were younger (80.2 vs 82.2 years), female (86.5% vs 73.0%), less frail (0.20 vs 0.22) and had fewer comorbidities (2.0 vs 2.6) than patients without treatment. Treatment with osteoporosis medications for >90 days was associated with reduced risk of second fx in the non-frail group (Table). Results were similar in frail individuals but were not significant. Treatment >90 days was also associated with reduced mortality in frail and non-frail persons.

CONCLUSIONS: Osteoporosis treatment for >90 days was associated with a reduced risk of second fx; however, treatment rates were very low. Regarding residual confounders, the association of osteoporosis treatment with secondary fx appears to be similar in frail and non-frail persons. Clinicians should consider osteoporosis treatment in frail older adults with hospitalized fractures and reasonable life expectancy.

Association between osteoporosis treatment and outcomes

Outcomes (HR with 95%CI)	Frail (n=15,345)		Non-frail (n=14,559)	
	≤90 days exposure	> 90 days exposure	≤90 days exposure	> 90 days exposure
Second fracture*	1.12 (0.88-1.43)	0.80 (0.61-1.04)	1.22 (0.97-1.54)	0.71 (0.54-0.93)
Mortality*	0.59 (0.46-0.75)	0.71 (0.58-0.87)	0.83 (0.64-1.08)	0.64 (0.49-0.84)

***adjusted with age, sex, race, CFI, HTN, DM, dementia, depression, osteoporosis, number of medications, antipsychotics and sedatives use, number of hospitalizations**

P14

A Universal Medication Schedule to Promote Adherence to Complex Drug Regimens

G. Wismer, S. Batio, L. Curtis, S. Bailey, M. Wolf. *General Internal Medicine and Geriatrics, Northwestern University Feinberg School of Medicine, Chicago, IL.*

Background: Many adults with multiple chronic conditions may contend with complex prescription medication regimens, which can pose formidable challenges to proper adherence. While numerous interventions to promote medication adherence have been tested, most have had limited success or have been too resource-intensive for real-world implementation. The objective of this study is to compare the effectiveness of 2 low-cost, technology-enabled strategies, alone and in combination, for promoting adherence to multi-drug regimens in diverse primary care settings.

Methods: A 4-arm, patient-randomized controlled trial utilizing a factorial design was conducted. Adults ages 50+, who were English or Spanish-speaking, taking 5+ prescription medications were recruited from a federally qualified health center and an academic internal medicine practice in Chicago, IL. Enrolled patients (N=677) were randomized to 1 of 4 study arms, receiving either 1) usual care; 2) daily medication reminders via text messages; 3) monthly portal assessments to monitor adherence barriers; or 4) both text reminders and portal assessments. The primary outcome was medication adherence, assessed via pill count, ASK-12 Adherence Barrier Survey, 24-hour recall (self-report), and proportion of days covered through pharmacy claims at baseline and 6 months.

Results: The mean age was 60.9 years (SD=6.8); two thirds (62.8%) were female, nearly half (46.3%) were Hispanic, and 42.7% had a high school degree or less. Patients were taking on average

7.6 medications (SD=3.5). In both bivariate and multivariate analyses, patients receiving any intervention were more adherent to their medications based on pill count compared to usual care (LSM: 0.53 vs. 0.46, p=0.04). No differences were found between arms in other adherence measures. Among lower health literate patients, those receiving the intervention were significantly better able to accurately demonstrate how to dose out their prescribed medications compared to those receiving usual care (LSM: 0.85 vs. (0.89), p=0.002).

Conclusion: This low cost, highly scalable intervention significantly improved adherence among mostly low socioeconomic status older adults, all of whom were taking complex drug regimens. Future research should continue to pursue the optimal implementation of these interventions and determine any impact on clinical outcomes.

P15

Comparative Effectiveness and Safety of Direct Oral Anticoagulants Versus Warfarin Among Adults with Cancer and Atrial Fibrillation

H. B. Mehta,[1] H. An,[1] S. Ardeshirrouhanifard,[1] M. Raji,[2] J. Segal,[1] G. Alexander.[1] *1. Epidemiology, Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD; 2. The University of Texas Medical Branch at Galveston, Galveston, TX.*

Background: While clinical guidelines recommend direct-acting oral anticoagulants (DOAC) over warfarin to treat isolated non-valvular atrial fibrillation (NVAF), guidelines are silent regarding NVAF treatment among individuals with cancer, reflecting the paucity of evidence in this setting. We aimed to quantify relative risk of ischemic stroke or systemic embolism and major bleeding among older individuals with cancer and NVAF comparing DOACs and warfarin.

Methods: This retrospective cohort study used Surveillance, Epidemiology, and End Results (SEER)-Medicare data from 2009 to 2016. We included individuals aged ≥66 years diagnosed with cancer (breast, bladder, colorectal, esophagus, lung, ovary, kidney, pancreas, prostate, stomach or uterus) and NVAF who newly initiated warfarin or DOACs. We evaluated two outcomes: hospitalization due to ischemic stroke or systemic embolism and hospitalization due to major bleeding. We used sepsis as a negative control outcome to evaluate the role of unmeasured confounding. We used inverse probability of treatment weighted (IPTW)- competing risk model, while accounting for competing risk of death, for stroke/systemic embolism and major bleeding.

Results: Among 7,675 individuals diagnosed with cancer and atrial fibrillation, 4,244 (55.3%) received DOACs and 3,431 (44.7%) warfarin. In the IPTW analysis, there was no statistically significant difference among DOAC and warfarin users in the risk of ischemic stroke or systemic embolism (1.24 vs. 1.19 events per 100 person-years, adjusted hazard ratio [aHR] 1.41, 95% confidence intervals [CI] 0.92-2.14) and major bleeding (3.08 vs. 4.49 events per 100 person-years, aHR 0.90, CI 0.70-1.17). We did not observe any statistically significant difference between DOAC use and warfarin use and the risk of sepsis (aHR 1.07, CI 0.79-1.46).

Conclusions: Among these older adults with cancer and NVAF, use of DOAC was not associated with increased risk of ischemic stroke or systemic embolism nor with less major bleeding compared to warfarin.

Paper Session
INNOVATIONS IN AGE-FRIENDLY CARE

Thursday, May 12
2:45 pm – 3:45 pm

P16 Student Presentation

Examining the ALONE Scale: A Novel Loneliness Screening Tool Designed for Clinical Use

E. S. Deol, K. Yamashita, S. J. Elliott, T. K. Malmstrom, J. E. Morley. *Division of Geriatric Medicine, Saint Louis University, Saint Louis, MO.*

Background: Despite loneliness being linked to dementia, hypertension, and increased utilization of healthcare services, older adults are not frequently screened for loneliness. The COVID-19 pandemic has both increased concern about loneliness among older adult populations and lead to telehealth innovations increasing access to loneliness interventions. Thus, there is a need for a rapid, clinically administrable screening tool to identify older adults eligible for intervention. Currently available loneliness screening tools are decades old and were developed specifically for use in research settings. To fill this gap, we aimed to validate the ALONE scale, a rapid loneliness screening tool.

Methods: This was a cross-sectional study conducted at an ambulatory clinic (n = 199). Construct validity of the 5-item ALONE scale was examined through correlation with a previously validated research tool: the UCLA-20 loneliness questionnaire. Divergent validity for discriminating between loneliness and depression was examined through correlation with PHQ-8 items. Test-retest reliability was assessed by correlation between baseline ALONE scores and those from re-administration in 2-3 weeks.

Results: The ALONE scale showed strong correlation with the UCLA-20 ($r = 0.81$, $p < 0.001$). Similar correlation coefficients were seen among demographic subgroups: White Americans (n = 123) ($r = 0.81$, $p < 0.001$), Black Americans (n = 66) ($r = 0.79$, $p < 0.001$), Adults ≥ 75 ($r = 0.86$, $p < 0.001$), and adults 65-74 ($r = 0.79$, $p < 0.001$). Test-retest of the ALONE scale showed a strong correlation ($r = 0.89$, $p < 0.001$).

Conclusion: Loneliness screening to identify older adults for intervention remains a hurdle. Currently popular loneliness screening tools blind patients to the measurement of loneliness because a label of loneliness was assumed to lead to self-presentation demands biasing research data. However, in the clinical setting self-presentation demands are less of a concern. The ALONE scale is a short loneliness-screening instrument designed for clinical use that shows strong validity in screening older adults for severe loneliness. The short, easy to understand nature of the ALONE scale reduces adoption burden making it optimal for use in clinical settings either individually or through integration with EHR software.

P17

Frailty Screening in Geriatric Clinic

E. M. Davied, G. Gonzalez Rodriguez. *Geriatrics, East Carolina University, Greenville, NC.*

Background

Medical frailty is a state of decreased functional reserve and resilience, and increased risk of adverse outcomes (e.g. falls, delirium, hospitalization, disability, death), after a stressor. Due to insidious onset, and confusion between frailty and aging, many patients are not diagnosed with frailty until functionally disabled. 10% of community-dwelling Americans over age 65 are frail. This prospects to increased adverse outcomes and expenditures with the aging demographic. Outpatient frailty screening is now standard in Canada and UK, leading to early interventions and decreased morbidity.

From 1/1/2019 - 7/31/2021, 15201 patients were seen in our clinic. Frailty was charted in 49 patients. This diagnostic prevalence of 0.32%, is markedly lower than the national average. Given the risk frailty imposes against healthy aging, our team decided to implement a frailty screening protocol.

Methods:

Our study includes patients over age 65, evaluated at ECU Geriatrics from August 1, 2021 onwards. Screening is based on gait speed, the most sensitive test for frailty, though less specific. Patients are instructed, on intake, to walk 6m as fast as they safely can. They are allowed to use usual assistive devices. They are timed for 4m, with 1m buffers at each end for acceleration and deceleration. Slower than 0.8m/s is a positive screen. Unable to perform the test is also positive.

Those with slow gait are assessed via FRAIL scale. Result (robust, pre-frail or frail) is logged by the provider. Results, education, and individual recommendations are shared. These include but are not limited to: management of sarcopenia, weight loss, fatigue, falls, polypharmacy, and physical therapy. Patient's fear of falling is also collected on a 1-5 Likert scale. Re-evaluation is performed every 3 months.

Results:

494 patients were surveyed from 8/1/2021 - 10/31/2021. 48% (N=237) were positive for slow gait. By the FRAIL scale, 19% (n=96) were frail, 16% (n=80) were pre-frail, 3% (n=14) were robust, and 11% (n=53) missed completing the scale. 52% (N=257) had normal gait speed.

Of those with slow gait, mean fear of falls was 2.81/5 in frail patients, 2.42/5 in pre-frail, and 1.43/5 in robust.

Conclusion:

We introduced a practical screen for frailty in primary care, and saw increased frailty diagnosis. We hope to use this awareness to promote early intervention. We look forward to observing impact on fear of falls and other outcomes. We hope our success will have impacts beyond our own clinic.

P18

Geriatricians Excluded in Aging-Related Content in Popular Media

A. Liggett, D. Medved, L. Lindquist. *Medicine - Geriatrics, Northwestern University Feinberg School of Medicine, Chicago, IL.*

Background

Geriatricians are frequently left out of conversations regarding aging and older adults. There has been a persistent lack of geriatrician representation in national panels, health department guidelines, and in the lay press. People, from numerous non-gerontology/geriatrician fields, produce podcasts, promote products, and provide advice on aging issues which may be uninformed by expertise. We sought to better understand the aging-related content and backgrounds of experts portrayed by a leading national online lectures, TED Talks which are freely distributed under the slogan "ideas worth spreading."

Methods

We performed a search of all aging-related content produced by the TED Talk media and communication platform, from Oct. 2006 to Dec. 2021. Data was collected examining 1.) content of lecture, 2.) number of views, 3.) date of activity, 4.) speaker and their background. Qualitative thematic coding by two separate coders was then conducted on the content and speaker background. A third coder was available to tie-break. Quantitative analysis (frequencies and mean) was performed on viewership rates.

Results

Using the search terms of "aging", "seniors", and "geriatrics", 60 TED talks were determined to provide relevant geriatrics related content. Thematic analysis revealed major themes of 1.) Delaying aging/living longer (e.g. roadmap to end aging, living to100 years), 2.) Wisdom from aging (e.g. How to live passionately no matter your age), 3.) Testing for age-related diseases (e.g. Parkinsons) 4.) Cures to common age-related diseases (Alzheimer's disease, vision loss, arthritis), 5.) Older adult finance, 6.) Dying and Hospice. Among speakers, there were no board-certified geriatricians and only one palliative care[1]certified physician found. Speaker backgrounds varied widely and included writer, actors, activist, filmmaker, molecular biologist, psychiatrist, psychologist, lawyer, philosopher.

Conclusions

Among aging-related content in popular TED talks, no board-certified geriatricians have been tapped to provide expertise. Geriatricians have a solid base of aging-related knowledge and clinical expertise that would provide. Although capable nationally-renown geriatricians are available and have been nominated previously, the majority of speakers are not from medical backgrounds and have unclear expertise in aging.

P19

Long-Term Survival Rates Following Elective Surgery with the VA Perioperative Optimization of Senior Health (VA-POSH) Initiative

S. McDonald,[1,2] K. Starr,[2,1] M. Devita,[2] M. Pepin,[2] S. Lagoo-Deenadayalan.[1,2] *1. Geriatrics, Duke University, Durham, NC; 2. Durham VA Medical Center, Durham, NC.*

Veterans Health Administration Perioperative Optimization of Senior Health (VA-POSH) is a quality improvement initiative implemented in the Durham VA Medical Center modeled from POSH at Duke University Hospital. The preoperative evaluation is a multidisciplinary clinic with input from 10 disciplines in a preclinic huddle followed with targeted patient evaluations and summary recommendations for optimizing care before, during, and after surgery. This analysis was to assess clinical outcomes of the POSH model in the VA system and long-term survival.

Methods: This is a prospective longitudinal study of Durham VA-POSH patients over age 64 undergoing elective abdominal, spinal, vascular, and urological procedures admitted for >24hours from 2015 – 2019. Of the 992 unique POSH referrals, 541 were matched on baseline characteristics to a control comparison group using 1:1 propensity score matching (PSM). Healthcare utilization measured by length of stay, readmission, ED use, and survival rates for 3 years following surgery were derived from administrative data. Secondary outcomes included major complications identified by CPT codes during the hospitalization.

Results: Even with PSM, those referred to POSH were significantly older than those in the control group (72.2 v 70.7 years; $P < .001$). Median length of stay was similar (4.6 v 4.5 days) between groups. The number of major surgical complications did not vary between groups (235 v 243). Readmission rates at day 7, 30, 90 and 180 were also similar (7% v 5.9%; 12.8% v 12.9%; 19% v 19.6%; 22.9% v 26.3%). Post discharge rate of any ED visit was significantly higher in the POSH group at 7 days (10.9% vs 7.8 %; $P = .08$) but thereafter was comparable to controls at 30, 90 and 180 days (20.9% v 19.2%; 30.7% v 28.3%; 36.4% v 36.6%). A significant survival benefit for the POSH intervention was first noted at 30 days (1.5% v 3.7%; P=.02) and with Kaplan-Meier estimate showing a survival benefit from 180 days onward ($P = .02$).

Conclusion: Despite higher mean age, older adults who received the VA-POSH intervention had a significant long-term survival benefit after surgery. Further inquiry will address whether early ED use after surgery impacted survival. Perhaps the benefit arises from improved team care for POSH patients after surgery and/or increased patient engagement in their health.

Paper Session
CONSIDERING 'WHAT MATTERS MOST' ACROSS SETTINGS OF CARE

Friday, May 13
7:30 am – 8:30 am

P20 Student Presentation
What Matters Most: Addressing Follow Through Gaps in Advance Care Planning

S. Kavitha Sukesh,[1,2] A. Li,[1] B. Lin,[1] V. Rohatgi,[1] P. Corpuz-Valois,[1] M. Kyi,[1] V. Periyakoil,[2] S. Tee.[1] *1. Geriatrics, Stanford Health Care, Stanford, CA; 2. Palliative Care, Stanford Health Care, Stanford, CA.*

Background: Advance Directive (AD) documentation is important to maintain patient autonomy and help provide quality end-of-life care. Our outpatient geriatric clinic of 1200 patients has only 54% AD completion rate overall, and only 6% completion in non-English speaking patients. Utilizing trained laypersons to discuss Advance Care Planning (ACP) has been shown to increase completion of ACP documentation. We aim to improve AD completion for both English and non-English speaking patients by training 6 bilingual speaking laypersons (medical scribes) who are fluent in Spanish, Mandarin, Cantonese, Hindi, or Tagalog.

Methods: We conducted a randomized clinical trial where 223 patients who had not completed AD were assigned to either trained layperson-led ACP discussions or to usual care. Six scribes were trained using the Stanford Letter Project ACP Virtual Training Program to conduct ACP conversations and help seniors complete AD in their preferred language. Patients randomized to the intervention group (a) received a copy of the Stanford AD form via EPIC message and (b) had a virtual encounter with the trained scribes to complete AD in their preferred language. The completed AD was mailed to the patients for signature. For patients with already completed AD, we guided them to return it in-person, in the mail, or via MyHealth. AD completion was defined as either discussion with scribes or AD upload into EPIC.

Results: Over the 3 month period, 36% (40 of 112) patients with scribe follow-up completed and uploaded AD in Epic compared to 8% (9 of 111) of the control group. The AD completion rate of non-English speaking in the control group was 3.6% and in the intervention group was 45%. Scribe follow-up increased AD completion rate significantly especially in non-English speaking population. Challenges were long patient contact time, difficulty setting up mutual availability, and patient reluctance to discussing end-of-life care.

Conclusions: We reached an ACP completion milestone for 40 patients in Stanford Senior Care with collaboration between geriatricians, palliative care physicians, medical scribes, and medical assistants. To sustain our project, we will standardize a protocol with direct referral from primary care physicians to scribes, and expand this model to other primary care clinics across our institution.

P21 Student Presentation
Evaluation of ALIGN: Aging, Life Innovations, Goals & Needs For High Risk Older Patients

M. Kim,[2,1] W. W. Hung,[2] S. Chow.[2] *1. Touro University Nevada, Henderson, NV; 2. Geriatrics, Mount Sinai School of Medicine, New York, NY.*

Background: The Aging, Life Innovations, Goals & Needs Program (ALIGN) is an innovative model of ambulatory care focusing on short-term intensive management of medical and social issues in older adults with the goal of reducing risk of utilization of health system resources. The team, consisted of a geriatrician, nurse practitioner, geriatric fellow, social worker, and care coordinator, works with each patient to identify their social and medical goals that drives management decisions.

Objective: We compared care outcomes between patients who completed ALIGN and patients who were offered enrollment but declined.

Methods: We conducted a retrospective cohort study of patients aged 65+ who had completed ALIGN program. Patients were matched for age (± 5 yrs), concurrent enrollment (within 180 days), Charlson Comorbidity Index, expected functional decline (high vs. low risk) by clinician estimation at the time of referral. Primary outcomes are rates of hospitalization and Emergency Department (ED) visits within 180 days of program completion; secondary outcomes included hospital length of stay (LOS), the change in the number of medications from baseline, rate of blister packing use (%), Advanced Care Planning (ACP) discussion and documentation (%).

Results: A total of 62 ALIGN patients and 34 controls were included. Average age was 82.1 (SD 7.1) and 78.9 (6.9) among ALIGN and control patients respectively; 73% and 79% were female. ALIGN patients were less likely to be hospitalized within 180 days when compared with patients who were not in ALIGN (25.8% vs. 61.8%; p =0.001) and have reduced length of stay on average (-6.35 days, 95% CI -10.45, -2.24, p= 0.003). ALIGN patients were also less likely to visit the ED (46.8% vs. 82.4%, p=0.001). ALIGN patients had a reduction in the number of medications compared to baseline (mean= 1.62,95% CI 0.95, 2.28, p=0.001). ALIGN team was more likely to have ACP discussion (74.2% vs. 26.5%, p<0.001), ACP documentation in the EMR (54.8% vs. 26.5%, p=0.009), and more likely to introduce the use of blister packing (61.3% vs. 35.3%, p=0.016) when compared to patients not seen by ALIGN.

Conclusion: ALIGN is an innovative interprofessional ambulatory model of care that is associated with a reduction in rates of acute care utilization and may benefit patients by completing ACP and addressing polypharmacy in high-risk patients.

P22
Longitudinal Associations of Self-reported Visual, Hearing, and Dual Sensory Difficulties with Symptoms of Depression Among Older Adults in the United States

O. J. Killeen,[1] X. Xiang,[2] D. Powell,[3] N. Reed,[3] J. Deal,[3] B. Swennor,[3] J. Ehrlich.[1] *1. Ophthalmology and Visual Sciences, University of Michigan Michigan Medicine, Ann Arbor, MI; 2. University of Michigan, Ann Arbor, MI; 3. Johns Hopkins University, Baltimore, MD.*

Background: There is conflicting evidence on the association between sensory difficulty and depression. Few studies have examined this association using longitudinal or population-based data. We used data from Rounds 1-9 of the U.S. nationally-representative National Health and Aging Trends Study to evaluate the longitudinal association between self-reported visual, hearing, and dual sensory difficulties and clinically significant depressive symptoms.

Medthods: Multivariable Cox regression models were used to evaluate the hazard of incident depressive symptoms. Group-based trajectory modeling was used to identify depressive symptom trajectories (DSTs). Multinomial logistic regression was used to examine the association between sensory status and DSTs.

Results: 7593 participants were included. 56.5% were female. 53.0% were 65-74 years old. 19.0% (95% CI 17.9-20.2%) had hearing, 5.6% (4.9-6.4%) had visual, and 3.3% (2.9-3.8%) had dual sensory difficulties at baseline. Hazard ratios for depressive symptoms in those with visual, hearing, and dual sensory difficulties were 1.25 (95% CI 1.00-1.56, p=0.047), 0.98 (95% CI 0.82-1.18, p=0.82), and 1.67 (95% CI 1.29-2.16, p<0.001), respectively, relative to those without sensory difficulty. A model with four trajectory groups best fit the data. Group 1 (35.8% of the sample, 95% CI: 34.1-37.4) had persistently low risk of depressive symptoms; Group 2 (44.8%, 43.4-46.3) had low but increasing risk; Group 3 (7.1%, 6.2-8.3) had moderate risk; and Group 4 (12.4%, 11.5-13.3) had moderate to high risk that

increased. Compared to those without sensory difficulties, individuals with each difficulty were significantly more likely to belong to a group other than Group 1.

Conclusions: Using several distinct modeling approaches, we found that sensory difficulties were associated with depressive symptomology in a nationally representative sample of older U.S. adults. This study provides a deeper understanding of the longitudinal associations between vision, hearing, and mental health. This work may help to inform research and interventions aimed at determining the role of maintaining late-life sensory health for promoting mental health.

P23

Determining What Matters Most to Hospitalized Patients: A Qualitative Analysis

A. Petrakos,[1] K. Beiting,[1] L. M. Wilson,[1] C. K. Rick,[1,2] M. C. Duggan,[1,2] S. A. Welch.[1,2] *1. Division of Geriatric Medicine, Vanderbilt University Medical Center, Nashville, TN; 2. VA Tennessee Valley Healthcare System, Nashville, TN.*

Background: What Matters Most (WMM) to patients is a foundation of the 4Ms of age-friendly care. WMM to hospitalized older adults has not been well described. We aimed to identify themes of WMM documented in the electronic medical record (EMR) of hospitalized older adults.

Methods: We assembled a prospective cohort between Apr-Oct 2021 on an academic hospital's Acute Care for Elders (ACE) unit that was implementing the 4Ms and staffed by geriatricians, housestaff and nurse practitioners. Patients ≥65 years with WMM documented in the EMR during hospitalization were included. We excluded those who were discharged in <24 hours, transferred to another unit, discharged against medical advice or on hospice, or died during hospitalization. Demographics, cognitive impairment (dementia, mild cognitive impairment, delirium), primary diagnosis, length of stay (LOS) and discharge setting were collected. WMM documentation and who provided WMM response were collected via EMR review. WMM documentation was qualitatively analyzed using constant comparative method to identify themes. Responses could fit multiple themes.

Results: Of 87 patients with median(IQR) age 80(76-86) years, 59% were female, 49% had cognitive impairment and 2.3% were Hispanic or Latino. The most common primary diagnosis categories were infectious (24%), gastrointestinal (18%), and musculoskeletal/trauma (15%). The median(IQR) LOS was 5(3-7) days, and 47% participants were discharged to a post-acute care facility. WMM responses were provided by patient (79%) or proxy (5.6%), or response provider could not be determined from the EMR (15%). Six themes were identified including getting home or disposition planning (43%), relationships (32%), function (31%), health (30%), comfort (13%) and enjoying life (9%). 50.5% of patient responses captured multiple WMM themes.

Conclusions: In this cohort of older adults admitted to an ACE unit, WMM was documented despite high prevalence of cognitive impairment. WMM often included multiple themes, the most common were getting home or disposition planning. Future work towards ensuring goal-concordant care should validate and expand upon these themes through patient interviews.

Paper Session
RECOGNIZING FRAILTY AND PROMOTING RESILIENCE

Friday, May 13
10:30 am – 11:30 am

P24

Frailty Index at the Beginning of Elderhood and Accumulation of Age-Related Diseases, Disability, and Death Over 10 Years

J. JANG,[1] H. Jung,[2] J. Shin,[1] D. Kim.[3] *1. Yonsei University, Seodaemun-gu, Korea (the Republic of); 2. Division of Geriatrics, Department of Internal Medicine, Asan Medical Center, Seoul, Korea (the Republic of); 3. Hinda and Arthur Marcus Institute for Aging Research, Boston, MA.*

Background

Previously reported associations between a frailty index and age-related outcomes could be explained by chronologic age and birth cohort effect. We assessed whether the frailty index measured at the beginning of elderhood can predict development of age-related diseases, disability, and death over 10 years in a nationwide Korean population.

Methods

This retrospective cohort study included 968,831 individuals (female 53.4%) who underwent a standardized comprehensive geriatric assessment at age 66 years as part of the National Screening Program for Transitional Ages in 2007-2017. Frailty status was defined based on a 39-item frailty index: robust (<0.15), pre-frail (0.15 to <0.25), mildly frail (0.25 to <0.35), and moderate-to-severely frail (≥0.35). Cox proportional hazards regression and competing risk regression were used to examine the hazard ratio (HR) and 95% confidence interval (CI) of the frailty status at age 66 years with incident age-related diseases, disability, and death in the next 10 years or until December 31, 2019[DK1] from the Korean National Health Insurance database.

Results

The mean frailty index was 0.13 (SD 0.07) and 6.6% were frail. Frailty status at age 66 years was associated with death (robust vs moderate-to-severe frailty: 5.2% vs 22.7%; HR [95% CI], 4.4 [4.2-4.6]); a range of incident age-related diseases, including congestive heart failure (7.7% vs 20.4%; 2.4 [2.3-2.6]), coronary artery disease (12.2% vs 22.8%; 1.7 [1.6-1.8]), stroke (17.1% vs 37.8%; 3.0 [2.9-3.1]), diabetes (27.1% vs 45.9%; 1.7 [1.6-1.8]), cancer (13.1% vs 14.4%; 1.1 [1.1-1.2]), dementia (10.3% vs 34.6%; 2.9 [2.8-3.0]), and fracture (19.5% vs 33.0%; 1.4 [1.4-1.5]); and incident disability qualifying long-term care services (0.7% vs 8.6%; 9.8 [9.0-10.6]). Frailty status was associated with faster accumulation of age-related conditions over 10 years (robust vs moderate-to-severe frailty: 0.2 vs 0.7 conditions per year).

Conclusions

The frailty index at age 66 years was associated with accelerated acquisition of age-related conditions, disability, and death over 10 years. Measuring frailty at the beginning of elderhood may offer timely opportunities to mitigate health decline associated with aging.

P25

Using the AM-PAC to Predict Discharge Disposition Among Hospitalized Patients

K. H. Mclaughlin,[1] D. Young,[3] E. H. Hoyer,[2] B. Engels,[2] E. Colantuoni,[4] L. Friedman.[2] *1. Physical Therapy, Johns Hopkins Hospital, Baltimore, MD; 2. PM&R, Johns Hopkins University, Baltimore, MD; 3. Integrated Health Sciences, University of Las Vegas, Las Vegas, NV; 4. Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD.*

Background: The hospital discharge represents a time-dependent and vulnerable chapter in the patient pathway. Approximately one-fifth of hospital discharges suffer delays due to non-medical reasons with one major factor being inadequate identification of barriers to discharge at admission. Previous work demonstrates a relationship between patient mobility during hospitalization and their next level of care at discharge. A commonly studied tool is the Activity Measure for Post-Acute Care Inpatient Mobility Short Form '6-clicks' (AM-PAC), which measures a patient's basic mobility. We examined whether the AM-PAC completed within the first 48 hours of hospital admission was predictive of patient discharge to post-acute care (PAC) facilities across a wide variety of patient populations.

Methods: This study used a retrospective cohort registry of 34,432 patients admitted to the Johns Hopkins Hospital for ≥ 72 hours on units throughout the hospital. Our analysis utilized the lowest recorded AM-PAC within the first 48-hours of admission as the primary predictor. Other predictors included BMI, age, race, gender, prior functional status, living situation prior to admission (i.e., lives alone vs. with someone), and insurance type. Discharge location served as the primary outcome for this study and was defined as either PAC (SAR, LTAC, etc.) or home (including home with services) as recorded in the medical record. A random forest machine learning algorithm generated a representative decision tree, which demonstrated the likelihood of whether a patient would be discharged home vs. PAC.

Results: AM-PAC score ranked as the most important variable followed by BMI and age. While different sensitivities, specificities, and accuracies of the algorithm can be generated based on the cut point that is chosen, the decision tree accurately classified discharge location 70-75% of the time in a validation dataset. Furthermore, the algorithm consistently ranks AM-PAC as the most important variable in predicting discharge location.

Conclusions: Integrating the AM-PAC score into discharge planning can help improve awareness of possible discharge disposition to improve the discharge process overall.

P26

Innovative goal-based automated text messaging system implementation to a nationally recognized group exercise, Gerofit-to-Home program: A feasibility study

S. Lew,[1,2] S. Jennings,[2] J. Giffuni,[3] M. Morey.[4,2] *1. Geriatric medicine, Duke University School of Medicine, Durham, NC; 2. Durham VA Medical Center, Durham, NC; 3. VA Medical Center Baltimore, Baltimore, MD; 4. Duke University School of Medicine, Durham, NC.*

Background: In response to the COVID-19 pandemic, Gerofit, a nationally recognized facility-based exercise program for Veterans ages 65 and above, made a rapid transition to a live, tele-home-based group exercise, Gerofit-to-Home (GTH). A Veteran Advisory Panel identified personal accountability to Gerofit as a motivating factor associated with program adherence. A stepwise quality improvement (QI) project was initiated for GTH to investigate the impact of the new Veterans Affairs' automated text message system, Annie app (AAP), on program adherence. These QI projects will be refined before rolling out nationally to 28 GTH sites. The first two phases of the implementation are reported here with its transition to the third phase targeting newly enrolled Veterans. **Methods**: Phase1: Five Gerofit participants were enrolled to test the feasibility of AAP in interval collection of self-reported physical activity (PA). Phase2: Six GTH participants have been enrolled to test the AAP with messaging connected to personal functional goals. The exercise participation rate, along with AAP response rate has been monitored as a part of adherence. Additional enrollment is ongoing for the target of 15 participants. Adherence level will be compared between 3 months pre and post AAP implementation. **Results**: Phase1: Five Veterans completed 10.8 months of AAP messaging: mean age 72.0±6.2 with body mass index (BMI) 31.6±5.2. The mean number of responses to messaging over 10 months was 57.6±33.3% with a self-reported PA of 79.8+54.2 minutes weekly. Phase2: Six Veterans have been enrolled: mean age 74.5+4.6, BMI 33.6+8.5, adherence was 51.3+10% of total possible GTH exercise sessions over 2 months prior to the initiation of AAP messaging. These initial Phases will be integrated into Phase 3, which will align AAP messaging with motivational interviewing approaches known to modify PA behaviors. **Conclusions**: AAP was sustainable with Gerofit and evolving in its consolidation with GTH. These innovative motivation enhancements through AAP, may foster effective, strong habit formation in the Veteran's activity level, and serve as a cost-effective strategy to expand its availability to resource-deprived individuals or areas.

P27

Association of Frailty with Receiving Social Work Services for Elder Abuse in a National Health System

L. K. Makaroun,[1,2] A. Rosland,[1,2] M. Mor,[1] H. Zhang,[1] T. Rosen,[3] C. Thorpe.[1,4] *1. VA Center for Health Equity Research and Promotion, Pittsburgh, PA; 2. University of Pittsburgh, Pittsburgh, PA; 3. Weill Cornell Medical College, New York, NY; 4. University of North Carolina at Chapel Hill, Chapel Hill, NC.*

Background: Elder abuse (EA) is common and has devastating health impacts. Frailty may increase susceptibility to and consequences of EA for older adults but is not routinely measured in clinical practice, limiting its ability to inform systematic EA detection or risk assessment efforts. We examined the association of a claims-based frailty index with referral to social work (SW) for EA evaluation in the Veterans Administration (VA).

Methods: We conducted a case-control study of Veterans age ≥60 years who were evaluated by SW for suspected "abuse/neglect" from 2010-18 (n=14,723) and controls who received VA primary care services in the same 60-day window (n=58,369). VA and Medicare claims data were used to measure frailty (categorized as robust, pre-frail, frail) with the VA Frailty Index, which includes 31 age-related deficits in health, and comorbidity burden with the Elixhauser Index. We fit a series of logistic regression models to examine the association of frailty or Elixhauser score with receiving SW services for EA. All models were adjusted for age, race/ethnicity, sex, area deprivation index and facility fixed effects, but differed on whether they included only frailty, only Elixhauser score, or both. AIC values were calculated to determine which model best predicted referral for EA; likelihood ratio (LR) tests were used to assess the added value of including frailty and Elixhauser in the same model.

Results: Veterans in the cohort had mean age 72, were 14% Black, and 6% Hispanic. More cases (67%) than controls (36%) were frail. LR tests assessing the nested models were highly significant ($p<0.0001$) and the AIC values were lowest (best prediction) for models including both frailty and Elixhauser. Frailty (aOR frail v. robust 3.6; 95%CI 3.3-3.9) and Elixhauser score (aOR score ≥8 v. 0 2.2; 95%CI 2.1-2.4) were both significantly associated with referral for EA evaluation in this model.

Conclusions: A claims-based measure of frailty independently predicted referral to SW for EA evaluation in a national healthcare system and was a stronger predicter than comorbidity burden. These findings may inform strategies to improve risk assessment and detection for this important but under-recognized phenomenon.

Paper Session
CLIN-STAR

Friday, May 13
1:30 pm – 2:30 pm

P28

Association of Plasma Biomarkers of Alzheimer's Disease and Neurodegeneration with Physical Performance in Older Adults without Dementia.

D. Parker,[1] R. Faldowski,[2] M. Morey,[1] R. Sloane,[2] C. Pieper,[2] K. Hall,[1] H. J. Cohen.[1] *1. Medicine, Duke University, Durham, NC; 2. Duke University, Durham, NC.*

Biological aging is associated with decreased physical performance and is more common in older adults with cognitive impairment. The causes of age-related physical performance impairment are multifactorial, with neurodegenerative changes in the CNS hypothesized to play a role. The objective of this analysis was to determine whether plasma biomarkers of Alzheimer's disease and neurodegeneration are associated with physical performance in community-dwelling older adults without a diagnosis of cognitive impairment.

The Duke Aging Center Performance Across the Lifespan (PALS) cohort study was designed to characterize physical performance in adults across the lifespan. Using the ultrasensitive Quanterix SIMOA assay, we evaluated cross-sectional associations between plasma Aβ-42/Aβ-40 ratio, p-tau181, neurofilament light (NfL), and glial fibrillary acid protein (GFAP) and physical performance measures at the baseline PALS visit (N=292). On average, participants were nearly 75 years old, 55% female, and overweight (mean body mass index (BMI) ≈27). We used multivariate multiple regression to evaluate biomarker associations with six-minute walk time, usual gait speed, single leg balance, and number of chair stands in 30 seconds, adjusting for age, sex, BMI, and self-reported minutes of exercise per week.

Greater age, female sex, and greater BMI were associated with lesser physical performance on all measures (all $p<0.05$). Among the plasma biomarkers, greater concentrations of NfL – reflecting greater neurodegeneration – was most strongly associated poorer physical performance ($\Lambda=0.95$, $F(4,280)=3.79$, $p \leq .005$). Separate multiple regression analyses on each physical performance measure suggest that plasma NfL concentrations were especially associated with poorer performance on the six minute walk [$\beta = -1.26$, $F(1,283)=9.10$, $p \leq .003$] and single leg balance [$\beta = -.23$, $F(1,283)=8.05$, $p \leq .005$].

In conclusion, greater neurodegeneration – as measured by plasma NfL – was associated with impaired physical performance in community-dwelling older adults without a diagnosis of cognitive impairment. Our findings suggest that neurodegenerative changes in the CNS play a role in age-related physical performance impairment.

P29

Evaluation of Antipsychotic Reduction Efforts Among Patients with Dementia in Veterans Health Administration Nursing Homes

L. Gerlach,[1] D. Maust,[1] H. Kales,[2] M. Chang,[1] M. Kim,[1] I. Wiechers,[3] K. Zivin.[1] *1. Psychiatry, University of Michigan, Ann Arbor, MI; 2. Psychiatry, University of California Davis, Davis, CA; 3. Psychiatry, Yale University School of Medicine, New Haven, CT.*

Objective: The Veterans Health Administration (VHA) and the Centers for Medicare and Medicaid Services (CMS) each created initiatives to reduce off-label use of antipsychotics among patients with dementia in nursing homes. Although CMS has reported antipsychotic reductions, the impact on prescribing of antipsychotic and other central nervous system (CNS)-active medications in the VHA remains unclear. We evaluated national trends in antipsychotic and other CNS-active medication prescribing among nursing home patients with dementia in the VHA.

Methods: All Veterans with dementia residing in VHA nursing homes for more than 30 days (n=35,742). Using an interrupted time-series design, the quarterly prevalence of antipsychotic, antidepressant, antiepileptic, anxiolytic, opioid, and memory medication prescribing was evaluated from FY2009-2018.

Results: Antipsychotic prescribing in the VHA declined from FY2009-2018 (33.7% to 27.5%) with similar declines in anxiolytic prescribing (33.5% to 27.1%). During this period, prescribing of antiepileptics, antidepressants, and opioids increased significantly (antiepileptics: 26.8% to 43.3%; antidepressants: 56.8% to 63.4%; opioids: 32.6% to 41.2%). Gabapentin served as the main driver of antiepileptic increases (11.1% to 23.5%). Antidepressant prescribing increases included sertraline, mirtazapine, and trazodone prescribing. The overall prescribing of non-antipsychotic psychotropic medications grew from FY2009-2018 from 75.0% to 81.1%.

Conclusions: Antipsychotic and anxiolytic prescribing to VHA nursing home residents with dementia declined, though overall prescribing of other psychotropic and opioid medications increased. Policies focused primarily on reducing antipsychotic use without considering use in context of other medications may contribute to growth in alternative medication classes with even less evidence of benefit and similar risks.

P30

Age-related Changes in Structure, Function, and Transcriptomics of the Human Proximal Pulmonary Artery (PPA)

E. P. Manning,[4,1] A. B. Ramachandra,[4] C. Cavinato,[4] J. Schupp,[2] a. justet,[4] J. Lamy,[4] D. Peters,[4] P. Heerdt,[4] I. Singh,[4] P. Lee,[5,3] T. M. Gill,[4] G. Tellides,[4] N. Kaminski,[4] J. Humphrey.[4] *1. VA CT Healthcare System, West Haven, CT; 2. Respiratory Medicine, Hannover Medical School, Hannover, Germany; 3. Durham VA Medical Center, Durham, NC; 4. Yale University, New Haven, CT; 5. Duke University, Durham, NC.*

Background: Large arterial stiffening in the systemic circulation associates with poor clinical outcomes. We hypothesize that PPAs stiffen with advancing age and associate with decreased lung function. Aging-related changes in structure and function of proximal PAs are not fully understood. Therefore, we are applying high resolution bioengineering technologies and single cell profiling to study age-related changes in the structure, function, and transcriptome of PPAs of mice and translating these findings to humans.

Methods: We harvested PPAs from 27 female and male C57BL/6J "healthy aging" mice 3-24 months old to characterize geometry and biomechanical properties including stiffness, analyze microstructure/composition using 2-photon microscopy, and profile cell transcriptomes using single cell RNA sequencing. A subset of these studies were performed in 26 human subjects (cadavers, organ donor tissue, and *in vivo* imaging 40-90 years old) using *ex vivo* measurements and cardiac MRI.

Results: Material stiffness of mouse PPAs increased ~15 kPa per month and evidence suggests that the underlying mechanism is a change in collagen fiber orientation as a function of age rather than excessive collagen deposition. Preliminary data indicate that human PPAs also stiffen with advancing age despite little increase in wall thickness with age (mean = 1.01 mm +/- 0.02 mm, n = 15). Differences in adventitial collagen fiber alignment were also observed in human PPAs. PPAs of old mice demonstrated differential gene expression associated with alterations of extracellular matrix, autophagy, and cellular proliferation involving TGFb, PI3K-Akt-mTOR, and Notch molecular pathways.

Conclusions: Aging associates with increased stiffness of PPAs in mice that we hypothesize also occurs in human PPAs by similar means. We are performing detailed analysis of human PPAs of varying ages to further validate our findings and improve understanding of age-related stiffening of the human PPA, which may allow for future diagnostic and therapeutic interventions to improve lung function in older adults.

P31 Encore Presentation

Preoperative factors predict neurocognitive disorder after CABG or PCI in a population-based cohort of older adults

E. L. Whitlock, L. G. Diaz-Ramirez, M. M. Glymour, S. J. Lee, W. J. Boscardin, A. K. Smith. *University of California San Francisco, San Francisco, CA.*

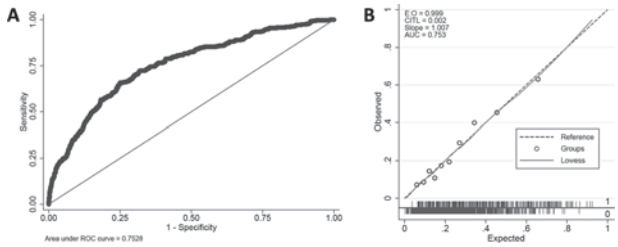
Background: Durable postoperative neurocognitive disorder (PND) is a feared outcome of medical care, and occurs in older adults after surgical (coronary artery bypass grafting [CABG]) and nonsurgical (percutaneous coronary intervention [PCI]) coronary revascularization.[1] However, it is unknown whether individual PND risk can be predicted. We reanalyzed a cohort of older adults[1] to predict PND at ~1 year after coronary revascularization.

Methods:1,390 Health and Retirement Study (HRS) participants (551 CABG, 839 PCI) underwent CABG/PCI at age 65+ from 1998-2015 and participated in at least one post-procedure HRS interview.[1] Using a "memory score" based on direct and proxy cognitive tests,[2] we identified participants whose actual post-procedure memory score was 1-2 ("mild PND") or >2 ("major PND") standard deviations below expected.[1] We modeled probability of mild or major NCD using ordered logistic regression on preoperatively-known factors including demographic and health variables, preprocedure memory, and frailty.

Results: Participants underwent CABG/PCI at 75±6 years old; 40% were women, and 17% were nonwhite. At a median of 1.1 [interquartile range 0.6-1.6] years after procedure, 267 (19%) had mild PND, and 88 (6%) had major PND. Factors predictive of PND were older age, male gender, nonwhite race/ethnicity, frailty, and off-pump CABG. Obesity was protective. 59% of "high risk" older adults (11% of the cohort) had any PND, and 21% had major PND. In contrast, 78% of those at "low risk" were free of any PND, and 96% had either no or mild PND only. The area under the receiver operator characteristic curve for any PND was 0.753 (Figure A), with excellent calibration (Figure B).

Conclusion: Preoperative factors predicted durable PND with discrimination and calibration suitable for clinical use.

1. JAMA 325(19):1955-64, 2021.
2. Alzheimer Dis Assoc Disord;27(3):207-12, 2013.



Model fit. A, discrimination; B, calibration.

Paper Session
HEALTH SERVICES & POLICY RESEARCH

Saturday, May 14
7:30 am – 8:30 am

P32

Frailty, glycemic control, and patterns of healthcare utilization among older adults with type 2 diabetes mellitus

K. Callahan,[1] K. M. Lenoir,[1] C. Usoh,[1] a. Moses,[1] M. T. Hinely,[1] T. Sherod-Harris,[1] N. M. Pajewski.[2] *1. Wake Forest University School of Medicine, Winston-Salem, NC; 2. Biostatistics and Data Science, Wake Forest University School of Medicine, Winston-Salem, NC.*

Background. In the setting of frailty and comorbidity, tight glycemic control for adults with T2DM can lead to adverse outcomes. We describe patterns of mortality and healthcare utilization (emergency department visits and inpatient admissions) for older adults with T2DM, exploring variability by frailty, glycemic control, and medication regimen.

Methods. We used Cox regression to examine 1-year outcomes for an Accountable Care Organization cohort of patients aged 65 years or older with T2DM as of 11/1/2020. Models were adjusted for age, sex, race/ethnicity, and prior healthcare utilization. We determined frailty status by a 54-item automated, electronic health record-based Frailty Index (eFI). Tight glycemic control (hemoglobinA1c<7.5%) was based on the most recent value within 2 years prior to the index date. T2DM medications were hierarchically classified as high risk (insulin, sulfonylurea, or combinations containing these), metformin (combination or non-combination), any other T2DM medication, and none.

Results. Of 16972 patients with a mean age of 75 years, 54% were female, 18% were Black, and 2% were Latinx. Based on the eFI, 54% were categorized as pre-frail (0.10<eFI≤0.21) and 37% as frail (eFI>0.21). Over half (51%) of adults with tight glycemic control were on a high-risk medication. Mortality did not differ by frailty status overall, by glycemic control among those with frailty, or by medication among frail older adults with intensive glycemic control. Frail (HR 2.57; 95% CI, 2.23-2.95) and pre-frail (HR 1.51; 95% CI, 1.31-1.73) older adults had higher healthcare utilization compared to adults categorized as fit. Among frail patients, utilization did not differ by the level of glycemic control after adjusting for medication regimen. Amongst frail adults with tight glycemic control, those on high-risk medications had higher utilization compared to those taking metformin (HR 1.26, 95% CI, 1.11-1.44) and other lower risk medications (HR 1.31, 95% CI, 1.08-1.57).

Conclusions. De-prescribing interventions targeting frail older adults with tight glycemic control achieved through high-risk medications may reduce burdensome healthcare utilization.

P33

The Paycheck Protection Program and Nursing Home Staffing

J. Travers. *Rory Meyers College of Nursing, New York University, New York, NY.*

Background: COVID-19 magnified critical staffing shortages within nursing homes (NHs). The Paycheck Protection Program (PPP) was a forgivable loan program that required eligible NHs (< $30,000,000 in annual revenues) to appropriate 75% of the loan towards staffing. We sought to understand the characteristics of NHs that received the PPP Loan versus those that did not and the associated changes in staffing outcomes post loan receipt.

Methods: We conducted a difference-in-difference analysis using 2020 national data from multiple aggregated data sources: the Small Business Association, Payroll Based Journal, Nursing Home Compare, National Healthcare Safety Network, and Area Deprivation Index. Staffing outcome variables included: Registered Nurse (RN), Licensed Practical Nurse (LPN), and Certified Nursing Assistant (CNA) hours per 100 residents per week. PPP data were linked to Nursing Compare using address information and the remaining datasets by provider number. We examined staffing outcomes on a weekly basis, from three months before receipt of the PPP loan through three months afterwards; for NHs that did not receive a loan, time 0 was calculated using the median date of loan receipt (April 15, 2020).

Results: Among 15,464 NHs, 3,385 (21.9%) received a PPP loan and 12,079 (78.1%) did not. The median loan amount was $626,100 (IQR: $366,500-$1,012,600). Loan-receiving NHs were disproportionately for-profit, larger, in metro settings, and had poorer staffing and overall quality star ratings. Regarding staffing hours, CNA staffing increased by an average of 0.52 hours per 100 residents per week in loan-receiving NHs compared to 0.27 hours per 100 residents per week among non-loan-receiving NHs ($p<0.01$). RN staffing increased by 0.17 per 100 residents per week in loan-receiving NHs, and by 0.14 per 100 residents per week in non-loan-receiving NHs ($p=0.47$). LPN staffing increased by 0.34 per 100 residents per week in loan-receiving NHs and 0.30 per 100 residents per week in non-loan-receiving NHs ($p=0.31$).

Conclusions: A program that required funding to be appropriated towards staffing was able to significantly increase CNA staffing. The PPP loans are only temporary and staffing shortages existed beyond CNAs, however. There is a need for Federal and State entities to institute sufficient and sustainable support that incentivizes NHs to invest into all frontline staff. This is the first study to assess the association of appropriated staffing funds and NH staffing outcomes.

P34 Resident Presentation

Demographic Characteristics of Adults Participating in Clinical Trials of Anti-Amyloid Monoclonal Antibodies to Treat Alzheimer Disease

A. D. Zhang,[1] S. N. Hastings.[2] *1. Duke University School of Medicine, Durham, NC; 2. Durham VA Medical Center, Durham, NC.*

Background: In 2021, the US Food and Drug Administration approved aducanumab to treat Alzheimer disease (AD) – making it the first drug approved to modify AD progression and setting precedent for the use of amyloid beta as a surrogate endpoint. However, concerns have been raised about the representativeness of trial participants along the AD research pipeline given that older adults, women, and Black adults are disproportionately affected by AD relative to the general population. This study examines clinical trials for anti-amyloid monoclonal antibodies (mAbs) in AD, characterizing representation by age, sex, race, and ethnicity.

Methods: We performed a cross-sectional analysis of all trials of anti-amyloid mAbs for AD treatment. Using ClinicalTrials.gov, we characterized trial phase, completion status, results availability, number of participants, and their age, sex, race, and ethnicity when available. For Phase 2 and 3 trials, we calculated participation-to-prevalence ratios (PPR), dividing the proportion of each demographic group among trial participants by the proportion among the AD patient population as estimated from Medicare fee-for-service data. A PPR of 0.8-1.2 was considered adequate representation. Confidence intervals were calculated using one-sample t-tests.

Results: We identified 67 trials of anti-amyloid mAbs for AD treatment; 52 (77.6%) were completed and 15 (22.4%) were ongoing. Of completed trials, 25 (48.1%) were phase 1 and 27 (51.9%) were phase 2 or 3. Of completed phase 2-3 trials, 18 (66.7%) had released results. 17 (63.0%) trials reported age, 16 (59.3%) reported sex, 13 (48.1%) reported race, and 6 (22.2%) reported ethnicity. Among these, mean age was 67.5 years. 54.4% of participants were female (PPR 0.80, 95% CI 0.75-0.84). 84.7% of participants were white (PPR 1.04, 95% CI 0.98-1.10), 1.4% were Black (PPR 0.15, 95% CI 0.05-0.25), and 11.1% were Asian (PPR 5.56, 95% CI 3.56-7.57).

Conclusions: Clinical trials of anti-amyloid mAbs for AD treatment are not representative of the AD patient population, with a younger mean age, underrepresentation of Black participants, and overrepresentation of Asian participants. These results have implications for the applicability of trial results for people with AD and suggest the need for continued targeted recruitment efforts.

P35

Development and Evaluation of a Patient Engagement Questionnaire: PEQ

S. Batio, L. Curtis, S. Bailey, M. Wolf. *Center for Applied Health Research on Aging (CAHRA), Northwestern University, Evanston, IL.*

Background: Health literacy, a 'skill set', and patient activation, a 'mind set', for healthcare engagement are strong determinants of patient health outcomes. While they represent different constructs, the mechanisms through which each impacts health status has been thought to be similar and often overlap. We sought to develop and evaluate the Patient Engagement Questionnaire (PEQ); a brief, remote assessment that captures the common threads of both constructs in the context of engagement in healthcare.

Methods: Participants were recruited from 5 academic internal medicine practices and 2 federally qualified health centers as part of our COVID-19 & Chronic Conditions (C3) phone survey in March 2020. Ten questions were generated that capture patients' abilities to access health information, manage and support their own health needs and the needs of others, and solve their health problems. Patient demographics, the Newest Vital Sign (NVS), the Consumer Health Activation Index (CHAI), and PROMIS measures were collected. Exploratory and Confirmatory Factor Analysis were used to conduct an item reduction process and assess the fit of the reduced items. Spearman correlations and generalized linear regression models were performed to assess convergent and predictive validity, respectively. Stratum-specific likelihood ratios (SSLRs) were used to determine potential cutoffs for the PEQ.

Results: A total of 630 participants completed the survey; the mean age was 63 years (SD:7), and 59.7% were female. The sample was diverse, with 29.4% living under poverty, 48.3% had limited health literacy, and 47.9% had low patient activation levels. 6-items were included in the PEQ, as all loaded onto one single factor (RMSEA:0.06, CFI:0.99, TLI:0.99), and demonstrated decent consistency (Cronbach's alpha=0.76) and convergent validity via significant correlations with NVS ($r=0.30$, $p<0.001$) and CHAI ($r=0.41$, $p<0.001$). Higher PEQ scores were significantly associated with lower severity of depression ($\beta=-0.66$; $p=0.01$) and better physical function ($\beta=1.03$; $p<0.001$). SSLR analyses resulted in two categories: limited (6-26, SSLR grouped: 3.15) and adequate (26-30, SSLR grouped: 0.53).

Conclusions: The PEQ is a brief, valid and easily administered tool that may capture the intersect between health literacy skills and health activation. Further validation studies are needed to consider research and clinical utility of the measure.

Paper Session
MENTATION: A FOCUS ON MENTAL AND COGNITIVE HEALTH

Saturday, May 14
11:45 am – 12:45 pm

P36 Resident Presentation

Hearing impairment is common in hospitalized older adults, but has an attenuated impact on delirium with age

R. Raj,[1] K. Agarwal,[1,2] G. E. Taffet.[1,2] *1. Houston Methodist Hospital, Houston, TX; 2. Baylor College of Medicine, Houston, TX.*

Background: The prevalence of hearing loss doubles with every decade and is present in two thirds of adults over 70. In contrast, less than 30% of those who could benefit from hearing amplification (HA) use HA. Hearing loss is under-recognized in the hospital and may confer an increased risk for delirium. We evaluated nursing documentation of hearing loss, interventions performed and their relationship to delirium in quality improvement efforts for this at risk population.

Methods: We performed a retrospective study using electronic medical records of 13,172 hospitalized patients, age over 70, discharged between April and June 2021 examining rates of documentation of hearing loss, and the relationship between delirium screening results (4AT), hearing loss and interventions. We then evaluated for documentation of hearing amplifiers, provided at no cost to the patient, or hearing aids brought from home. We validated nursing documentation of hearing loss and use of devices by checking 20 patients to obtain sensitivity and specificity data.

Results: Hearing loss was prevalent, essentially doubling each decade after 70 (See Table). Hearing loss conferred greater risk for 4AT positivity for those in their 70's but that risk attenuated with increasing age, reaching nil for those in their 90's. Nursing documentation of hearing loss was 42% sensitive and 100% specific. Of those with hearing loss, 83% had no documentation of using HA or writing to communicate.

Conclusions: Hearing loss was common and rates doubled by decade, similar to that in literature. In the small validation sample, rate of documented hearing loss was lower than true prevalence as the sensitivity was only 42%. The specificity of documentation of hearing loss and hearing assistive devices is high (100%) suggesting the recognition was skewed to the most severe hearing deficit. Of the hospitalized patients who experienced delirium, the rate of those with hearing loss aged 70 to 79 was significantly higher than those without hearing loss. For later decades, hearing loss did not significantly increase the risk of delirium. Nevertheless, opportunities exist for improved usage of HA to support patients.

Rate of 4AT+ and hearing loss

Age ranges	Percentage with hearing loss	Percentage of 4AT+ of those with hearing loss	Percentage of 4AT+ of those without hearing loss	Relative Risk	P values
70-79	11.5%	23.60%	18.50%	1.28	0.0003
80-89	22.3%	33.80%	31.80%	1.06	0.32
90-103	41.3%	49.50%	51%	0.97	0.6

P37 Resident Presentation

In sickness and in health: loneliness and depression among older adults married to persons with dementia

K. Hsu, I. Cenzer, A. Kotwal. *University of California San Francisco School of Medicine, San Francisco, CA.*

Background: Older adults married to persons with dementia may be at risk for loneliness and depression due to the impact of the disease on a couple's relationship and shared social life; however, little is described about the extent of their psychosocial needs. We therefore assessed the prevalence of loneliness and depression among older adults married to persons with dementia (PWD) or mild cognitive impairment (MCI).

Methods: We used a nationally representative sample of 4,044 married couples enrolled in the Health and Retirement Study (2014 and 2016). We included older adults married to PWD (N=225), married to persons with MCI (N=878), or married to persons with normal cognition (N=2,941). Loneliness was defined using the 3-item UCLA scale (score of ≥3 points on 0-6 point scale) and depression using the CES-D (score of ≥4 points on 0-8 point scale). We used chi-squared tests to compare the prevalence of loneliness and depression by the degree of spousal cognitive impairment, then multivariable logistic regression to determine if these differences remained after adjusting for age, gender, race/ethnicity, and education.

Results: The sample was 55% women, 71% White, 12% Black, 13% Hispanic, and on average 67 years old (SD: 9.6, Range: 50-97). In unadjusted analyses, older adults married to persons with cognitive impairment were more likely to be lonely (PWD: 27%, MCI: 21%, normal: 19%; p<0.01) and depressed (PWD: 15%, MCI: 15%, normal: 8%; p<0.01). Similarly, after adjustment, older adults married to PWD were more likely to be lonely (aOR=1.64, 95% CI: 1.12-2.44, p=0.01) and depressed (aOR=2.21, 95% CI 1.58-3.09, p<0.01) compared to those married to persons with normal cognition. Older adults married to persons with MCI were more likely to be depressed (aOR=2.25, 95% CI 1.29-3.90, p<0.01) but not significantly more likely to be lonely (aOR=1.24, 95% CI: 0.96-1.61, p=0.10) compared to those married to persons with normal cognition.

Conclusions: Loneliness and depression were more prevalent among older adults married to PWD. Identifying loneliness and depression among older adults married to PWD can help clinicians connect them to more robust behavioral and social support, including those tailored to the needs of spouses such as caregiver support groups, memory cafes, or adult day programs.

P38

Fog ahead: delirium and post-discharge cognitive impairment in severe COVID-19.

T. Avelino-Silva, F. Garcez, M. Dias, W. Jacob-Filho, M. Aliberti. *Universidade de Sao Paulo, Sao Paulo, Brazil.*

Background: Previous studies have found delirium to be a common manifestation of COVID-19. However, the infection's long-term cognitive effects still need to be addressed. We aimed to investigate the association between delirium and post-discharge cognitive impairment in COVID-19 patients. **Methods:** We completed a longitudinal observational study in a tertiary university hospital dedicated to caring for severe COVID-19 cases in Sao Paulo, Brazil. We included previously independent adults aged ≥50 years, without a history of dementia or memory complaints. Participants had confirmed COVID-19 and completed 12 months of follow-up after hospital discharge. We identified delirium occurrence in the hospital using the Chart-Based Delirium Identification Instrument (CHART-DEL), completed by physicians trained in geriatric medicine. We followed participants using structured telephone interviews every three months for one year and defined post-discharge cognitive impairment as a 10-Point Cognitive Screener (10-CS)≤5 or an AD8 Dementia Screening Interview (AD8)≥2 at the last assessment. We used multivariable regression models to estimate the association between delirium occurrence in the hospital and post-discharge cognitive impairment, adjusted to age, sex, frailty, Charlson scores, SOFA scores, and invasive ventilation. **Results:** We included 762 participants. Overall, 418 (54%) were male, 575 (75%) were 50-69 years old (yo), 149 (20%), 70-79 yo, and 38 (5%) ≥80 yo. We found delirium in 225 (30%) participants and post-discharge cognitive impairment in 69 (9%). However, post-discharge cognitive impairment was more common

in participants who had experienced delirium (12% vs. 8%, p=0.035). Delirium was independently associated with post-discharge cognitive impairment (adjusted odds ratio [aOR]=2.17, 95% confidence interval [95%CI]=1.20-3.90), but we verified that its effect was modified by age (p-value for interaction=0.059). We confirmed the independent association in participants aged ≥70 years (aOR=4.76, 95% CI=1.77-12.8), but not in those under 70 (aOR=1.35, 95%CI=0.61-2.98). **Conclusions:** Severe COVID-19 survivors aged 70 years and over who experienced delirium had four times the odds of developing cognitive impairment after hospital discharge. Providers should be wary of the long-term effects of delirium in COVID-19 patients, even in the absence of pre-existing disability or dementia.

P39

Does initiation of cholinesterase inhibitors or memantine improve survival and delay antipsychotic initiation among older nursing home residents with dementia?

M. Alcusky,[1] J. Wang,[1] J. Tjia,[1] B. Ott,[2] K. Lapane.[1] *1. Population and Quantitative Health Sciences, University of Massachusetts Medical School, Worcester, MA; 2. Neurology, Brown University, Providence, RI.*

Background

Nursing homes (NHs) are a predominant care setting for older adults with Alzheimer's disease and related dementias (ADRD). Antipsychotics are commonly used in NHs to manage behavioral symptoms of ADRD despite associated risks, including death. Cholinesterase inhibitors (ChEIs) and memantine can improve behavioral symptoms of dementia.

Objective

To examine the potential for antipsychotic sparing and increased survival after initiation of antidementia treatment among US NH residents with ADRD.

Method

Using Medicare Parts A+D claims linked to Minimum Data Set 3.0 assessments, we selected two cohorts of Medicare fee-for-service beneficiaries aged 65 years and diagnosed with ADRD who newly initiated a ChEI or memantine as residents of CMS certified NHs during 2011-2018. One-to-one propensity score matching selected comparison groups with similar distributions of potential confounders. Cox proportional hazards models compared the time to antipsychotic initiation and death between users and non-users of each drug class. The primary analysis was as-treated with censoring for changes in exposure; a secondary intention-to-treat (ITT) analysis was also performed.

Result

In the matched ChEI (n=116,442) and memantine (n=97,098) cohorts the median age was 86 years. In as-treated analyses, the hazard ratio (HR) for antipsychotic initiation was 0.66 (95% Confidence Interval (CI): 0.65-0.67) for ChEI initiators and 0.64 (95% CI: 0.63-0.66) for memantine initiators. The mortality HR for was 0.43 (95% CI: 0.42-0.44) for ChEI and 0.43 (95% CI: 0.42-0.44) for memantine initiators. In ITT analysis, the HR for antipsychotic initiation was 1.00 (95% CI: 0.98-1.01) for ChEI and 1.04 (95% CI: 1.02-1.05) for memantine initiators. The ITT HRs for mortality were 0.90 (95% CI: 0.89-0.92) and 0.97 (95% CI: 0.95-0.98) in the ChEI and memantine cohorts, respectively.

Conclusions

Among US NH residents with ADRD, we observed large apparent antipsychotic sparing and survival benefits during periods of treatment based on results of as-treated analyses. Attenuated associations in ITT analyses are consistent with deprescribing near the end of life and higher rates of antipsychotic initiation after discontinuation of antidementia treatment, which will be examined in subsequent analyses.

POSTER SESSION A

Thursday, May 12
12:30 pm – 1:30 pm

A1

Caregiver Burnout

s. kim. *Geriatrics, The George Washington University, Washington, DC.*

Introduction: Caretaker exhaustion present in multiple forms: physical, mental, and emotional. As physicians, we often focus on caring for the patient and forget about the wellbeing of those around them. This case illustrates caretaker burnout and provides ways to address the problem.

Case Report: 71yo male with alcoholic liver disease, GI bleed, esophagitis, neuropathy, falls, dementia, and homebound, is seen at home for a follow up. The Patient drinks significant amounts of alcohol without plans for discontinuation. When priorities and goals of care were addressed in the past, he was aware of his progressive deterioration from alcohol use. He stopped participating physical therapy, and, as a result, became more deconditioned. He eventually stopped bathing due to fear of falling on a hard tile. Ironically, when asked what he would want in the immediate future, he reported that he would like to see improvement in his health. He wants to walk again, stop the progression of his alcohol induced diseases, and develop a better appetite. Yet, he is stubborn and unwilling to compromise his current lifestyle, which leaves him with a poor prognosis.

In the setting of the patient's multi-complexities, his primary caretaker, his wife, reports frustration. The wife has been with the patient for many decades and knows his condition very well. The family used to have a home health aide which was extremely helpful but was eventually fired, thus, at this point, the wife is the sole caretaker at home. She appeared hopeless and overwhelmed.

Discussion: In the United States, there are approximately 15 million caregivers. It is reported that 56.1% of them experienced caregiver burden. Depression, anxiety, and self-reported poor health were common result of burnout. Fortunately, there are many resources available today to alleviate the problem. The most common way to help the caregiver is to obtain home health aide. Adult day care, caregiver support group programs, and local agency of aging are other available resources.

For our case, it was crucial to realize that patient could not be helped with interventions targeted at him. Instead, it was the wife that we needed to help to optimize patient's health. We offered spiritual counseling, support groups, and helped reinstate HHA to offset the caregiver burden. The best way to help the patient was to help his wife because patient was unwilling to help himself. This case illustrates the fact that we need to always remember that those around the patient are important pillars to patient wellness.

A2

Oculopharyngeal muscular dystrophy: a rare familial disorder

J. Lee, S. Sehgal. *Geriatrics, University of California Irvine, Irvine, CA.*

Background: Dysphagia, ptosis, and/or proximal myopathy may be a set of symptoms encountered in the primary care setting. We present a rare, yet familial myopathic disorder of oculopharyngeal muscular dystrophy (OPMD).

Case: Our patient is a 80 year old female with OPMD, COPD, osteoporosis, and hypothyroidism. OPMD is a disease that has afflicted generations of the maternal side of her family. In her 40s, the patient started having difficulty swallowing pills, that has progressively worsened. She struggles to maintain her weight at 60 lbs from her prior weight of 93 lbs.

Discussion: OPMD is an autosomal dominant (AD) disease with penetrance of the disease increasing with age. AD form has a higher prevalence among French Canadians (1:1,000) and Bukhara Jews living in Israel (1:600).[1] It is primarily caused by a short GCG repeat expansion in the first exon of the polyadenylate-binding protein nuclear 1 gene, known as PABP2.[1] Poly-alanine residues become mis-folded and accumulate as the intranuclear inclusions, which disrupt cell function.[3] OPMD is diagnosed by a positive family history, ptosis with at least one palpebral fissure at rest smaller than 8 mm, and dysphagia.[2] Common symptoms are: (in the order of prevalence) tongue weakness/ atrophy, proximal leg weakness, dysphonia, limitation of upgaze, facial muscle weakness, and proximal arm weakness.[2] Aspiration pneumonia, malnutrition, and weight loss are commonly seen at the end stage of OPMD.[3] Dysphagia can be treated with meal modification, followed by surgical interventions including cricopharyngeal dilation, myotomy, and percutaneous endoscopic gastrostomy insertion.[2] Eyelid ptosis can be revised by resecting the levator palpebral aponeurosis or frontal suspension of the eyelids.[2] Geriatricians and primary care physicians need to have an increased awareness of this disease for an earlier diagnosis and treatment.

References:

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A3

Proton-pump-inhibitors make me Sweaty

J. Li, R. Motarjemi. *Geriatric Medicine, University of California San Diego, La Jolla, CA.*

Hyperhidrosis (HH) is a disorder that causes excessive sweat production beyond thermoregulatory needs. This creates a negative impact on patients' quality of life. Approximately 2.8% of the US population is affected by it. Here we present a clinical case of secondary craniofacial HH, likely due to proton pump inhibitor (PPI) use.

The patient is a 71-year-old woman with past medical history of osteoarthritis, hypertension, and GERD who was referred to our geriatric clinic for new-onset excessive sweating over the past one year. Patient reports drenching sweat on her face and scalp. Her symptom is not associated with activity, food, or temperature change. Each episode lasts 20 to 30 minutes, occurs once or twice daily. Embarrassed by her symptom, the patient feels uncomfortable leaving her home and carrying out normal social interaction. No family history of primary HH. Work-up by patient's primary care physician, cardiologist, and endocrinologist were inconclusive.

During the Geriatric visit, a comprehensive history was taken. Her medications were reviewed and unnecessary medications were deprescribed. One such medication was pantoprazole, which the patient has been taking for more than a year. After three days of medication discontinuation, the patient's symptoms resolved. Interestingly within four days of restarting pantoprazole, the patient's symptoms returned in full vengeance. Concerned for PPI-induced secondary craniofacial HH, we advised the patient to stop pantoprazole permanently. In her six months follow-up, the patient reported she remained symptom-free and was able to resume her usual social activity again.

Hyperhidrosis is classified as a primary or secondary disorder. While secondary HH is less prevalent, compared to primary (constitutes 93% of all HH cases), secondary etiology is most frequently related to underlying medical conditions or iatrogenic causes. Secondary causes of HH must be excluded before primary HH can be diagnosed. Craniofacial HH, a subtype of secondary focal HH, refers to HH that affects the face and/or scalp. PPI-induced secondary craniofacial HH is an under-recognized side-effect of the medication. Therefore it is important to inform the healthcare providers of such drug-induced adverse effects, and potentially make a difference in the life of our geriatric patients.

A4

A Case Study of a Novel Community Partnership Supporting Age In Place

M. Little,[1] B. Chrzanowski,[2] T. Nauer,[2] J. Drost,[3] S. Fosnight.[3]
1. Habitat for Humanity SC, Akron, OH; 2. Area Agency on Aging 10B Inc, Uniontown, OH; 3. Summa Heath, Akron, OH.

Background: We have a long-standing interprofessional team comprised of a geriatrician, pharmacist, social worker, and nurse that helps community dwelling older adults age in place. To better impact fall prevention we added a physical therapist and a Habitat for Humanity construction supervisor to enable home modifications.

Case: 84 YO female with Alzheimer's, GERD, disc degeneration, anxiety, OA, HTN, and bone density disorder. Medications: Acetaminnophen (prn), Certrizine, Mirtazapine, Mobic, Mometasone, Omeprazole, Risperdal, Zoloft, Amlodipine, Eliquis, Atorvastatin, Metoprolol, Meloxicam. Functional Status: Independent: Toileting, Eating, Bed Mobility, Hands-on Assist: Bathing, Dressing, Grooming, Transfer. Dependent all IADLs. Adaptive equipment: Handheld shower, bath bench. Cognition: Confusion (place and time), wanders.

Methods: Social work, Habitat and PT assessments. Findings presented to IP team.

Results: (PHQ2 failed, TUG- 24 seconds, Front Reach- 5 inches, Clock- failed, Fear of falling-Yes, History of falls-Yes). Issues identified (sample recommendations): 1) Cognition (consider comprehensive geriatric assessment to optimize dementia behaviors and depression; medication for cognitive deficit; Alzheimer's Association for behavior issues; monitor for EPS effects of risperidone; encourage care partner to do behavioral log). 2) Pain (evaluate if pain is contributing to behaviors; effectiveness of current pain control regimen; scheduled acetaminophen 1G q8hrs to lessen need for meloxicam, Meloxicam increases risk of bleeding, renal impairment, and cardiovascular risk, consider use of diclofenac gel). 3) Falls (check Vitamin D; orthostatic blood pressures; Amlodipine and metoprolol can increase risk of orthostasis; ensure shoes are well fitting; therapy for osteoporosis; home modifications). 4) Habitat for Humanity home modifications (elevate toilet, grab bar in the shower, outside ramps with handrails, handrail on the front walk, level concrete on the front walk, add contrasting color to outside stairs/ramp, install motion sensor at door/s to help with safety/wandering; in home ECHO device).

Conclusion: by employing this diverse team, a holistic approach to the consumer's fall risk was addressed enabling Aging in Place. Addition of home modifications to the medical and social interventions more completely addresses fall risk.

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A5

High Dose Opioids were Not Enough to Save His Life. Let's Talk about Suicidal Awareness!

D. Treu,[1] P. Macip.[2] *1. GEC, Orlando VA Healthcare System, Orlando, FL; 2. Dana-Farber Cancer Institute, Boston, MA.*

66 year old post-Vietnam Veteran with diagnosed adenocarcinoma of the recto-sigmoid colon on 12/2020. S/p radiation and chemotherapy with progression of the disease. He was deamed not to be a surgical candidate and further disease directed treatment was not recommended. Veteran was admitted to the hospital with severe uncontrolled pain. He received very high doses of Opioids with

moderate control of his pain. Veteran requested discharge home with Hospice in order to be with his son at the end of his life. Veteran was single and lived with his mother and his 13 year old son. He didn't have any known psychiatric medical history. He was very religious and had stated on several prior ocassions that he would never take his own life. 10 days after hospital discharge, we were notified of veteran's death by suicide from gun shot wound.

Suicide is the 10th leading cause of death in the US. It was responsible for more than 47,500 deaths in 2019, which is about one death every 11 minutes. Veteran's are at increased risk of suicide compared to the general population. The suicide rate for Veterans is 1.5 times higher than the rate for non-Veteran adults. Among Veterans, self-inflicted firearm injury was the most frequent cause (69.4%) of death by suicide. Suicide and suicide attempts cause serious emotional, physical, and economic impacts. Suicide is preventable and everyone has a role to play to save lives.

Suicide prevention has been the VA's top clinical priority since 2017. We will discuss the VA's initiative, as well as national strategies to prevent suicide.

A6

Rapid Eye Movement Sleep Behavior Disorder: Case Report of An Often Unrecognized Prodromal Symptom of Dementia with Lewy Bodies

C. E. Marti Amarista, C. Nicastri, M. Lectura, S. Dayaratna.
Geriatrics, Stony Brook University Hospital, Stony Brook, NY.

Background: Idiopathic rapid eye movement (REM) sleep behavior disorder (iRBD) is a potentially injurious parasomnia characterized by punching, flailing, and screaming during sleep. Research has shown that iRBD affects 7.7% of individuals ≥ 60 years, 40% of those with dementia with Lewy (DLB), and it is associated with 15% to 35% risk of conversion to a neurodegenerative disease within 2 to 5 years after iRBD onset. However, most cases are unrecognized or underreported.

Case presentation: We present the case of a 64 years old right-handed male with past medical history of mitral valve repair, pacemaker, migraines, and former smoker (70 packs/years) who presented to the geriatric clinic with complaint of visual hallucinations for one week. Hallucinations were mostly of people he did not know asking him to write or to clean. Concomitantly, short-term memory and attention deficits, intermittent episodes of diplopia, and gait imbalance worsening for the last year. Two years prior to current symptoms, patient started experiencing episodes of punching and screaming during sleep, for which his primary care doctor prescribed melatonin, which patient reported worsened his sleeping problems and was associated with unintentional injuries to his spouse. MMSE and MoCA scores 28/30 and 26/30, respectively. Patient had decreased arm swing and turnover on the left side. After first evaluation, patient presented with a marked neurological decline over one month, characterized by stooped posture, rigidity, shuffling gait, more frequent hallucinations, confabulations, and delusions. CT head and MRI brain were negative. Lyme, thyroid disease, metabolic causes, infections and vitamin deficiencies were ruled out. Lumbar puncture was declined by patient and family. SPECT Brain DaTScan showed moderate decrease uptake within the right caudate nucleolus and right putamen with generalized striatal decreased uptake, consistent with Parkinson's syndrome. Patient was started on Donepezil 5 mg, mirtazapine 15 mg, and melatonin 10 mg daily with resolution of iRBD and hallucinations, with improvements on attention, memory, and posture.

Conclusions: This report highlights the importance of recognizing iRBD as a prodromal sign and core clinical feature of DLB, especially in patients without obvious memory dysfunction or parkinsonian symptoms.

A7

Dextrocardia with situs inversus in the 9th decade

A. Michael, A. Odeyinka. *Care of Elderly, Russells Hall Hospital, Dudley, United Kingdom.*

Case report: An 86 years old lady was admitted to hospital generally unwell. Her medical history included vascular Dementia, hypertension, atrial fibrillation and diet-controlled diabetes mellitus. On Examination she was haemodynamically stable and her temperature was 37.8. JVP was not elevated, heart sounds were well auscultated, chest was clear and the abdomen was soft non-tender with no palpable organomegally. Muscle tone was high. ECG showed right axis deviation, inversion of P, QRS, T in Lead I and positive P, QRS, T in aVR and no progression of R wave in the chest leads (characteristic changes of dextrocardia). CXR revealed dextrocardia. CT thorax, abdomen and pelvis with contrast showed situs inversus. She was treated as urinary tract infection, improved and discharged home.

Discussion: Dextrocardia is rare in the general population; even in adult patients with known congenital heart disease the prevalence is 0.13 %. The main types of dextrocardia include situs solitus, situs inversus and situs ambiguous. In dextrocardia situs solitus the liver is on the right side of the body, and the stomach and spleen are on the left. Dextrocardia situs solitus without associated congenital cardiac deformities is rare. In dextrocardia with situs inversus there is mirror-image reversal of the organs in the chest and abdomen. Patients rarely have other congenital heart disease. In dextrocardia situs ambiguous there is heterotaxy i.e. the arrangement of the organs has no order. CXR, ECG, Echocardiogram, CT scan of the heart and MRI of the heart are used to diagnose dextrocardia. ECG features of dextrocardia are reversed with reversal of limb leads and precordial leads. To have more clinical benefit/meaning of the ECG in dextrocardia patients, the limb leads and precordial leads must be placed in reversed positions. Also if a patient needs defibrillation, the pads should be placed in reverse positions.

Conclusion: Patients with dextrocardia with situs inversus can have normal life span. The prognosis can be adversely affected if there were associated congenital intra-cardiac anomalies. It is rare and interesting to review a patient with situs inversus in their 9th decade of age.

A8

New Onset Drug- Induced Angioedema with Chronic Medication Use in Older Adults

M. Mudgal, T. S. Dharmarajan. *Division of Geriatric Medicine, Montefiore Wakefield Campus, Bronx, NY.*

Background

Angioedema refers to a swelling of deep layers of subcutaneous or submucosal tissue or both. It is caused by either mast cell degranulation or activation of kinin formation. We describe a case of possible drug-induced angioedema in an older adult.

Case

92 year old white female resident in long-term care developed sudden onset lower lip swelling. There was no associated dyspnea or dysphagia and no trauma to the region. She had no history of angioedema; had hypertension, seizure disorder, reflux disease and dementia. Medications included amlodipine, aspirin, carvedilol, valproic acid, lamotrigine, buspirone and omeprazole. Vital signs: BP 142/81, HR 70/mt, Temp 97.8 F 95% spO2 on room air. Examination: erythematous, non-pitting lower lip edema, non-edematous gums, tongue, tonsils, pharynx and uvula. No periorbital swelling or urticaria of other regions present. Aspirin, carvedilol and amlodipine were held for 5 days and a 3-day course of prednisone 40 mg daily begun. The lower lip swelling improved and resolved within 2 days of prednisone initiation. After discussion with guarantor, her aspirin and amlodipine were discontinued and carvedilol re-initiated. After a single dose of carvedilol, the lower lip swelling re-appeared. Decision was made to

discontinue the carvedilol and begin a second course of prednisone for 3 days, leading to resolution of lip swelling. There were no further similar episodes.

Discussion

NSAIDs (specifically aspirin) and dihydropyridines (amlodipine) are implicated in development of angioedema via excessive leukotriene production and vasodilatation respectively. β blockers pre-dispose to or adversely affect patients with several allergic or immunologic disorders by enhancing skin sensitivity to released mediators. Our case demonstrates a possible NSAID induced angioedema that was possibly potentiated by beta-blocker use. The explanation may be that an auto-immune mechanism directed towards immunoglobulin E (IgE) may have led to angioedema from the long-term use of the medications, and not necessarily new drugs.

Learning points

Older adults may experience new onset mast cell–mediated angioedema, with a higher prevalence of autoimmune and a lower prevalence of auto-allergic disease as noted in some studies.

Careful medication review in older adults with new onset angioedema may suggest the likely trigger

A9

A Case of Lung Cancer: Precision Medicine and Patient-Centered Approach

N. N. Munoz Casablanca, S. Baharlou. *Icahn School of Medicine at Mount Sinai Brookdale Department of Geriatrics and Palliative Medicine, New York, NY.*

Background:

In the United States, cancer at any site is more frequently diagnosed among people aged 65-74 for all races and gender. Lung and bronchial cancer represents 12.4% incident cases with a median age of 71 at diagnosis and a median age of 72 at death. We present a case of Non-Small Cell Lung Adenocarcinoma (NSCLC) in an older adult who developed treatment related side effects leading to hospitalization, and explore the role of interprofessional supportive oncology team during his transition to hospice care.

Case description:

An 82-year-old male former smoker with Stage IV EGFR mutation positive NSCLC with Afatinib-induced chronic diarrheas presented to a hospital with progressive generalized weakness, and 3 episodes of near-syncope.

On initial presentation, his blood pressure was 66/39mmHg. He appeared cachectic, chronically ill, with dry oral mucosa but unremarkable abdominal exam. Labs showed acute kidney injury with Cr 5.06mg/dL and multiple metabolic derangements including sodium 124mEq/L, chloride 92mEq/L, phosphorus 8.5mg/dL, and high anion gap metabolic acidosis (pH 7.23, bicarb 12.2mEq/L, AG 19.8mEq/L, lactate 2.1mmol/L). Imaging was notable for near-complete opacification of the right lung likely due to progression of his lung malignancy. No acute intraabdominal pathology was identified. Afatinib was held. Patient was given intravenous fluids with improvement in renal function. Given his debility, progression of disease while on molecular targeted therapy, and drug-related side effect leading to hospitalization for hypovolemic shock, shared decision was made against further oncological treatment. Following discussions with his supportive oncology team, the patient elected to pursue hospice care.

Conclusion:

Lung cancer is most frequently diagnosed among our geriatric population. Novel treatment modalities, namely immunotherapy and targeted therapies, have become readily available. But, it is important to recognize their potential adverse effects, particularly in our frail cohort. In addition, the incorporation of supportive oncology team in the management of geriatric patients offers an interprofessional approach that may ease suffering and improve patient's quality of life.

A10

Differentiating Dementia from Aphasia

A. NASRULLAH, E. Dzielak, N. Patel, R. English. *GERIATRIC MEDICINE, Wright Center for Graduate Medical Education, Scranton, PA.*

Background:

Dementia and stroke commonly present within the elderly population. It is important to carefully differentiate dementia from aphasia, as symptoms can overlap. We present a case of aphasia that was initially managed as dementia.

Case Presentation:

A 71-year-old male presented with a past medical history of type-2 diabetes mellitus, hypertension, hyperlipidemia, right carotid endarterectomy, and a previous transient ischemic attack. Patient initially visited with concerns about memory. On initial exam, patient had BP: 128/60 Pulse: 64 T: afebrile. Neurological exam revealed good strength in all four limbs, with normal tone and reflexes, along with normal sensory and cerebellar exam.

On cognitive exam, it was noted that the patient had difficulty finding the correct words to express himself. He displayed difficulty identifying objects by name, but was able to correctly identify if he was given the right or wrong name of an object. He had difficulty with correctly drawing a clock. Concerns arose that the patient might have fluent aphasia related to a previous cerebrovascular event.

Patient work up included an electrocardiogram which showed non-specific changes, an echocardiogram showed left ventricular hypertrophy with left ventricular diastolic function, and a carotid Doppler showed 50-79% stenosis of bilateral carotid arteries. MRI of the brain showed chronic bilateral cerebral infarcts involving right occipital and right posterior parietal lobes infarct. Patient was initially thought to have mixed disorder and was started on donepzil, and later was started on memanitine.

As observed through follow up, the memory problem did not progress over the following two years. It was noted that the patient's predominant problem was with expressing himself. There was no behavioral issues noted over time. On the basis of follow up and repeated neurological examination, it was determined that aphasia was the predominant element causing his memory and expression problems.

Conclusion:

Cerebrovascular events and dementia may have common presentation, thus careful history taking and assessment can help providers make the correct diagnosis. Early recognition will allow providers to manage these diseases more effectively.

A11

"Being Hangry"- Symptom of Iron Deficiency Anemia and Another Form of PICA in elderly with Neurocognitive Disorders

J. Naumovski,[1] M. Macklin,[2] S. Gambino.[3] *1. Geriatric Division, UPMC, SCI, Pittsburgh, PA; 2. Internal Medicine, UPMC, Pittsburgh, PA; 3. Internal Medicine, University of Pittsburgh Medical Center, Pittsburgh, PA.*

Background: Nutritional problems crave compulsive eating of edible and nonedible substances and this condition is described as Pica. This is a well known symptom described in pediatric patients and patients with intellectual disabilities but not described to be a recognized syndrome in patients with Dementia. Iron deficiency anemia is the most common cause of Pica.

Objectives: To present a case of Pica in a patient with Neurocognitive Disorder (NCD) who developed Iron Deficiency Anemia and alert clinical providers of this constellation of symptoms as may be more frequent in patients with advanced Dementia.

Methods: We reviewed patient's chart and PUBMED publications that describe iron deficiency anemia cases in elderly

Case Report: 93 yo lady with PMHx of Advanced Neurocognitive Disorder, MDD, Hypothyroidism and GERD has been more than 3 years resident at an Assisted Living Facility, Memory Unit. She has been at her baseline health without any medical events but in last couple months noted to be irritable, noted to be hungry and to calm when would have a snack. Nursing staff has noted her to be "Hangry" as they described her new behavioral. Blood sugars have been checked at site and in normal range. This period coincidented with the facility restrictions in the time COVID pandemic and less clinical visits overall. When physician alerted for her behavioral changes and routine blood work done (CBC, CMP) a severe microcytic anemia was noted with a Hgb of 6.9 (11.5-15.5 g/dL) w MCV of 70.4 (80-100 fL)showing chronicity and Iron Deficiency with Iron of 19 (45-160 mcg/dL) and Ferritin 6 (10-282 ng/mL). She received blood transfusion and started iron supplementation. Symptoms of her irritability and PICA resolved.

Conclusions: Pica is an important sign of iron deficiency and should not be ignored. Craving, change in behavioral should alert the physician for work up in any patient, especially in ones with NCD who can not relay more history or specify their symptoms.

A12

Curious Case of Rice Bodies

A. Aviles, A. Rasheed, N. Agarwal, W. J. Nieri. *Geriatrics, The University of Arizona College of Medicine Phoenix, Phoenix, AZ.*

Introduction: Coccidioidomycosis is a highly prevalent disease in the Western hemisphere. Coccidioides species live in arid and semi-arid regions. Though it causes mainly pulmonary infection, dissemination to bone, joints, meninges and skin has been seen less than one percent of the time.

Case presentation: We present a case of an 80-year-old immunocompromised patient with metastatic prostate cancer and history of pulmonary coccidiomycosis who presented to a veteran hospital with severe left thigh pain and swelling that started three days ago. Five days prior to admission, patient had received steroid injection in the left knee for osteoarthritis. The initial labs were WBC 6.4, ESR 16, lactic acid 1.66 and negative MRSA screen. CT left lower extremity without contrast showed a large heterogeneous density fluid collection beginning at approximately the level of the greater trochanter extending distally to the patella. Interventional radiology performed US guided drainage of the fluid collection that had multiseptated appearance and 2 mL of yellow sanguineous fluid was removed. Pt was transferred to local university hospital for incision and drainage. He was started on Cefepime, Vancomycin and Voriconazole. He underwent left lateral thigh excisional debridement. OR findings notable for unusual appearance of hundreds of rice bodies around the entire lateral thigh compartment. Preliminary culture at the VA hospital were growing mold. Pathology reported lobulated amorphous eosinophilic material with surrounding granulation tissue containing occasional areas of granulomatous inflammation. Tissue culture yielded Coccidioides species. Antibiotics were de-escalated and patient was discharged on fluconazole. He will need lifelong fluconazole prophylaxis.

Discussion: We propose that in immunocompromised patients in endemic regions for coccidioidomycosis consider disseminated coccidioidomycosis in non-resolving swelling, mass, lesions, or abscess to achieve a prompt and accurate diagnosis and treatment.

A13

A case of late-onset mania: Diagnostic challenges of coexisting memory loss and mood disorder

V. Ogundipe, E. Manu. *Geriatrics, University of Michigan, Ann Arbor, MI.*

Background: Late-onset mania is uncommon, presenting in 6% of admissions for mania. Cognitive impairment is often a coexisting trait, leading to diagnostic challenges in older adults.

Methods: An 87-year-old woman with past medical history of osteoarthritis and depression presented to the hospital with acute mental status changes. Symptoms included poor sleep, pressured speech, paranoia, and decreased appetite; they had been present for two weeks, and an apparent trigger was loss of internet connection and access to her nearest relative living overseas. Furthermore, a housekeeper who assisted with chores several times a week recently resigned. She lived alone and was noted by a facility coordinator to have worsening cognitive and functional status over the 6 months prior to admission. The patient had been prescribed mirtazapine for depression 4 years ago but had stopped taking it shortly after; a recent depression screen by her primary care provider was negative. Medications included a Chinese herbal medicine for constipation, calcium with D3 and vitamin B12.

Results: On admission, vital signs were stable, physical exam was remarkable for tangential thoughts, paranoid delusions, pressured speech, hyperarousal, and tremor. Workup for underlying cause revealed mild liver enzyme elevation with unremarkable liver ultrasound; patient was empirically treated for a urinary tract infection, but urine culture was negative. Brain imaging was not obtained due to hyperactivity. MOCA was done using a Mandarin interpreter. The patient scored 18/30, with points lost on: visuospatial (1), naming (1), delayed recall (4), attention (3), language (2), orientation (1). The test took one hour to administer due to patient distractibility. The patient was assessed by psychiatry and was diagnosed with acute mania. She was admitted to inpatient psychiatry and started on olanzapine.

Conclusions: The cause of mania in older adults is often difficult to diagnose, with coexisting memory impairment suggestive of secondary cause such as Alzheimer's, behavioral variant fronto-temporal or vascular dementia. Patients with acute mania may perform worse on memory testing due to inattention and flight of ideas. MRI brain is helpful in differentiating between primary and secondary mania however is difficult to perform in the setting of hyperactivity. Lack of collateral history and language barrier added an extra challenge to the diagnostic process in this case.

A14

Expanding the Scope of What Matters Most: A Patient Priorities Navigation Case Series

F. Adamali,[2] A. W. OKOLO,[1] C. Davenport.[3] *1. Icahn School of Medicine at Mount Sinai Brookdale Department of Geriatrics and Palliative Medicine, New York, NY; 2. Internal Medicine, Icahn School of Medicine at Mount Sinai, New York, NY; 3. Geriatrics & Palliative Care, Icahn School of Medicine, New York, NY.*

BACKGROUND:

Age Friendly Health Systems identify 3 M's as critical in the care of older adults, including Matters Most, Mind and Mobility. Patient Priorities Care (PPC) has been shown to improve healthcare alignment by providing care that is concordant with patient goals. It involves eliciting a patient's goals and healthcare preferences, then applying this information in clinical decision making.

There are a number of PPC interventions in clinical settings however under-represented community members have not specifically been recruited to assist in this work. This case series is a proof of concept to evaluate if PPC can be feasibly accomplished.

METHODS:

A high school student was recruited from an organization that serves underrepresented communities for a 6-week internship with a large urban medical center. She underwent PPC facilitator training. She then telephonically performed health priorities identification with patients scheduled for upcoming appointments with fellows. Patients who were unable to participate due to cognitive impairment were excluded.

A PPC mentor educated approximately fellows through a series of two lectures to facilitate PPC during their visits. The facilitated patient priorities were then sent to fellows prior to their clinical

encounters and documented in the medical chart. The de-identified clinical notes were screened for medical decisions that aligned with the patient's preferences.

RESULTS:

Preliminary analysis revealed that approximately 60 patients were eligible for priority identification. 10 patients were interviewed by the facilitator and 5 patients completed facilitation and follow up appointments. Early look at the documentation displayed that all 5 patients received interventions that aligned with their specific health preferences.

DISCUSSION

Early analysis revealed that collaboration between community members from traditionally underrepresented groups can assist health-care teams in identifying what matters most to patients. Limitations of this project included the short length of the internship, patient unavailability to complete PPC, no shows to appointments, failure of fellows to follow through on priorities given time constraint and being under the supervision of preceptors unfamiliar with PPC.

A15

Interdisciplinary Management of High Ileostomy Output in an Older Adult

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Introduction: High volume output is a common complication of recent ileostomy creation. Management of this is challenging for older adult patients, especially with limited supports and a desire for independence, but can be accomplished with a strong multidisciplinary team.

Case Description: A previously independent 78 year-old male with multiple vascular risk factors was admitted to the hospital with mesenteric ischemia. He required multiple surgeries including bowel resection with creation of an ileostomy. His hospital stay was prolonged and complicated by high ileostomy output, acute on chronic kidney injury and prolonged delirium with anxiety. On discharge, he was transferred to a subacute rehabilitation, where he continued to have high ileostomy output resulting in hypovolemia, worsening renal function and hypomagnesemia. His ileostomy output was treated with the following regimen: loperamide, atropine, clonidine, opium tincture, cholestyramine, and octreotide. Despite this, he was still having several liters of stool output daily and was requiring frequent IV fluids and magnesium. An ileostomy reversal was offered, but he refused due to trauma from his prior hospitalization. He desired to be discharged to an assisted living facility (ALF), but his inability to manage his ileostomy independently and dependence on magnesium infusions and IV hydration were barriers. In collaboration with the team's pharmacist, he was started on magnesium gluconate, which is less associated with loose stools than more common oral preparations. Additionally, gastroenterology recommended a trial of teduglutide and a dietician assisted with strategies to decrease ostomy output. The patient worked intensively with nursing staff to learn how to manage his ileostomy and self-administer daily teduglutide injections. With these interventions, he was able to be discharged to the ALF under the care of a hospital at home program until stabilized.

Discussion: This case highlights the importance of working with a multidisciplinary team to help older adult patients with complex medical issues reach their functional goals. With the help of pharmacists, nurses, dieticians, therapists, and specialty experts, this patient was successfully discharged home with a regimen that allowed him independence and quality of life.

A16

A Marked Response to Pimavanserin in Parkinson's Disease Psychosis

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Background: Psychosis is a non-motor symptom commonly seen in Parkinson's Disease and includes symptoms of illusions, hallucinations, and delusions. Pimavanserin is an inverse agonist of serotonin that has been shown to have benefit in Parkinson's Disease psychosis. We describe a presentation of severe psychosis in Parkinson's Disease which was refractory to initial treatments but responded to pimavanserin.

Case: A 76 year old female with advanced Parkinson's Disease was admitted with worsening hallucinations and agitation. Toxic-metabolic causes and delirium were ruled out. Despite use of nonpharmacologic interventions, continuation of donepezil, careful reduction of dopaminergic medications, and a trial of low dose quetiapine, her psychosis progressed during her hospitalization. She developed persecutory delusions and began to refuse oral intake, medication, and nursing cares. A comfort care approach was briefly considered due to severity of her symptoms, and electroconvulsive therapy was discussed with her health care proxy, who declined. A trial of pimavanserin was undertaken. Following initiation of pimavanserin, the patient became more interactive, delusions resolved, and hallucinations improved. Several weeks after dose reductions in dopaminergic medications, pimavanserin was tapered and discontinued due to concerns regarding cost of the medication. The patient experienced a recurrence of psychotic symptoms, which again improved after reinitiation of pimavanserin. The patient was discharged to assisted living on daily pimavanserin with a perceived high quality of life.

Discussion: Marked improvement in hallucinations and delusions were noted after initiation of pimavanserin in a patient with severe Parkinson's Disease psychosis. Notably, recurrent symptoms were observed after taper of pimavanserin and improved with reinitiation of the medication, indicating that ongoing treatment with pimavanserin may be necessary once initiated. The risks of initiating pimavanserin including cost and possible increased mortality must be weighed with the risks of the Parkinson's Disease psychosis itself, which in this patient was life threatening.

A17

The Tremor Trap - An underrecognized presentation of valproic acid toxicity

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Background:

Valproic acid is a commonly used off-label medication aimed at managing behavioral and psychological symptoms of dementia. It is increasingly used to avoid antipsychotics which oftentimes may carry a worse side effect profile. Although valproic acid may be considered a safer medication, it still carries significant side effects, many that are not known to the general medical community. This case exemplifies the importance of routine monitoring of blood levels in addition to recognizing the rare side effects of valproic acid that are not commonly known. This case further illustrates the significance of the prescribing cascade that is common in our geriatric population that contributes to worsening morbidity and higher mortality.

Case Presentation:

An 83-year-old male with a history of dementia with behavior disturbance, hypertension and depression was brought from his long-term care facility to the hospital with a 5-day history of worsening encephalopathy, bilateral upper extremity tremors with fall. Admission labs significant for: platelets 84/nL, ammonia 59umol/L, valproic acid level 116 uG/mL. MRI brain showed right occipital subdural

hemorrhage. The SDH was managed conservatively. Patient's home medications included valproic acid 500mg q8, risperidone 0.25mg q12 and benztropine. Patient's valproic acid was increased 2 weeks prior to hospital admission and benztropine was recently started given worsening tremors. Patient continued to have fluctuations in his mental status and the geriatric medicine service was consulted for further management. Given elevated blood levels, the valproic acid was subsequently discontinued. The encephalopathy and tremors slowly improved in addition to the thrombocytopenia and hyperammonemia. Patient was subsequently discharged back to his facility in improved condition.

Conclusion:

Valproic acid side effects commonly include sedation and dizziness but may also include dose-dependent tremors, encephalopathy, hyperammonemia and thrombocytopenia. Rapid identification of this patient's valproic acid toxicity enabled the patient to have a favorable outcome with a reduction in his polypharmacy and improvement in his functional status and overall well-being.

A18

Social Determinants of Disease?

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Background: Community dwelling patients' and nursing home residents' social wellness is greatly impacted by a variety of factors including the global pandemic, leading to poor health outcomes.

Case Presentation: Partially dependent 74-year-old woman living at home with known cognitive impairment with behavioral disturbance, frequent falls, depression, anxiety, and epilepsy. She has had multiple hospital admissions frequently leaving against medical advice (AMA) and poor insight to health needs. Eventually she was discharged to a skilled nursing facility (SNF) after a fall.

SNF COVID restrictions limited her social interactions and the current support systems did not meet her care needs leading to worsening of her depression. Multiple medications were introduced to manage agitation. Ultimately, what mattered most to her was the desire to be home with her partner. To achieve her goal, she discharged herself AMA frequently. Further on, the social determinants that were found to impact her health were her limited medical literacy, restricted social activities, a poor family support system and her desire to stay home, which negatively impacted her care once admitted and continuity of care post discharge. Recommendations were provided to the primary care team via shared medical records and communication with daughter via telephone conversation.

Discussion: This case identifies various components of social determinants of health and its impact on geriatric syndromes including falls, cognition, polypharmacy, and depression. Exploring this patient's needs and answering what matters most to her is the essential driving force behind accepting care. Creative solutions attempted in this case included establishing care visits at her home and virtually, frequent follow-ups, deprescribing, and slower titration of medications to assess efficacy. Communication of solutions to the primary care team conducted to optimize her transition of care.

Conclusion: By identifying social determinants of health, clinicians can work towards optimizing care for patients. In this case, this would minimize unfamiliar living conditions and provide a sense of comfort while allowing the clinician to perform necessary visits and build rapport with the patient. Finally, the global pandemic does not dismiss what matters most for patients, but rather changes how we deliver the care intended to ensure what is most important to them.

A19

A lesson in pharmacology: medication induced hyperkalemia

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Background:

Hyperkalemia is a common adverse effect in older adults using trimethoprim-sulfamethoxazole (TMP-SMX) and the 2019 American Geriatrics Society Beers Criteria® advises caution when using in patients on ACE inhibitor therapy with decreased creatinine clearance. Trimethoprim, structurally similar to amiloride, blocks epithelial sodium (ENaC) channels in the distal nephron. This leads to a decrease in transmembrane voltage and subsequent inhibition of potassium secretion into the lumen.[1] ACE inhibitors also cause hyperkalemia via upstream inhibition of aldosterone and its action on ENaC channels.[2] The combination of these medications creates the perfect pharmacologic storm for hyperkalemia.

Case Summary:

A 65-year-old woman with bipolar disorder was admitted to an academic medical center for hand pain, reporting that she was possibly shot. CT scan demonstrated soft tissue edema and swelling. Baseline labs revealed a serum creatinine of 0.57 and potassium of 3.5. She was started on broad spectrum antibiotics for cellulitis. She complained of severe pain, became agitated, and her systolic blood pressure (BP) increased to greater than 180 mmHg. Lisinopril 20mg daily was started, antibiotics were changed to TMP-SMX. Due to worsening behavioral agitation, she was discharged to an academic inpatient psychiatry unit three days after her initial presentation. Labs on her day of discharge revealed a serum creatinine of 0.75 and potassium of 4.5. Serial monitoring of renal function five days later showed a rise in serum creatinine to 0.81 and potassium to 5.7. TMP-SMX was discontinued and lisinopril was held. Potassium normalized over the following 48 hours.

Conclusion:

Special consideration should be taken when prescribing TMP-SMX to older adults who are on ACE inhibitors, angiotensin receptor blockers or potassium-sparing diuretics. Each of these medications inhibit potassium secretion via direct or downstream effects on the distal nephron ENaC channels. Thus, serial lab monitoring or choosing an alternative antimicrobial when possible is ideal.

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A20

Dotarem Contrast - Induced Hair Loss in an Elder Woman

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Background: Dotarem (Gadoterate Meglumine) also known as gadolinium-based contrast agents (GBCAs) is a highly stable macrocyclic gadolinium chelate contrast used in magnetic resonance imaging to increase the contrast difference between normal and abnormal tissues. Dotarem® Injection received FDA approval in 2013, becoming the first macrocyclic, ionic, (GBCA) in the United States. Drug-induced hair loss is usually completely reversible and is, in most cases, a consequence of a toxic effect of the drug on the hair follicle matrix.

We present a case of a 66 years-old Hispanic woman with normal renal function, who presented to the clinic complaining of continues hair loss that started 2 days after left ankle/foot MRI with contrast was

performed 6 weeks prior to evaluate chronic foot pain. Laboratory was ordered to exclude metabolic causes, which were all within normal limits.

Methods: Case Report

Discussion: No cases of Dotarem (Gadoterate Meglumine) induced hair loss have been reported in the literature, however there are studies in mice showing gadodiamide toxicity with findings of macroscopic skin lesions, including reddening, hair loss, scab formation, and ulceration.

Gadolinium toxicity is mostly seen in patients with renal failure manifesting as a debilitating condition involving skin, joints and other organs, Nephrogenic Systemic Fibrosis.

Several studies in human and animals have demonstrated that that retention of Gadolinium is higher in skin and bone and multiple other tissues compared to brain, which can cause toxicity for a prolonged period.

Conclusion: Gadolinium chelates are widely used as contrast media for magnetic resonance imaging. They are considered safe and well tolerated, and side effects are more common in patients with severe renal impairment, however new research has emerged showing accumulation of gadolinium in various tissues of patients who do not have renal impairment, including bone, brain, skin, and kidneys. Very limited clinical data regarding the potential for and mechanisms of toxicity is available.

Data regarding the effects of multiple GBCA exposure is limited, therefor retrospective and prospective studies are needed to determine associations between multiple GBCA administration and adverse health outcomes in those with normal renal function.

A21

A case of worsening geriatric depression presenting as an obsessive-compulsive disorder

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Background: Depression is a common geriatric syndrome, and its diagnosis is not always straightforward especially in patients with intellectual disability and limitations in communication. Occasionally, patients may present with uncommon symptoms and with worsening of underlying chronic conditions. We present a case of geriatric depression with worsening of obsessive-compulsive disorder (OCD) symptoms in a patient with intellectual disability.

Case description: 65-year-old female with a history of intellectual disability, communication difficulty, depression, urge incontinence and situational anxiety was referred by her primary care physician for evaluation of worsening OCD. Sister who served as primary caregiver provided the history. She lives alone at home and has had a 24-hour caregiver for years. Prior to COVID-19, she attended day school, but more recently had become restricted to home which had worsened her OCD symptoms, including folding and unfolding clothes, frequent cleaning/drying hands, and repeated wiping of genital area. Functionally, she could perform all activities of daily living, but was dependent for all instrumental activities of daily living. She was also diagnosed with hyperthyroidism 1 year ago and was on methimazole. Family history was significant for depression in brother. There was no history of substance use. Vitals were normal and lack of eye contact was significant on physical exam. Medications include sertraline 200mg daily for depression and alprazolam 0.5mg as needed for anxiety. Thyroid function tests were normal and urinalysis did not reveal any infection. Olanzapine 2.5 mg daily was started for worsening of depression in addition to sertraline, but she continued to have OCD symptoms and significant weight gain with olanzapine. Hence, olanzapine was discontinued and clomipramine 25 mg daily was started, which improved her depressive and OCD symptoms.

Conclusions: This case highlights the importance of understanding worsening of underlying conditions like OCD in managing depression in a geriatric patient who has intellectual disability. While certain classes of medications such as tricyclic anti-depressants are often avoided in older adults, this is an excellent example where this class serves as adjunct to selective serotonin reuptake inhibitors in the treatment of depression with OCD.

A22

Stroke Symptoms Confounding Rapidly Progressive Dementia Diagnosis

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Background

Rapidly progressive dementia is a category of neurologic conditions that develop over weeks to months rather than years to progress. One of the major conditions that is associated with rapidly progressive dementia is Crutzfield Jacob Disease (CJD). However, the diagnosis can be difficult due to the subtleties of the presentation and can be difficult to diagnose.

Case Description

A 69 year old male with past history of Chronic Lymphocytic Leukemia and tobacco use presented to OSH with 1 day history of right sided weakness. MRI showed bilateral parietal lobe diffusion restrictions secondary to likely infarct and patient was diagnosed with acute embolic stroke. Patient was discharged on aspirin and atorvastatin and returned 2 weeks later with worsening right sided weakness. Repeat CT was performed with no changes and patient was discharged for outpatient follow-up. 1 week later, he was brought to ED after he was found down by a neighbor. CT head was performed demonstrating temporal subarachnoid hemorrhage. During this admission, patient also reported having a difficult time controlling his right arm with intermittent jerking movement. His right arm jerking was associated with post stroke seizure and patient was started on Keppra. He was admitted to acute inpatient rehab, however his strength continued to decline and he developed worsening confusion. Patient had repeat MRI performed but due to significant motion artifact, was not interpreted. Lumbar puncture for CSF analysis was performed and sent for 14-3-3 testing and T-tau protein level along with RT-QulC. As patient demonstrated rapidly progressive worsening of strength and cognition, even in the setting of stroke, Cruezfeldt-jakob disease (CJD) was suspected and patient was started on IV solumedrol. Due to significant progression, goals of care discussion led to decision by the family to make patient DNR. Patient was enrolled in hospice with him expiring within a week of enrollment. Lab results of 14-3-3 protein returned positive, T-Tau protein significantly elevated, and RT-QulC indicative of prion disease. Formal autopsy with brain biopsy not performed.

Discussion

This case demonstrates the difficulty in identifying CJD in the setting of acute stroke as multiple confounding factors were associated with the symptoms of rapidly progressive dementia and weakness. In this case, patient went through multiple hospitalizations prior to adding CJD to differential and initiating workup.

A23

Horizon Beyond Opioids: Treatment of Total Pain

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Background:

As physicians, we are focused on clinical findings, research, and evidence-based discovery. But is that all we need to know to be competent doctors? No: we also learn that addressing the emotional states of patients and their loved ones is as important as prescribing

medicine – an approach termed, "total pain." Dame Cicely Saunders (1918 – 2005) originated the concept of total pain as the suffering that encompasses all of a person's physical, psychological, social, spiritual, and practical struggles. But though the concept has existed for several decades, many physicians find it hard to incorporate total pain management practices into their treatment plans.

Case:

47 years Muslim male with metastatic urothelial cancer was admitted multiple times to the hospital for severe uncontrolled abdominal and back pain due to metastasis, requiring unsuccessful nerve block, use of multiple opioids with rapid titration, finally lead to use of pregabalin, oxycodone and fentanyl patch with total oral morphine equivalent of 294mg per day, with no significant pain relief. His oral morphine equivalent requirement went down to 135mg within few days after addressing his fear of death and unknown. Once recognized by physician other contributing factors to his total pain, his pain treatment was not confined to opioids only, it was expanded to listening to patient's concerns, doing dignity therapy and connecting him with his Muslim Imam to discuss his fear of death.

Conclusion:

I present a case in which ignoring a patient's emotional burden led to high-dose opioid usage. The care team addressed the patient's total pain by addressing underlying emotional distress, leading to positive, lasting medical outcomes. As physicians, we not only need to know how to diagnose and treat pain but also how to address emotions and connect with patients at a human level. By doing so, patients will likely experience optimal relief in the most cost-effective way possible.

A24

Vitreomacular traction: A case study on an age-related ocular syndrome.

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Case:

A 70 year-old man with optic nerve atrophy, cataracts, and right-eye epiretinal membrane (ERM) with macular pucker & vitreomacular traction (VMT) presented to the Ophthalmology clinic with worsening right-eye vision & stable photopsia. Snellen scores were 20/200 OD & 20/150 OS. Electroretinography revealed retinoschisis. He deferred pars plana vitrectomy (PPV), the standard intervention for VMT, given his pre-existing poor visual acuity with uncertain post-surgical prognosis. Follow up has been every 6 months without symptom progression.

Discussion:

With age, vitreous gel undergoes liquefaction that can lead to posterior vitreous detachment. Incomplete detachment may cause vitreomacular adhesions; VMT syndrome occurs when these adhesions distort the fovea. Symptoms may include decreased visual acuity, central scotoma, aniseikonia, metamorphopsia, & photopsia. Prevalence increases with age from ~1% of those aged 64-71 to 5.6% of those aged 85 or more.[1] Studies tracking VMT's clinical course demonstrate ~60% persistence and 17-32% resolution in 7-18 months on average. Decreased baseline visual acuity, symptom duration, ERM presence, & age are negatively correlated with resolution.[2] A 2013 review of PPV showed improved visual acuity in 64.3%, of which 32.9% gained 2 Snellen lines; visual acuity decreased in 9.2%. Complications included cataracts (34.7%), ERM (5.7%), & retinal detachment (4.6%).[3] Preoperative visual acuity was the only prognostic risk factor correlated with postoperative outcomes in a 2016 retrospective cohort.[4]

Conclusion:

This case highlights an uncommon but important ocular syndrome that increases with age. Its co-occurrence with other ocular disorders, including age-related ones e.g. cataracts and ERM, complicates its presentation, may predict poorer outcomes, and illustrates why Geriatricians should know about it. Those who elect PPV have meaningful visual improvement one-third of the time, although postoperative complications may occur. With one-third of VMT resolving spontaneously, watchful waiting is a reasonable option. Pursuit of PPV should be a shared decision between patient & physician based on symptom progression & potential benefit.

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A25

Tenet of a Geriatrician: Reducing Polypharmacy to Optimize Functional Status

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Background: Polypharmacy, defined as more than 5 medications for a patient, increases the risk of adverse drug reactions for older adults (OA). Contributing factors include use of over the counter (OTC) supplements, lack of communication between healthcare providers, continued use of discontinued or expired medications, and inappropriate use of family members' medications. With this case, we emphasize the importance of a comprehensive medication evaluation at each visit to prevent medication overuse.

Case description: 82-year-old male with history of dementia, chronic back pain and atrial fibrillation presents for initial outpatient visit, accompanied by his wife, with progressive cognitive decline and sleep disturbance for one year. Medications reviewed, notable for Temazepam 15 mg, Benadryl, Tylenol PM, expired Tramadol 37.5 mg and Furosemide 20 mg prescribed to his wife. Patient was taking long naps in the afternoon. On physical exam, vitals were unremarkable. Patient appeared underweight and was oriented only to person and place. Mini-mental status exam scored 21/30 with significant executive dysfunction; clock drawing had poor spacing with severely disorganized numbers.

Results: Labs were unremarkable. Patient's symptoms were suspected to be secondary to polypharmacy with adverse effects from medications, in particular anticholinergic burden. Benadryl and Tylenol PM were discontinued and use of expired Tramadol was stopped. Temazepam was tapered and discontinued. Patient was counseled on sleep hygiene. 4 weeks later, the patient was more alert with less daytime sedation and increased independence in activities of daily living. It was confirmed that multiple providers in different states were prescribing medications independently without interprofessional communication.

Conclusions: Polypharmacy is a significant concern for older adults, often impacting quality of life. This case demonstrates the complexity and necessity of medication management in OA, particularly on initial visits when numerous providers are involved in their care. Harmful use of OTC anticholinergic agents and prescribed benzodiazepines can increase the risk of falls, decrease functional status and worsen cognitive impairment. Communication between interprofessional teams and appropriate education to caregivers is a fundamental skill for geriatricians and can optimize health outcomes for OA.

A26

A rash conclusion: proton pump inhibitor-induced SCLE in a geriatric patient

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Drug-induced subacute cutaneous lupus erythematosus (SCLE) has been recognized in the literature since 1985, and proton-pump inhibitors (PPIs) are becoming increasingly implicated in these cases. The rash is often widespread with a predilection for bullous lesions and skin necrosis. Discontinuation of the PPI typically leads to resolution of the rash, although recovery can be prolonged. This case discusses the investigation of a widespread rash in a geriatric patient who had been initiated on pantoprazole for gastroesophageal reflux disease (GERD).

A 94 year old female with past medical history of Alzheimer's dementia, normocytic anemia, and hyponatremia was evaluated at her assisted living facility (ALF) for a rash. Patient unable to provide history due to cognitive impairment. Denied pain or pruritus. On physical exam, a rash was noted on the bilateral arms, back, torso, chest, and face. Complete blood count, comprehensive metabolic panel, coagulation studies, and peripheral blood smear were unrevealing. A referral to dermatology was ordered for further evaluation. Physical exam noted plaques on the bilateral legs, upper back, bilateral forearms, forehead, and cheeks. Punch biopsy and direct immunofluorescence biopsy were performed, and triamcinolone 0.1% ointment was initiated. Punch biopsy results of the left thigh suggested connective tissue disorder, including systemic lupus erythematosus versus dermatomyositis. At her dermatology follow-up visit 3 weeks later, chart review revealed that pantoprazole had been initiated for GERD treatment in June 2021. A diagnosis of SCLE was made in the setting of recent initiation of pantoprazole, with subsequent discontinuation of the agent. Lidex ointment twice daily was begun, and the patient was transitioned to Pepcid for continued GERD treatment.

Dermatitis in the geriatric population is challenging, particularly if cognitive impairment limits patient history. In this case, it was essential to obtain collateral history from the staff at the patient's ALF, and perform a thorough chart review of medication changes. Dermatology referral was prudent for further evaluation with biopsy. Recent initiation of pantoprazole solidified the diagnosis of drug-induced SCLE. Though commonly used to treat GERD in geriatric patients, clinicians should be aware of the dermatologic sequelae associated with PPI use, and attempt to discontinue these medications as able.

A27

A Convoluted Case of Atypical Herpes Zoster

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INTRODUCTION:

Illnesses often present atypically in older adults and hospitalization can be a sentinel life event, especially after age 85, due to unintended adverse events stemming from interventions meant to be therapeutic. These include high-risk polypharmacy, lengthy diagnostic studies, use of tethers, and prolonged bed rest. Early recognition of potential hospital associated hazards and close collaboration with the primary care physician (PCP) led to our patient's positive outcome.

CASE:

95 y.o. woman came to ED for worsening right groin pain. CT scan ruled out fracture/dislocation. PCP prescribed hydromorphone while additional outpatient imaging was pursued. On readmission for further workup and better pain control, patient had severe constipation and urinary retention. An erythematous rash was noted on right leg, with a single small vesicle at appendectomy scar. Course was complicated by electrolyte derangements and delirium requiring antipsychotic meds. MRI revealed sacral Tarlov cyst suspected as cause of symptoms, but neurosurgery recommended no intervention. Further workup and imaging were planned, but collaboration with PCP prompted re-examination and treatment for atypical shingles on hospital day 2. No further workup was needed. With her constipation and urinary retention resolved, she was discharged from the hospital with PRN pain medication.

DISCUSSION:

Risk for shingles increases with age and can be associated with serious complications requiring hospitalization. Older adults are at higher risk for delayed diagnosis due to atypical presentation, including longer period of pain prior to appearance of rash. For our patient, several factors delayed diagnosis and treatment, including history of osteoarthritis, presence of Tarlov cyst, and atypical rash. This case illustrates how coordination between PCP and inpatient team led to expedited admission, evaluation, and treatment of a new condition. The PCP was familiar with her symptoms, managed the pain at home and scheduled outpatient imaging studies. PCP also noted the patient's urinary retention and need to be hospitalized, and coordinated rapid admission with less time in the ED, immediate Foley catheter placement, better pain control, and quicker access to diagnostic imaging. During the hospitalization, the inpatient team was in close touch with PCP, allowing for early redirection in care plan, followed by additional risk reduction, and near complete resolution of symptoms at hospital discharge.

A28

A case of extra mammary Paget's disease in a geriatric patient

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Background:

Paget's disease is a rare form of adenocarcinoma of the breast. It involves apocrine gland-bearing skin that presents as a slowly expanding well-defined patch. It presents as an erythematous plaque on apocrine gland bearing areas including vulva, perineum, perianal region, scrotum, and penis. EMPD is a marginated plaque resembling Paget's disease and is very rare. We present a case with biopsy-proven EMPD in the left inguinal area which is an unusual area.

Case report:

A 67-year-old male with a history of renal cell cancer status post left nephrectomy, diabetes, HTN and COPD presented with complaint of fatigue and 40 Ibs weight loss in 2 months. On physical examination, a suspicious erythematous plaque on his left inguinal region is noted. According to the patient, this lesion was present for several months and had recently increased in size. skin biopsy was done that suggested invasive adenocarcinoma with pagetoid epidermal involvement of peripheral and deep margins. Surgery was consulted and a wide local excision of the left groin with sentinel lymph node biopsy was performed. The biopsy was positive for malignant cells. The patient is diagnosed with cutaneous invasive adenocarcinoma. Based on Ohara et al, his staging was pT1N1M0, stage IIIa. The patient underwent lymph node dissection. He was referred to medical oncology for discussion of the benefits and risks of systemic chemotherapy. Underlying malignancy was ruled out based on whole-body enhanced CT and colonoscopy. Since the patient was cancer free pathologically, it was recommended that he undergo routine follow-up every 6 months for 5 years postoperatively for surveillance.

Conslusion:

EMPD is considered an adenocarcinoma originating from the skin or skin appendages in areas with apocrine glands. The primary location is the vulvar area, followed by the perianal region, scrotum, penis and axillae.

Commonly confined to the epidermis, EMPD can be invasive, associated with contiguous extension or upward pagetoid spread of underlying malignancy or with distant synchronous malignancy. Because of its association with other cancers, formal evaluation is warranted.

Surgical excision remains the mainstay of treatment. Conventional chemotherapies have been used for the treatment in patients with distant metastases, but the efficacy is not satisfactory, and the prognosis for such patients is poor.

A29

Atypical imaging findings of TB in an old patient with IPF

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Introduction: The diagnosis of pulmonary TB should be suspected in patients with relevant clinical manifestations and epidemiologic factors, history of TB infection, known or possible TB exposure, past or present residence in or travel to an endemic area. Older patients aged 65 years or more had fewer "classical" clinical and radiological presentations of TB.

Idiopathic pulmonary fibrosis (IPF) is a progressive fibrotic lung disease without a clear etiology. TB in IPF subjects has also been shown to be difficult to diagnose and the typical locations of reactivated PTB has been shown to be significantly less often involved in the IPF group. We present a geriatric patient with IPF which had delay in diagnosis of TB due to atypical imaging findings for TB.

Case report: A 76-year-old southeast Asian male, immigrated to the USA more than 20 years ago with PMH of IPF presented with SOB, cough, fever and weight loss. At the first office visit, xray was obtained which showed left upper lobe infiltrate. The patient started on antibiotic for community acquired pneumonia, symptoms did not improve and at the second office visit, Chest CT scan obtained which showed consolidation in left upper lob, treatment continued for CAP. After the 3rd visit the patient admitted to the hospital, chest CT scan again showed consolidation concerning for pneumonia and evidence of usual interstitial pneumonia suggestive of IPF. Treatment continued for CAP. He was discharged and readmitted to another hospital due to the worsening of his symptoms, persistent cough and episode of hemoptysis. Bronchoscopy and BAL were done. AFB culture was positive x3 for Mycobacterium tuberculosis complex and MTB PCR was detected. The patient was started on the four drug TB regimen.

Conclusion: The global population is ageing quickly and our understanding of age-related changes in the immune system suggest that the elderly will have less immunological protection from active TB. TB in the elderly presents with fewer of the classical symptoms of TB and less specific radiological changes than in younger patients. The atypical manifestation of pulmonary TB is also common in patients with IPF. Anchoring bias may lead to delay in TB diagnosis, especially with atypical clinical presentations and imaging findings for TB.

A30

An Atypical Case of Sepsis

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Introduction: Campylobacter fetus is a common gastrointestinal pathogen, but rarely causes sepsis. We describe a case of sepsis due to campylobacter fetus.

Case presentation: A 67-year-old male with history of diabetes, hypertension and stroke with residual right sided weakness presented to hospital with altered mental status, diarrhea, urinary and fecal invontinrnce and emesis of three days. He was found to be febrile to 101F and tachycardic. Family reported a fall at home and exam revealed bruising on his right lower extremity. Hospital course: His admission labs were notable for C-reactive protein of 24, Erythrocyte sedimentation rate of 69, Finger stick of 347, Hemoglobin A1C of 9. He received intravenous fluid and empiric antibiotics, vancomycin and piperacillin/tazobactam. A computed tomographic imaging of abdomen and pelvic with intravenous contrast revealed multiloculated, rim-enhancing fluid collections in the right adductor muscles, gluteus maximus muscle, overlying the right greater trochanter, suggestive of an infection. His blood cultures were positive for Camyplobacter fetus. Echocardiogram and fluid aspiration of thigh fluid collection was done. The gram stain minimally positive for gram negative bacilli, but culture remained negative, possibly because of continuous antibiotics. His blood glucose control was optimized. Per infectious disease recommendations he was switched to meropenem for broader coverage. The patient improved clinically and discharged on a 2 weeks of ciprofloxacin.

Discussion: C. fetus is a very rare cause of sepsis and occurs almost entirely in immunocompromised individuals (i.e. HIV infection, liver disease especially alcohol abuse 39%, malignancies 38%, and uncontrolled diabetes) and recent gastrointestinal surgery. In healthy individual it can colonize intestine, but this rarely causes disease and when it does it is mostly enteritis 33%, but in 0.15% causes bacteraemia with distant site infection. It also has tropism, toward vascular tissue where it can cause variety of infections including, endocarditis, infected aneurysm, and thrombophlebitis. Other form of infections may happen include meningoencephalitis, osteomyelitis, empyema, cholecystitis, pericarditis, myocarditis. Poorly controlled diabetes likely increased the risk of sepsis in our patient. A source of infection of the C. fetus was not identified for our patient and he was recommended to have colonoscopy.

A31

Application of the 4M framework of Age-Friendly Health Systems at an Acute Inpatient Rehabilitation Facility and its Outcomes

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Background: The Age-Friendly Health Systems' (AFHS) 4M framework of care delivery to older adults is the subject of study at various institutions. We applied this model for the management of older adults admitted for acute rehabilitation at our institution and this study demonstrates its outcomes.

Methods: All older adults >65 years of age admitted to an acute Inpatient Rehabilitation Facility (IRF) between Oct 1, 2020, to Oct 31, 2021, were included in the study. Patients at this IRF are co-managed by physiatry and geriatrics-hospitalists. 4M model of care focused on mentation, mobility, medications, and what matters were applied on all older adults by the geriatrics team. Outcomes of improvement in Quality Indicator (QI) of function which includes the ability to perform self-care tasks (e.g. eating, toileting, shower/bathing, and dressing) and mobility (e.g. walking 150 feet and walking on uneven surfaces) were reviewed. The QI outcomes and discharge disposition of patients at IRF were compared to the national database EREHAB which reports these outcomes to Centers of Medicare and Medicaid Services (CMS).

Results: Mean age of study patients in IRF was 74.8 years of age. IRF patients had a significant improvement in QI of function as compared to the national database (31.12% vs. 28.67%), QI per day improvement was better (2.55% vs. 2.44%). IRF patients had a higher rate of discharge to community (87.05% vs. 79.18%, $p<0.001$) and a lower rate of discharge to SNF (4.40% vs. 9.66%, $p<0.001$)

Conclusion: The 4M framework of AFHS is associated with improved outcomes in function for older adults admitted to our acute

IRF. The post-acute AFHS model from the Institute of Healthcare Improvement (IHI) can be of immense value for defining policy for the management of older adults.

A32

Bullous Pemphigoid after a Fall

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Background: Bullous pemphigoid (BP) is an autoimmune subepidermal blistering skin disease with increasing incidence. It primarily affects older adults. Recognition and diagnosis of BP is important given its association with multimorbidity and impact on quality of life.

Clinical Course: A 98-year-old woman with a history of major neurocognitive disorder, hypothyroidism, and hypertension was admitted to a skilled nursing facility after a fall resulting in fractures involving the cervical spinous processes, vertebral bodies, and ribs. Within days of her admission, she developed hemorrhagic bullae to her left ring finger, right palm, and right areola, initially attributed to her fall. CBC revealed normal WBC and platelets, and stable mild anemia. CMP and TSH were within normal limits. The lesions were monitored and local wound care was provided with protective skin wipes and antibiotic ointment. Over the coming three weeks, she developed multiple new, diffusely distributed bullae. Oral doxycycline 100mg and topical clobetasol 0.5% cream were started twice a day. Gabapentin, which had been recently started, was discontinued.

Biopsy of a chest lesion demonstrated direct immunofluorescence, histopathology, and indirect immunofluorescence of serum all consistent with BP. After two weeks of BP-directed treatment with doxycycline and clobetasol, the bullous lesions dramatically improved. However, she began to experience nausea and anorexia attributed to the doxycycline; thus the doxycycline was discontinued. She suffered from progressive deconditioning in the setting of the painful skin lesions. Over the coming four months, she continued to develop intermittent small bullae that resolved with topical clobetasol alone. Given continued functional decline, she was transitioned to hospice care.

Conclusions: This case illustrates the challenge and importance of a prompt diagnosis of BP. BP is associated with a mortality rate three times that of an age-matched population, multimorbidity, declining functional and cognitive status, and significant decreases in quality of life. Certain infections and drugs may trigger this autoimmune response. Additionally, multiple case reports link trauma and wounds as triggering factors for the disease. Identification and management are key and should prompt evaluation of a patient's overall course, discussions regarding goals of care, and symptom management.

A33

Episodic Staring Spells – Is It related to Cerebral Amyloid Angiopathy?

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Background: Cerebral amyloid angiopathy (CAA) is characterized by amyloid beta-peptide deposits in small-to-medium sized intracranial vessels, putting patients at risk for intracerebral hemorrhage as well as cognitive impairment. A rarer presentation that requires a high index of suspicion is transient focal neurologic episodes (TFNE), also called amyloid spells, which are brief, self-limited, recurrent, stereotypical episodes including both positive seizure-like (e.g., visual aura, limb jerking) and negative TIA-like phenomena (e.g., vision loss, limb weakness, dysphagia).

Methods: A single case at an academic medical center was reviewed.

Case: A 76 year old Black female with a history of Alzheimer's dementia, mitral and aortic regurgitation and HTN presented for an episode of unresponsiveness. She presented 1 month prior for similar and was discharged after cardiac workup showed bradycardia and donepezil was discontinued. Episodes witnessed by husband described unresponsiveness with eyes half closed without nystagmus, shaking, or tongue biting, positive urinary incontinence and subjective weakness for a few minutes with an almost immediate return to baseline, occurring at rest while sitting. No history of hallucinations, Parkinsonism, sleep abnormalities, or other neurologic deficits. Vitals and labs showed AKI on CKD. Head CT, unchanged from recent prior, showed microvascular changes and encephalomalacia most prominent in medial temporal lobes. Neurology performed an EEG that was negative for seizures. She and her husband did not want to put her through an MRI and eventually opted for home hospice.

Discussion: Staring spells should prompt a thorough history and physical as well as collateral information as able. A broad differential diagnosis should include seizure, stroke, near-syncope, migraine aura, and Lewy body dementia. It is critical to avoid misdiagnosis as giving antithrombotics for a presumed stroke can increase the risk of hemorrhagic stroke from CAA. Suspect TFNEs by the presence of smooth spread of symptoms over contiguous body parts over several minutes that tend to localize to the site of a prior lobar hemorrhage or focus of cortical superficial siderosis. Bothersome or recurrent TFNEs have been treated with migraine medications (e.g., topiramate, levetiracetam). There is no treatment for CAA and prognostication is variable, therefore having open conversations with patients and caregivers is essential to ensure goal-concordant care.

A34

Following Your Heart or Trusting Your Gut: GI Symptoms as Anginal Equivalent

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Background: Individuals 75 and older comprise one-third of all acute myocardial infarctions (AMI). While classic AMI symptoms such as chest pain may be seen in older adults, this population tends to present with "atypical" symptoms such as shortness of breath, fatigue, or even gastrointestinal (GI) symptoms, which are more common in older women. As older women with AMIs have a higher risk of mortality, it is imperative to determine when cardiovascular disease workup is needed in those presenting with atypical symptoms.

Case Presentation: An 81-year-old woman with a history of CAD s/p percutaneous intervention (PCI), hypertension, PAD s/p aorto-biiliac bypass, carotid stenosis s/p carotid endarterectomy, well-controlled type 2 diabetes mellitus, nicotine use, and nephrolithiasis 50 years ago presented to the clinic with 3-days of left-sided abdominal pain. At pain onset, she was awoken by a dull ache in her mid-low back. She took 1 gram of Tylenol and the pain subsided. The next day, the pain radiated to the left side of her abdomen. It was a constant mild dull ache not worsened by exertion. She denied chest pain, shortness of breath, and urinary symptoms. On exam she had bilateral mild CVA tenderness while the abdominal exam was normal. In-office urine dip showed trace blood. An abdominal x-ray was ordered to evaluate for kidney stones, but she declined because her pain resolved after a few days. Nine days following her initial presentation, she developed left-sided chest pain while moving furniture and went to the ER. EKG showed ST elevations in leads II, III, and aVF with reciprocal ST depressions in anterior leads. Troponin was 0.87. She underwent a drug-eluting stent in the mid-to-distal RCA. Her hospital course was uncomplicated.

Discussion: This is a case of an older woman who presented with left-sided abdominal pain at rest, which may have been her anginal equivalent. While her symptoms were mild and not initially consistent with a cardiac cause, her course concluded with a STEMI. Older women with AMIs are more likely to present with atypical symptoms. However, AMIs are easily missed in this population because clinicians may not consider atypical presentations of AMI in older women.

As GI symptoms can represent inferior MIs, clinicians treating high-risk older women in the outpatient setting should have a broad differential and a higher index of suspicion for AMI in these patients.

A35

Hemichorea and Gait impairment due to frontal lobe meningioma

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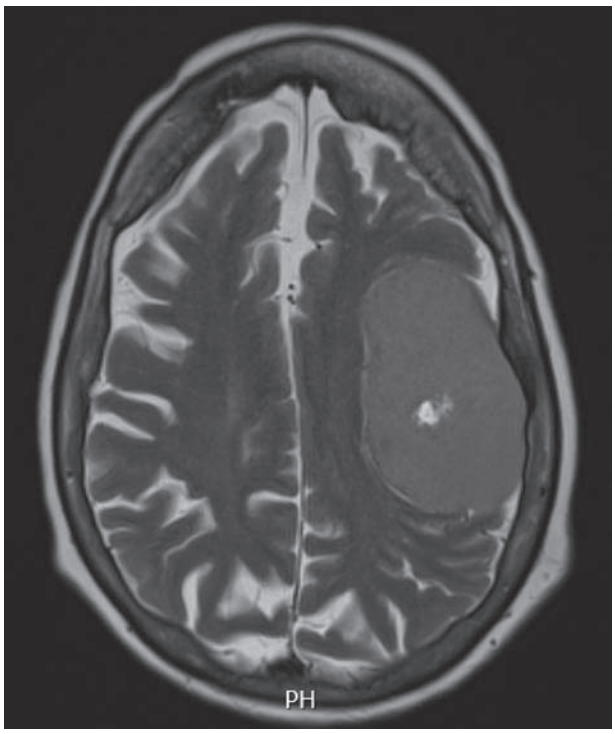
Tumors originating from the meninges, also known as meningiomas, have infrequently been known to induce hemichorea and other movement disorders. Our case report aims to emphasize the importance of brain imaging in a patient with a movement disorder, and also underscore the need for a careful movement disorder examination because more than one phenomenology of movement disorders may develop from the mechanical pressure exerted by the tumor. Our patient presented to the neurologist's office initially with irregular, involuntary, brief, fleeting movements of her right upper and lower extremities, consistent with chorea; the patient also had mild cognitive impairment, dysarthria, impaired saccades, and gait impairment. The patient was misdiagnosed as Huntington Chorea due to a family history of Huntington Disease in the absence of imaging as the patient had no insurance. The patient was admitted to the hospital a few months later due to altered mental status; imaging confirmed left frontal lobe meningioma, underwent surgery for removal of meningioma. This case highlights the importance of brain imaging and careful neurological examination of the patient with benign meningiomas. Moreover, it illustrates the remarkable specificity yet clinical diversity of meningioma presentation through movement disorders.



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A36

Admission of Critically Ill Patients with Cancer to the ICU: Calling for Better Mortality Predictors

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Background: Overall mortality of cancer patients has decreased over the past decades, due to improvement in early detection and innovative cancer treatments. At the same time, the probability of life-threatening events requiring Intensive Care Unit (ICU) treatment related to these novel therapies has increased. We examined characteristics and short-term outcomes for older adults with cancer in a large tertiary medical center.

Methods: Case review of patients admitted to MICU with primary diagnosis of cancer between 10/1 – 10/31

Results: Review of data showed 12 of 35 (34%) had a cancer diagnosis. Male: 10 of 12 (83%), Female: 2 of 12 (17%), White: 7 (58%) Black: 4 (33%) Asian: 1 (9%). Age Range: 44-79 with a mean age of 64. Hematologic Malignancy: 7/12 (58%) AML (5) ALL (1) Multiple Myeloma (1). Solid Tumor Malignancy: 5/12 (42%) Prostate Cancer (2) Lung Cancer (2) Melanoma (1). Patient had an average length of an ICU stay of 5.7 days. Noted 6 of the 7 (85%) with hematologic malignancies either died in ICU or were discharged to hospice and died shortly thereafter.

Conclusion: A significant proportion of patients with hematologic malignancies are admitted to ICU. While ensuring that patients with a reasonable prospect of recovery are not deprived of an ICU admission, there is a need to refine our mortality predictors so that patients along with their families will not undergo any unnecessary suffering should there be a low chance of recovery.

A37

Cancer 'cure' is not the end of cancer 'care': a late complication of brachytherapy and external beam radiation therapy for localized prostate cancer

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Case Presentation: An 83-year-old man with a past medical history of localized prostate cancer status post brachytherapy and external beam radiation therapy. He presented four months later with progressive urinary frequency every 30 mins during daytime, nocturia, and intermittent dysuria described as pain in penile head and shaft. Urinalysis and urine culture was negative for infection. Prostate-specific antigen was not elevated. Symptom management was attempted with trospium, mirabegron, darifenacin, solifenacin, tamsulosin, phenazopyridine, and gabapentin. Cystoscopy was performed, which showed normal urethra, normal bladder mucosa, normal bilateral ureter with clear efflux, and the obstructive appearance of the prostate. The symptoms were deemed late-onset urinary symptom flare, a late complication of radiation therapy. The patient found these symptoms intolerable and interfering with his functional status and quality of life. The patient was referred to pain management, and a bilateral pudendal nerve block improved his pain and dysuria. The addition of tramadol provided additional relief.

Discussion: Prostate cancer is one of the tumors with the highest incidence, which may be explained by the impact of populational aging. Brachytherapy and external beam radiation therapy are the mainstay of localized prostate cancer and have improved relapse-free survival. However, acute and late complications have been reported. Late-onset urinary symptom flare is a constellation of symptoms

including urinary frequency or urgency, weak stream, and dysuria that can transiently occur one year after radiation therapy in approximately 20 percent of patients. This syndrome can negatively affect patients' quality of life despite successful cancer treatment. Although there is no evidence-based approach to this syndrome, appropriate anticipatory counseling and timely symptomatic control may improve the quality of life.

Conclusions: We experienced a case with late-onset urinary symptom flare after brachytherapy and external beam radiation therapy for localized prostate cancer. Anticipatory counseling, timely recognition, and treatment are essential to address pain and quality of life.

A38

Consequence of continuing anticoagulation in a LTC patient without clear indication

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BACKGROUND

Patients transitioning into the Long-term Care (LTC) setting require a comprehensive review of their medical history with polypharmacy as a focus area. This case is an example of how failing to do so can put patients at risk of potentially avoidable adverse outcomes.

CASE

An 87 y/o LTC resident with a history of Heart Failure with preserved Ejection Fraction, Hypertension, Stage 3 Chronic Kidney Disease, Coronary Artery Disease, Chronic Obstructive Pulmonary Disease, Hyperthyroidism, Anemia, and Alzheimer's was admitted to the hospital for hemoglobin of 6.5 and positive Fecal Occult Blood Test. She received 1 unit of packed red blood cells. She underwent endoscopy, which showed duodenal angioectasia that was then cauterized. Her hemoglobin stabilized and she was discharged back to her LTC facility. On review of her 19 medications, it was found she was on Apixaban which likely contributed to bleed. Indication was unclear as two potential indications, Atrial Fibrillation and history of Deep Vein Thrombosis, were documented in her medical chart.

OUTCOMES

During an extensive chart review, a consultation from cardiology revealed the patient did not have atrial fibrillation, but premature atrial contractions, and thus no indication for anticoagulation. History of DVT was confirmed, however, the patient was inappropriately anticoagulated for 16 months (guidelines recommend 3-6months in her case). Apixaban was discontinued on re-admission back to the LTC facility.

DISCUSSION

More than 3 million Americans will rely on LTC facilities for care and 1/3 of these residents will take 9 meds/day on average. A prospective cohort trial found that LTC residents developed post-discharge adverse events 37.3% of the time, many of which were related to polypharmacy. During transition from hospital to LTC, it is imperative to review medical history and polypharmacy to minimize risk of adverse events. There are many different tools to identify potentially inappropriate medication use. Effective communication across different care teams and care settings is also needed to ensure accurate documentation of medical history and execution of appropriate care plans.

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A39

Family Matters: Failure to Thrive in a Married Older Couple

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Background:

Social connection, such as marriage, is often considered a protective factor for older adults. However, medical and social complexities can compound and lead to poor outcomes. Here, we present illustrative cases of a husband and wife seen by our inpatient Geriatrics consult team.

Case:

Mr. B was an 83-year-old man with history of interstitial lung disease (ILD) who served as caregiver for his wife, Mrs. B. In the outpatient setting, his pulmonologist had noted a 40-pound weight loss over 16 months. This was attributed to his ILD medication, which was discontinued, but he failed to regain weight. He later presented multiple times to the ED for severe orthostatic hypotension. During one visit, he declined hospitalization due to his need to care for his wife. He subsequently returned to the ED with his wife, and both were admitted to different primary teams.

Geriatrics was initially consulted for Mr. B for failure to thrive (FTT). He reported anxiety and loss of appetite whenever his wife became upset, as well as relief from receiving caregiving respite while hospitalized. MoCA score was 24/30. Geriatric Depression Scale was aborted after the questions provoked anxiety. He was started on mirtazapine, with improvement in appetite and mood.

While speaking with their son regarding Mr. B, the Geriatrics team suggested that he also request a Geriatrics consult for Mrs. B to help coordinate communication and manage her behaviors. Mrs. B was an 83-year-old woman with history of dementia with behavioral disturbances and a 40-pound weight loss over 3 years. In the ED, she was found to have a prerenal acute kidney injury, likely due to poor oral intake. Her clinical picture also met criteria for FTT.

Both patients were discharged to short-term rehab and later moved to an assisted living facility together, for increased services and safety oversight.

Discussion:

Patients with dementia and their caregivers often receive care from clinicians without formal geriatrics training. Education on caregiver burden is essential for early identification of burnout, which can then prevent severe complications, such as FTT and hospitalization of both caregiver and care recipient as described here. Additionally, in situations where elderly family members are treated by different primary teams, an inpatient Geriatrics consult service can serve as a bridge to help coordinate communication and plan for a successful discharge.

A40

The Golfer who lost his swing: an unusual case of Babesiosis in a Octogenarian with baseline dementia.

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Background

Babesiosis is a tick-borne parasite infection which presents with flu-like symptoms, fever, fatigue or less commonly arthralgias, headaches, and abdominal pain. Common lab findings are hemolytic anemia, thrombocytopenia and transaminitis. We present an atypical case of babesiosis in a patient with baseline mild dementia. This case exemplifies the importance of a comprehensive history and examination in patients with mental status changes, even when they have baseline cognitive issues.

Case Description & Results

An 86-year-old man with Alzheimer's dementia presented with three weeks of worsening confusion, memory loss, fatigue, and a near syncopal episode. Three weeks prior, the patient was independent with all activities of daily living (ADLs) and fairly active, golfing on a

weekly basis. In the week leading up to his hospitalization, he was disoriented, unable to golf, and was brought to the ED twice. The first ED visit he was for evaluation of abdominal pain and increased confusion for which he was given fluids, laxatives, and sent home. The second ED visit was the following day for worsening mental status and gait instability. He was found to have a UTI and discharged directly to a rehab facility. At the rehab facility he had a near syncopal episode and was brought back to the ED and hospitalized.

The patient was hemodynamically stable at the time of admission but appeared pale and was oriented only to self. Labs were notable for hemoglobin drop from 9.1 to 7.7, thrombocytopenia with platelets at 44K, elevated creatinine of 1.6 mg/dL and increased total bilirubin of 1.9 mg/dL. Peripheral blood smear showed multiple intracellular RBC parasitic inclusions. Patient was diagnosed with Babesiosis and treated with azithromycin and atovaquone, after with his weakness, fatigue, and anemia quickly resolved.

Conclusions

Patients with pre-existing dementia warrant investigation when sudden changes occur to their clinical condition. Medical illnesses, especially infections, frequently exacerbate cognitive decline in patients with dementia. A clear understanding of the patient's baseline cognitive and functional status and the timeline of change is essential to avoid anchoring bias and misdiagnosing the change as progression of baseline dementia. In this patient the change in mental status was attributed initally to progression of dementia and the diagnosis would have been overlooked if the peripheral smear had not been reviewed.

A41

Developing a Medication Review Tool to Assess Medication Use in Cognitive Impairment and Dementia: A Feasibility Study

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Background:

Currently, no standardized, validated tool exists to support pharmacists in expansively reviewing medication-related problems in persons with cognitive impairment and dementia. The purpose of this study is to examine the feasibility and effectiveness of the Medication Review in Cognitive Impairment and Dementia (MedRevCiD) checklist by MINT (Multispecialty Interprofessional Team) memory clinic pharmacists in identifying drug-related problems in people with cognitive impairment.

Methods:

A cross-sectional survey was designed to examine the feasibility and effectiveness of the MedRevCiD Checklist, using: Acceptability of Intervention Measure; Intervention Appropriateness Measure; and Usefulness, Satisfaction, Ease of Use Questionnaire. and investigators developed questions related to assessing drug-related problems using the MedRevCiD. We used a purposive sampling strategy to recruit MINT Memory Clinic Pharmacists.

Results:

Fourteen pharmacists completed the survey where 79% were female and had an average of 5 years experience in providing care to patients with Cognitive impairment (Range 1-10). The pharmacists used the checklist on 109 patients, of which 94% (N=102) were over the age of 65, and 54% (N=59) were female. Patients were diagnosed with mild cognitive impairment (37%, N=40), Alzheimer's disease (20%, N=22), and/or mixed dementia (19%, N=21). Sixty five percent (N=63) were using 6 or more medications. Pharmacists agreed or strongly agreed that the MedRevCiD checklist was user friendly (N=11/14), that they would recommend it to their colleagues (N=13/14), and it seemed suitable and applicable (N=13/14) to conducting medication reviews. Nine pharmacists (64%) agreed that the checklist helped in identifying potential or actual decline in patient's capacity to manage medications, potential or actual drug-induced or worsening of cognitive impairment, and non-optimal control of a condition associated with cognitive impairment or dementia.

Conclusion:

Pharmacists found the checklist acceptable and practical to use. Future studies will address full-scale implementation across all MINT memory clinics

A42

Utilization of Cognitive Assessment Scores in Predicting Hospital Outcomes for Adults with Covid-19 infection

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Introduction

The coronavirus disease 2019 (COVID19) has fundamentally changed daily life, impacting both physical and mental health. Older adults (OA) are disproportionately impacted due to factors associated with aging and higher prevalence of medical comorbidities, COVID19 may further exacerbate the vulnerability of those with cognitive impairment (CI). There is limited data on risks and outcomes for COVID19 in hospitalized OA with CI in the US. Our aim is to determine how a positive cognitive screening affects in-hospital mortality in patients hospitalized with COVID19.

Methods

This is a retrospective study utilizing cognitive assessment (CA) scores obtained from patients with COVID19 admitted from March 2020 to December 2020. All data collected was from the Audie L. Murphy South Texas Veteran's Administration electronic medical record. Inclusion criteria: patients with COVID19 infection that completed CA. Exclusion criteria: patients without COVID19 and patients unable to complete CA. The CA included the Modified Telephone Interview for Cognitive Status (MTICS) and Advanced Dementia 8 (AD8). The primary outcome was in-hospital mortality and the secondary outcomes included length of stay and 30-day mortality.

Results

During the study, 173 adults with COVID19 completed CA on admission. Of those 96 were 65y/o or older and 77 were younger than 65 years. Of the OA, 50 had a positive screening (PS) for cognitive impairment and 46 had a negative screening (NS). Of the younger adults (YA) 19 had PS and 58 had NS. When evaluating for outcomes OA with PS had the following: higher 30-day mortality (4 vs 0) and discharge to facilities (21 vs 12), but had lower in-hospital mortality (8 vs 15) and length of stay was about the same (7 days). Then for the YA, patients with PS showed lower in-hospital mortality (1 vs 6) and length of stay (4 vs 5 days). All these results proved to be not statistically significant.

Discussion

In hospitalized OA and YA with COVID-19 infection, low CA scores did not show any association with higher in-hospital mortality, increased length of stay, higher 30-day mortality, and increased discharged to facilities when compared to patients with high CA scores. Its limitations include patient availability and willingness to participate, clinician time, and ability to complete screenings.

A43

Exploring documentation of 4Ms on an ortho-geriatrics co-management service

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Background:

The Geriatric Inpatient Fracture Service (GIFTS) aims to incorporate the 4Ms framework of Age-Friendly Health Systems when providing perioperative care for trauma fracture patients at MGH.

Identifying the 4Ms (Mentation, Mobility, Medications, and Matters Most) in these patients is critical because they are at high risk for having complications related to delirium, immobility, polypharmacy, and updates or emergencies that require family contact. We aim to explore the prevalence of documentation of the 4Ms and to reveal opportunities for improvement.

Methods:

We retrospectively reviewed the electronic charts of 55 geriatric orthopedic trauma patients who were evaluated by GIFTS between August and September 2021. Data were collected on documentation of the 4Ms: Mind (baseline dementia and/or depression, CAM, mini-cog, PHQ-2), Mobility (frailty assessment), Meds (Beers list meds), and Matters Most (patients' goals for admission, healthcare proxy, and code status).

Results:

Of the 55 patients (65.5% female, mean age 80), the presence or absence of baseline dementia and/or depression and performance of the CAM was documented in 54 (98.2%) patients. For the 6 patients identified with delirium using the CAM, recommendations for management were given for all 6 patients. Mini-cogs were performed on 34 (61.8%) patients, and of the 5 who screened positive for cognitive impairment, recommendations were given for 1 patient. The PHQ-2 was administered to 34 (61.8%) patients, and for the 1 positive depression screen, recommendations were given. Frailty was assessed in 54 (98.2%) of the 55 patients. The use of Beers list meds was recognized in 11 (20%) patients, 9 of whom were given recommendations for medication management. Patients' goals for admission were described for 38 (69.1%) patients. Healthcare proxies (HCP) were identified for 42 (76.4%) patients, and code status was identified for 44 (80%) patients.

Conclusions:

Assessing the 4Ms in geriatric trauma fracture patients is a valuable way to optimize perioperative care. GIFTS providers excel in documenting some aspects (baseline dementia and/or depression, CAM, mobility) of this assessment and can improve in the consistency of documenting others. Future quality improvement efforts could focus on increased administration of mini-cog and PHQ-2 screenings, identification of Beers list meds, and communication of recommendations when opportunities to optimize care are recognized.

A44

Preserving Mini-Cog Fidelity and Action on Positive Screens

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Dementia is common and prevalent. Early symptoms are often missed in primary care settings where screening for dementia is challenging. The Cleveland Clinic Center for Geriatric Medicine launched a uniform cognitive assessment process for primary care practices utilizing the Mini-Cog at 38 family health care centers (FHC) around northeast Ohio. It involved initial in-person and online training of 582 providers on Mini-Cog administration, documentation, and referral of patients with a positive screen to geriatric medicine for further evaluation. To maintain fidelity of Mini-Cog administration, these providers were retrained via an online module yearly.

A quality improvement project compared interpretation of clock draw test (CDT) part of the Mini-Cog by the nurse/medical assistant (MA) to a physician reviewer to assess the impact of the module. Two-hundred thirty-one completed paper CDTs were collected over 2 months approximately 6 months after retraining. Comparison was performed on 190 with 41 not used (due to missing score or use of wrong time,) 177 (93%) demonstrating agreement and 13 (7%) demonstrating disagreement (most were scored as normal by the Nurse/MA but abnormal by the physician reviewer). Disagreement was due to perceived inconsistent use of CDT scoring criteria. Comparison with data obtained prior to this intervention shows agreement increased 3% (from 90% to 93%) while the disagreement decreased 3% (from 9% to 6%).

We also analyzed the action of the primary care providers for patients with a positive screen. 66 patients had a positive screen during a 1-month period. Of these, only 7.5% were referred to Geriatric medicine and 15% referred to another. No action was taken for 51% of the positive screens. The incidence of dementia among those with positive screens was 58%.

The analysis shows that the educational intervention succeeded in improving Mini-cog administration. There is a need to educate providers and patients regarding the importance of referral or action on a positive screen to advocate for the benefit of early dementia diagnosis for planning purposes. The next iteration of the project should focus on exploring the barriers to early referral.

A45 Encore Presentation

"Collaborative program for managing the behavioural symptomatology associated with dementia"

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INTRUDUCTION: Comprehensive home care for dementia should be considered the pillar of the new models of long-term care, representing a change in the current paradigm of the organization of health care services for older adults with dementia.

OBJECTIVES: To improve the control of the behavioral symptoms of patients with dementia, in the field of home care through an intervention in the modality of the Co- home management (Geriatrics-Home Medicine- Socio-sanitary orientation team). Secondary: Reduce hospitalizations and emergency room visits for potentially preventable behavioral disorders, reduce burden on primary caregivers.

MATERIALS/METHODS: an observational, analytical retrospective cohort study. 100% of the patients who received intervention through the Psychogeriatric Program during the period June 2021 to September 2021 inclusive were included.

Intervention: Collaborative management program that consists of assembling the Geriatric Clinical history by collecting registered information and interviews with a follow-up doctor and caregiver reference and through teleconsultations for evaluation and specific indications, maintaining fluid communication with the doctors and the follow-up and registration health team in clinical history within 72 hours of receiving the consultation or hospital discharge of the patient.

RESULTS: 87 patients were evaluated (21.75 average / month), 68% were female, with a median age of 90 years (SD: 5.30), range 78-102 years. On average, 2.47 (95% CI: 2.18-2.76) consultations / patient were carried out. In 85% of the cases, symptom control was achieved, considering for the purposes of this pilot test this goal was achieved when stability or clinical improvement was achieved, when no new intervention was requested by the home follow-up doctor or the family, when the patient did not have visits to the guard or hospitalizations for behavioral disorders, nor was consultation required by psychiatry.

CONCLUSIONS: The preliminary results of this Pilot Test show that in the current scenario of growing demand for dementia care, the systematic and interdisciplinary approach contemplating the integrative vision of geriatricians is a high-impact therapeutic opportunity for the system, favorable for the patient and their potentially cost-effective support network

A46

Improving Shingrix vaccination rate at a geriatrics clinic in New York City

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Background: One in three people in the United States will develop shingles and 10-18% may develop serious complications such as post-herpetic neuralgia, with a rising incidence in older adults. Shingrix is recommended by the Centers for Disease Control for immunocompetent individuals older than 50 years of age, resulting in a 90% risk reduction in both herpes zoster and post-herpetic neuralgia. The Shingrix vaccine historically has a low national vaccination rate at 34%. Within the USA, 41% of patients greater than 70 years of age have been vaccinated compared to 28% of patients in the 60's. Furthermore, there was a racial disparity with vaccination rates (Caucasians 38%, Blacks 18%, Hispanics 19%). The aim of this study was to evaluate baseline vaccination rate and explore barriers to vaccination.

Methods: We created a process map and Fishbone diagram to identify the logistics and determine barriers to vaccination. Pre-intervention vaccination rates were randomly collected, by chart review, on 100 patients seen in clinic in the second week of September. Twenty of these individuals were interviewed to explore barriers to vaccination

Results: 33/100 individuals were vaccinated. We identified over 50% of unvaccinated patients were unaware of vaccine guidelines and other reasons included: incorrect documentation, poor insight, fear of side effects, and financial constraints. As the first PDSA cycle to address this, an educational Shingrix pamphlet was developed for distribution. Post-intervention vaccination rates (administration of at least 1 vaccine) will be collected.

Conclusions: Acknowledging and understanding limitations in care through quality improvement studies allow health care professionals to implement strategies to meet guidelines. Given the time constraints in a primary care visit, a pamphlet is a feasible and efficient tool to increase awareness, educate patients and raise vaccination rates to better protect our patient population.

A47

Advance care planning in a geriatric fellowship outpatient clinic: What percentage of geriatric patients plan for the future?

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Background:

Advance care planning (ACP) is an essential component of the 5Ms of geriatric medicine. Through advance directives (AD), patients can assign a health care agent (HCA) and express preferences for future health care. Within the VA system, advance care planning discussions are documented in the form of a Life Sustaining Treatment (LST) note, which details an assigned HCA, code status and preferences for LSTs. We intend to learn about the completion of ACP documentation amongst patients enrolled in the fellows' Geriatric Evaluation & Management (GEM) clinic.

Methods:

A retrospective chart review was performed for GEM clinic patients under the care of geriatric fellows. We collected data regarding presence or absence of an AD or LST note in the electronic medical record and location of care (inpatient vs outpatient) at the time of completion. We also collected data regarding age, number of admissions to the hospital in the last 2 years, and code status.

Results:

Out of a total 302 patients reviewed, about 52% had an AD on file. Of those with an AD, 75% were completed in the outpatient setting and 25% were completed during a hospital admission. Only 34% of patients had a LST note on file; 72% of which were completed during an outpatient visit and 28% during a hospital admission. Out of the total patients who had a LST note on file, 62% patients opted for FULL code status, whereas 38% patients opted for DNR. Only 22% of total patients had both an AD and LST note on file. The average number of admissions in the last 2 years was 4.44 times higher for patients who had an AD on file as compared to patients who did not and was 7.36 times higher for patients with a LST note as compared to those who did not have one documented. We did not find any major difference in the mean age for patients with or without either of these documents.

Conclusions:

More patients were found to have an AD on file as compared to a LST note. Most of these ACP documents were completed in the outpatient setting, which may be preferable to completion in the inpatient setting. Patients should be regularly encouraged to complete ACP documents, including healthy patients with low rates of recent hospitalizations. This data can be used to identify barriers towards ACP in our geriatric clinic population.

A48

Healthcare Professionals' Perspectives on Benefits and Disadvantages of Hospital at Home

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Background:

Home-based healthcare models have been rapidly introduced to offset hospital capacity limitations driven by the COVID-19 pandemic. This study sought to explore how implementing a Hospital at Home program for eligible patients with Medicare insurance could impact experiences with acute illness.

Methods:

Healthcare professionals (HCPs) working for the Vanderbilt COVID at Home or Hospital at Home programs were recruited for this qualitative study. Individual phone interviews up to an hour in length were conducted to explore perspectives on treating seriously ill patients in the home setting, including potential patient, provider, and system-level benefits and disadvantages. Interviews were audio recorded and transcribed. Data were analyzed using the rapid analysis method. Two coders independently coded the data and subsequently reached consensus regarding the extracted themes.

Results:

Eight HCPs engaged in interviews. Participants noted patient benefits such as increased comfort and family member presence, decreased cost and risk of hospital-acquired infections, and improved mobility and sleep. Provider benefits identified include opportunities to observe environmental factors affecting patient health. System-level advantages include improved hospital bed availability and decreased hospital-associated complications and readmissions.

Perceived patient disadvantages include reduced access to providers, delays in escalating care, and limited program eligibility. Reported provider disadvantages include increased time and planning per visit, longer waits for lab results, and needing to interpret continuous vital sign monitoring. System-level disadvantages include logistical challenges providing supplies and services, potential equipment malfunction, and difficulty selecting appropriate patients for the setting.

Conclusions:

Many perceived benefits reflect factors that could decrease patient morbidity and mortality. For instance, increasing mobility, quality of sleep, and environmental familiarity may prevent delirium and falls amongst enrollees. However, delays in care or faulty equipment could be detrimental to frail patients. Overall, this data highlights the potential to improve experiences for populations prone to adverse outcomes from hospitalization, such as older adults, if patients are appropriately selected and adverse events are anticipated when implementing a Hospital at Home program.

A49

Utilizing Local Area Agency on Aging for RCT Recruitment

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Background: Recruiting participants with dementia and family caregivers for clinical trials is challenging and many study teams face challenges meeting recruitment goals. This requires study teams to implement novel recruitment methods and create new partnerships.

Method: Recruitment rates in the Decisions about Cancer Screening in Alzheimer's Disease (DECAD) trial were used to evaluate the success of the partnership between the Indiana University Center for Aging Research (IUCAR) and CICOA Aging and In-Home Services (CICOA), the central Indiana Area Agency on Aging. The DECAD trial tests a decision aid about mammograms for family caregivers of women with dementia. IUCAR staff recruited for the study primarily in three affiliated health systems in two states, Indiana and Massachusetts, and CICOA staff recruited for the study through their client list. Partnership success was measured by CICOA recruitment rates and geographic and demographic reach.

Results: From September 2020 through November 2021 CICOA staff attempted to contact 444 family caregivers of clients engaged in case management services. Of the 444, 30 (6.8%) enrolled, 29 (6.5%) refused, 80 (18.0%) were unable to contact, and 305 (68.7%) were ineligible, with the biggest reason being a decision to stop mammography (50.8%). Of those enrolled, 15 (50.0%) caregivers and 16 (53.3%) patients were Black, improving the representativeness of the overall study sample. Additionally, CICOA has expanded the recruitment to eight health systems in the state who do not routinely participate in clinical trials, including three in rural and exurban areas.

Conclusions: To expand the reach and generalizability of clinical trials that include people with dementia and caregivers, researchers will need to establish new relationships with home and community-based providers.

A50

Telemedicine Coverage for Skilled Nursing Facilities by A Geriatric-Emergency Medicine Team: A Pilot Study

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Background

Emergency department (ED) transfers from skilled nursing facilities (SNF) are associated with morbidity, mortality, and cost. Telemedicine programs in SNFs can reduce ED transfers. We conducted a pilot to assess the feasibility and benefit of a collaborative model in which a geriatrician and Emergency Medicine (EM) physician team provided on-call telemedicine services to two SNFs.

Methods

We partnered with a telemedicine service to incorporate a geriatrician and EM physician team into the call rotation for two SNFs. We distributed a separate contact number to reach our team on designated call nights. Over 9 weeks, the team provided on-call services 12 hours weekly. One physician took first call and the second served as a back-up and on-call consultant. For weeks 1-5, the geriatrician served as the primary call and EM physician back-up. The roles reversed for weeks 6-9. We performed chart review to assess subsequent ED transfers and admissions.

Results

The team received 5 calls during the pilot. 4 calls (3 for medication/order reconciliation and 1 for abnormal lab review) were resolved using audio only and 1 (for an acute change in status) used audio-visual technology. When the EM took first call, they consulted the geriatrician twice. The geriatrician did not consult the EM physician when they took first call. The geriatrician managed the acute change in status and avoided ED transfer through serial evaluations and goals of care discussion. This patient was hospitalized 8 days later. The telemedicine service erroneously received 10 calls on the nights our geriatric-EM physician team was on call.

Conclusions

We demonstrated the feasibility of a geriatric-EM dual physician model to provide telemedicine call for SNFs. The EM physician benefited from the geriatrician's experience in the SNF setting. The geriatrician did not experience a benefit consulting the EM physician for their specific calls. The EM physician's expertise may benefit a subset of scenarios regarding acute change in status or common ED complaints (i.e. stroke, chest pain or trauma assessment) more than routine issues. The effectiveness of our pilot was hindered by the need for a separate workflow for the SNF nurses to reach our team and the limited length of the trial. This will inform design of future telemedicine pilots.

A51

Pragmatic Clinical Trial of Transitional Care Program for High-Risk Medicare Primary Care First Patients

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Background

The transition from hospital to home or other post-acute care setting can be particularly challenging for older adults, often leading to preventable hospital readmissions. To support our institution's implementation of Medicare's Primary Care First (PCF) Alternative Payment Model, which incentivizes high-quality care and decreases preventable acute care utilization, we developed an interdisciplinary Transitions of Care (TOC) program that aims to improve communication and coordination across the care continuum and prevent avoidable poor outcomes.

Methods

This pragmatic trial of the TOC program includes academic hospital PCF patients who are reviewed for eligibility and then randomized to the TOC program or usual care. Exclusion criteria are age <65, low readmission risk as defined by a readmission risk tool, being unhoused, or primary diagnosis of severe psychiatric illness or substance abuse. The TOC program is based on evidence-based transitional care models but enhanced by integration of a geriatrician for clinical oversight and management. Services are initiated within 48 hours of hospital discharge and clients are followed for up to 90 days. The primary outcome is 30-day all-cause readmission rate.

Results

Among 5,000 Medicare PCF patients enrolled in primary care clinics, the baseline 30-day all-cause readmission rate for moderate and high PCF patients (n=490) from January-September 2021 was 21.4%. From September 20, 2021 to November 19, 2021, 48 PCF patients were enrolled in the TOC intervention group and 32 in the usual care group. Preliminary 30-day all cause readmission rate for September-October 2021 was 14.3% for moderate and high PCF patients while the statistical goal is below 18%.

Conclusions

There is early evidence from this clinical trial that a clinically enhanced TOC program contributes to decreased 30-day all-cause readmission rates for high-risk older adults. In addition to continuing enrollment in the trial and assessment of additional process and outcome metrics, a mixed-methods evaluation is planned to assess patient, caregiver, TOC team, and clinicians' experiences with the program as well as factors contributing to the outcomes.

A52

Evaluation of Wearables for Preoperative Cardiorespiratory Fitness Screening and Risk Stratification in Geriatric Surgery: Study Design and Feasibility Assessment

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Background:

Poor cardiorespiratory fitness (CRF) is a major contributor to the increased surgical risk in older adults. Several studies have shown that preoperative CRF, as measured by maximal oxygen uptake (VO2max), is highly predictive of surgical morbidity and mortality. Consumer wearable health and fitness monitors can now accurately predict VO2max as compared to indirect calorimetry and the 6-minute walk test (6MWT) in athletes. However, wearable-derived measurements of CRF have not been rigorously studied in older adult surgical patients.

Methods:

We propose a prospective, observational clinical study to test the hypothesis that wearable-derived measurements of CRF are predictive of postoperative complications in older adult patients undergoing major surgery. Additionally, we will evaluate agreement of wearable-predicted VO2max and laboratory measured VO2max. Clinical study feasibility and challenges were assessed a priori using failure mode and effects analysis (FMEA). Mitigations were designed by a committee of aging and perioperative researchers, clinical study coordinators and a biostatistician.

Results:

FMEA identified multiple study challenges including, access to patients prior to surgery, wearables training, CPET scheduling, and controlling for patient comorbidities and physical limitations. To mitigate these issues, we have included the following components in this study design: 1) Remote participant consent; 2) Pre-configured wearable devices and remote tutorial; 3) 6-MWT and CPET subgroups; and 4) Frailty, cognitive impairment and comorbidity control measures. Study recruitment began on October 1, 2021, and preliminary results will be available for presentation.

Conclusions:

Perioperative technology studies in older adults are challenging due to a short time window for recruitment and assessment, scheduling and training difficulties, and patient comorbidities. We present several strategies for improved clinical study design in this population.

A53

Best Practices in Inpatient Fall Injury Prevention

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Background: Fall-related injuries in older adults lead to high morbidity and mortality. The VISN 8 Patient Safety Center of Inquiry (PSCI) conducted a quality improvement (QI) project to produce a guidance document highlighting best practices for inpatient fall injury prevention.

Methods: Mixed quantitative and qualitative methods were employed. Secondary analysis included Falls Patient Safety Assessment Tool (Falls PSAT) responses and rates of falls with major injury as reported in Inpatient Evaluation Center (IPEC) for all VHA facilities (n=154) for fiscal year 2018. Bivariate tests identified facility practices associated with reduced rates of injurious falls. Semi-structured qualitative interviews were conducted with 16 focus groups and a total of 34 facility-level patient safety staff and unit-level nurse managers to examine these practices in VHA facilities with high and low rates of fall-related injuries.

Results: Facilities with lower rates of injurious falls had higher levels of implementation of environmental fall injury prevention practices. These included padding or eliminating sharp edges in patient rooms and bathrooms, proper drainage and non-slip floor surfaces in wet areas such as bathing areas, and handrails in patients' rooms, hallways, procedure rooms, and common areas. Qualitative analyses identified multiple practices for fall injury prevention: utilizing validated fall risk assessments for the population, purposeful rounding, open unit designs with high fall risk patients near the nurses' station, staff huddles, visual aids, and hands-on staff training. Personal protective equipment use (e.g., hip pads, helmets) is supported in the literature, however, patient preference and agitation were cited as barriers to implementation during patient care.

Conclusions: Guidance on best practices for fall injury prevention was developed based on quantitative and qualitative findings. Further work is needed to reduce barriers to implementation of fall injury prevention interventions, including protective equipment for patients at high risk for injury (hip protectors, helmets, beveled bedside mats), especially in long-term care.

A54

Enhancing Pharmacist Hypertension Management with Use of a Remote Blood Pressure Monitoring System

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Background:

Aggressive management of hypertension represents an important public health strategy for lowering the risk of cardiovascular events and mortality. Pharmacists are increasingly involved in the management of hypertension through comprehensive medication management (CMM) services. We initiated the virtual collaborative care clinic (vCCC) to address barriers to implementation of recommended home blood pressure (BP) monitoring and virtual team-based care.

Method:

We retrospectively compared the traditional CMM and the vCCC pharmacist services for hypertension management in patients 65 years or older. Patients were matched in a 2:1 manner. The CMM patients were referred for hypertension management from January 2020-June 2021. The vCCC patients were referred from November 2020-April 2021. The vCCC service combined the elements of CMM service, with the addition of remote BP monitoring system including a management dashboard for all patients which was paired with telehealth delivered care. Chart review was conducted to collect patient demographics and core elements of the pharmacist documentation of care. Chart reviews were executed by two researchers with validation by a third researcher. Descriptive statistics were used to evaluate findings.

Results:

We reviewed 51 patient charts, 34 from CMM and 17 from vCCC. The average age of our patients was 71±5.1 years, with 67% female. More patients in the CMM group had an arthrosclerotic cardiovascular disease equivalent comorbidity compared to the vCCC group (47% vs 35%), with higher prevalence of heart failure and angina in CMM, and stroke in vCCC. CMM also had a higher number of visits with the pharmacists (5.5 vs 4.5), a longer period of follow-up (160±138 vs 82±24 days), and a lower consistency in identifying a goal BP (83% vs 100%). More patients in the vCCC achieved goal systolic BP of <130 mmHg at 3 months compared to CMM (88.2% vs 14.3%).

Conclusions:

Compared to traditional CMM, BP management with the vCCC was more successful in achieving goal systolic BP at 3 months with pharmacist- managed care. Although the vCCC has a higher frequency of visits, the total number of visits needed to reach goal BP is lower over a shorter period of time. The vCCC may be an efficient and effective strategy for pharmacist-managed hypertension care.

A55

Older Adult Patient Population in a COVID-only Subacute Nursing Facility

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Background: During the second surge of the COVID pandemic in a large New York metropolitan health system, there was a backup of hospitalized older adults who recovered but remained debilitated and COVID+ by PCR. Public health policy prevented transfer to skilled nursing facility (SNF) for subacute rehabilitation due to positive PCR. NY state approved establishment of a COVID-only SNF to decompress inpatient wards. We describe the patient population admitted to this SNF during the first month of the second surge.

Methods: Data collected from inpatient and SNF EMR for January 2021. Measures include demographics; hospital metrics (Modified Early Warning Sign - MEWS, length of stay (LOS), Charlson Comorbidity Index - CCI); SNF metrics (LOS, functional status, discharge disposition).

Results: 228 patients were admitted to the 120 bed SNF in January 2021. Mean age 81.4 + 10.2, 62.3% female, 74% white, 17.5% Black. Prior to hospitalization, 97% were residing at home. Hospital LOS was 14.2 + 8.2 days, MEWS 3.4 + 1.1 (range 1-7), CCI 7.8 + 3.0 (range 1-21). 45.2% received remdesivir and 58.3% steroids while in the hospital. Function at SNF admission: Brief Inventory Mental Status 10.9 + 4.5 (range 0-15), 88.7% required at least partial assist for toileting, 88.7% partial assist for transferring. 83.2% required at least moderate assistance for mobility from bed to chair, and 83.8% moderate assist to ambulate 50 feet. 34.5% required supplemental oxygen at SNF. Mean SNF LOS was 18.1 + 12.6 days, and 11.4% (n=26) were readmitted to the hospital after a mean 11+ 9.4 days. Primary reasons for readmission were infections. There was one death in SNF and three after hospital readmission, all secondary to respiratory failure/pneumonia. 40% were discharged to home, and 36% were discharged to another SNF.

Conclusions: Contrary to expectation most patients resided at home prior to index hospitalization. There was a significant degree of illness burden based on CCI, and COVID illness severity was moderate (MEWS 3.4). Functional status on SNF transfer was significantly impaired, consistent with need for subacute rehab. Most common reason for hospital readmission was pneumonia and bacteremia presenting as hypoxic respiratory failure more than 2 weeks after hospital discharge.

A56

Initiation of Novel Interdisciplinary Fall Prevention Clinic

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Falls are a frequent occurrence in those over 65 years old and are associated with high rates of morbidity, loss of independence, and mortality. They also contribute significantly to direct and indirect health-related expenses. Additionally, interventions that increase one's ability to ambulate have positive impacts on cognitive and emotional well-being. Balance difficulties may result from pathology in peripheral or spinal nerves, muscle, or the vestibular system or from movement disorders, vision or hearing deficits, cardiac disorders, and medication effects, among a multitude of other causes. Additionally, older individuals experiencing a variety of neurologic disorders, even those not typically associated with balance impairment, experience more falls than age-matched controls. Therefore we have launched what we believe is the first neuroscience-based fall prevention clinic. All office visits include fall risk screenings with alerts to the provider to consider addressing fall risk in those with positive screens. This model has been shown to reduce fall rate. Building upon this, we have launched an interdisciplinary fall prevention clinic. Patients with elevated fall risk and not responding to usual interventions are referred. They are seen over the course of one morning by a neuromuscular neurologist/electromyographer, an otolaryngologist, a movement disorder neurologist, and either a physical therapist or medical fitness professional, bringing respective expertise addressing many of the common causes of falls. At the end of the morning, the four providers have a conference and develop a comprehensive set of recommendations. If needed, neuro-ophthalmologic, audiology, video nystagmography, and geriatric assessment are available within our institute, as well as neurologic and vestibular physical therapy through partners in the community. To quantity outcomes of our program, we track a number of metrics, including STEADI scores, Timed Up and Go times, 30 second Sit-to-Stand counts, and Four Stage Balance Test. We anticipate that this approach will provide interdisciplinary assessment and intervention that will lead to meaningful reductions in fall rates among our patients and, as a result, improved independence and cognitive and emotional well-being. In the future we propose partnering with our memory disorder colleagues in our center to track cognitive, activities of living, and behavioral metrics.

A57

Optimizing Value Based Care in Medicare/Medicaid Patients with High-Risk for Health Care Inequities

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Background

Tools developed in Geriatrics were utilized in Medicare and Medicaid care delivery systems to manage complex chronic care patients. The Red Carpet Program, Rooted in the G.R.A.C.E. model, is a powerful tool for management of high utilizing urban underserved Medicare and Medicaid populations called the Red Carpet Program. Red Carpet Care principles can be used to advantage in value-based care delivery e.g., Medicare Accountable Care Organizations (ACO). EPIC based tools (best practice alerts, bulk ordering, performance tracking) can improve Quality in value-based care delivery

Population: Medicare and Medicaid populations n=988; 59% female; median age 69 years; 5% over age 90, 48% African American, 8% Hispanic, SDOH risk: 75% social isolation, 57% financial, 30% food insecurity, 22% transportation, 6% at risk housing

Red Carpet Program: Essential elements of care: Interdisciplinary Team (geriatrician/internist, advanced practice provider, psychiatric APP, pharmacist, nurse care manager for enhanced care coordination, care navigator); home visits by nurse practitioner and social worker dyad; Follow up visit in home or clinic; IDT reviews of all new patients and all patients after a utilization event; enhanced phone access 16/7/365.

Results

The ACO was able to achieve shared savings for 5 years consecutively.

ACO Quality Score: Overall Score 96.9%

Medicare ACO utilization (as of 4/30/21)

ED visits/100 patient 12 months prior to enrollment (PTE) vs. 12 months after -41.2%

Admissions/100 patient 12 months PTE vs. 12 months after -33.3%

Observation/100 patient 12 months PTE vs. 12 months after -30.7%

Annualized cost savings $ 693,033/100 patients

Medicaid utilization pilot (as of 9/30/21)

ED visits/100 patient 12 months PTE vs. 12 months after -39.3%

Admissions/100 patient 12 months PTE vs. 12 months after -41.7%

Observation/100 patient 12 months PTE vs. 12 months after -29.5%

Annualized cost savings 159,266

Conclusions

Utilizing these tools helped our health system succeed in value-based products. Our Red Carpet Program was again successful in an ACO Medicare and Medicaid populations lowering admissions, observation stays and ED visits.

A58

Outcomes Associated with Inappropriately Dose-Reduced Apixaban in Older Adults with Atrial Fibrillation

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Background: Apixaban is frequently used for stroke prevention in older adults with atrial fibrillation (AF). While the package insert has dose reduction recommendations based on age, weight, and serum creatinine, many providers empirically reduce the dose of apixaban when not all criteria are met due to bleeding concerns. The purpose of this study was to determine the incidence of inappropriately dosed apixaban for AF in patients age ≥65, while examining the safety outcomes of such dosing.

Methods: This was a retrospective chart review of patients ≥65 years with AF and orders for apixaban who were admitted to one of three academic medical centers between January 2013 and December 2019. The primary outcome was incidence of inappropriately dosed apixaban. Patients who received apixaban that was dosed too low and had documented follow-up were matched via convenience sample to a cohort of patients appropriately dosed at 5 mg twice daily. Secondary outcomes included one-year incidence of stroke or transient ischemic attack (TIA), mortality, and major bleed or clinically relevant non-major bleed (CRNMB). Groups were compared using Chi-square and Fisher's exact tests.

Results: Of the 1755 patients screened, 1172 met inclusion criteria, of which 201 (17%) patients were inappropriately dosed with the majority being underdosed (n=175 [15%]). A total of 147 underdosed patients were matched to 139 appropriately dosed patients (median ages 81 and 75). The incidence of stroke/TIA at one year was 2.7% in the underdosed vs 2.2% in the appropriately dosed groups (p=0.49). The rate of CRNMB was 2.7% vs 1.4%, respectively (p=0.49), and there was only one instance of major bleeding, which occurred in the appropriately dosed group. All-cause mortality was higher in the underdosed group (16 [10.9%] vs 2 [1.4%], p<0.05).

Conclusions: While the dose of apixaban is commonly reduced in older adults with AF, this study suggests that there is no association between empiric dose reduction and stroke/TIA or bleeding outcomes. Future analyses will provide deeper insight into the relationship between patient-specific factors and mortality rate.

A59

The Age-Friendly Health Systems Caregiver Intervention: An Evidence-Based Model for Systemic Change and Improved Outcomes

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The Age-Friendly Health System Caregiver Intervention is transforming how the healthcare system views family caregivers, moving them from being seen as extensions of the medical team to viewing them as individuals with their own physical and mental health needs. Created by Rush University Medical Center with funding by the RRF Foundation for Aging, and with additonal support from The John A. Hartford Foundation to work in partnership with the Institute for Healthcare Improvement, the program addresses caregiver needs and service gaps in health care systems at an institutional level, and uses evidence-based evaluations to create customized psychoeducational services and support to mesh with the goals and objectives of the Age-Friendly Health System framework.

Data using 6 evidence-based evaluation tools tested with diverse caregivers and a biopsychosocial/spiritual assessment is conducted at the start of the interaction with the caregiver, followed by a customized intervention plan is created that may include any or all of the following, provided live or via teleheath:

1. Skill-Building Meetings, in which caregivers engage with occupational therapists, nurses, physical therapists, pharmacists, nutritionists, social workers and in-home care providers to assess for physical impairments and learn caregiving skills.

2. Planning for What Matters Family Sessions, done with family systems-trained professionals who meet with caregivers and care recipients for 4-5 sessions to discuss each person's values and to create a plan for supporting each other in living as fully as possible in the present and the future.

3. Care Team Planning Meetings, including health care personnel to coordinate physical and mental health care and avoid polypharmacy concerns.

Reevaluation is conducted at the 1-, 3- and 6-month points post-intervention. Analyses of data indicate statistically and clinically significant reductions in depression, anxiety and burden in caregivers. Additionally, care recipient data points to an association between this intervention and significant drops in hospital admissions, length of stay and emergency department visits.

The intervention is currently being tested in 6 health care systems throughout the country in preparation for anticipated roll-out nationwide as part of the Age-Friendly Health System movement.

A60

Initial Outcomes of Inpatient Complex Care Coordination Service

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Background: With >18.2 million Veterans ≥65 years, the Veterans Health Administration has identified decreased hospital readmissions and implementation of Age-Friendly Health Systems as key priorities. This prompted development of the Complex Care Coordination (CCC) service at the Michael E. DeBakey VA Medical Center in 01/2021. Focused on high-risk, high-need hospitalized Veterans, primary goals include 1. Optimizing acute care length of stay and 2. Reducing acute care readmissions.

Methods: The two geriatricians who direct the CCC service review daily acute care admissions to identify individuals ≥75 years of age who meet criteria of being high-risk, high-need based on a number of factors including readmission and ED visits in the prior six months; diagnosis of dementia; and a Care Assessment Need Score ≥90. Veterans meeting these criteria are evaluated with a focus on the 4Ms of Age-Friendly Health Systems (what matters, medications, mentation, and mobility) and optimization of transitions. To evaluate the impact of the service over the initial three months, the primary goals and secondary outcome measures including implementation of community-based services, follow-up in geriatric clinic or with home visits, and completion of advance directive documents were assessed.

Results: 55 unique Veterans, each serving as their own historical control, were included in the initial analysis. The CCC service did not lead to positive results for the primary outcomes. Mean length of stay increased from 4.79 days to 8,02 days after implementation of the CCC service (p = 0.13). 30-day readmissions also increased following implementation of the service (19 to 29%), although readmission related to the initial admission diagnosis decreased (75 to 42%). Positive outcomes were present for the secondary outcomes including increased implementation of community based services (P=0.011), follow-up in geriatric clinic or with home visits (P=0.0011), and completion of advance directive documentations (P=0.023).

Conclusions: Evaluation of the first 3 months of an inpatient geriatric service for high-risk, high-need Veterans ≥75 years did not demonstrate decreased length of stay or overall 30-day readmission compared to historical controls. However, readmission related to the initial admission diagnosis and secondary outcomes were improved.

A61

Increasing the documentation prevalence of advance care planning conversations in a resident run geriatrics clinic in an underserved community

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Background: Advanced Care Planning (ACP) outlines the care patients want when they cannot advocate for themselves. Although ACP discussions have happened more often, a patient's wishes must be clearly documented and accessible for when the need arises to adhere to their plan. Within the geriatric community, ACP discussions should be part of routine health maintenance and documented as such. In the LAC+USC Geriatrics Clinic, rate of ACP documentation was 4%. The goal of this study is to increase the rate of ACP documentation in Geriatric primary care visits to 20% by the end of the study period.

Methodology: A retrospective chart review was performed for all patients seen at the LAC+USC Geriatrics Clinic between July 1 and November 1, 2021 for documentation of ACP during their primary care visit. The Geriatrics fellow began to provide a 10 minute presentation on the first day of each new cohort of rotating Internal Medicine residents in the Geriatrics Clinic discussing parts of ACP and providing the a smart phrase within the electronic medical records to include in their notes. Following this intervention, primary care visit notes will be reviewed to determine the rate of ACP documentation.

Results: Pre-intervention documentation rate was 4%. The intervention is currently ongoing.

Conclusion: Although ACP discussions were happening during previous office visits or on admission, they were not being carried forward each visit. We hypothesize that providing a template for the rotating residents and reminding them to confirm ACP for each patient will increase the prevalence of documentation. Especially in a patient population of non-English speakers, it is important that patients make known what their wishes are. We continue to need to increase our ACP efforts.

A62

In-basket Scrubbing Reduces Message Burden for Geriatricians

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Background

In-basket messages are linked to physician well-being. Prior research shows a benefit of non-physician message review to reduce in-basket burden. This study evaluates the impact of a patient coordinator in-basket scrubbing intervention.

Methods

Two Patient Coordinators (PCs) "scrubbed" (reviewed, processed, and re-routed) in-basket messages for 14 primary care geriatricians at 2 practice sites July-October 2021. The sample included physicians with at least 2 half-day sessions per week. PCs conducted a needs assessment, modified the existing workflow, and systematically trialed process improvements. They were the first contact to scrub all in-basket messages from the health system call center to geriatricians. They updated and revised the call center's individualized physician messaging protocols and iteratively retrained agents to send in-basket messages to the correct team member (nurse, social worker, or physician.) A mixed methods approach evaluated the impact on message burden via EMR-reported metrics and focus groups. Epic Signal reports "number of in-basket messages" (defined as total number of messages receieved per provider per day, divided by total number of days logged in and worked) of message types including "staff messages" and "patient calls." A metric "call center messages" was created, comprising these two message types. Monthly average results were manually extracted and recorded for each physician October 2020-October 2021; monthly combined averages for the sample were compared pre- and post-intervention in July 2021. Focus groups of 6 physicians in the sample explored the impact on their sense of burden.

Results

From October 2020-June 2021, combined monthly average was 13.79 call center messages/day, compared with 9.57 messages/day from July 2021-October 2021, a 30.6% reduction. Focus groups expressed generally reduced sense of burden.

Conclusions

In-basket scrubbing reduced message burden for geriatricians. Practices should consider implementing non-physician message review. Future research should focus on efforts to further optimize and automate in-basket message flows and improve usability of EMR-reported metrics dashboard to evaluate impact.

A63

Creating a Telemedicine Manual for Dementia Care

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Introduction: Older adults with dementia and their caregivers often have difficulty attending in-person medical appointments for a variety of reasons and rely on telephone and video visits for care. Additionally, many clinicians had to convert their practices to telemedicine to mitigate COVID-19 exposure without experience managing dementia in this setting. We aim to create and optimize a manual that guides providers on how to assess and manage dementia in the telemedicine environment, called a "tele-dementia" manual.

Methods: We drafted a tele-dementia manual and sent copies of it to experts in the field for feedback. After implementing this first round of edits and suggestions, we sent the subsequent version of the tele-dementia manual to our VA and institutional colleagues, including physicians, nurses, social workers, and psychologists. We surveyed participants before and after distribution of the manual. The survey measured the respondent's comfort level with assessment and management of dementia over telephone/video, rating their comfort on a scale of 1-5 (5 being "very comfortable"). The survey also elicited open-ended feedback about the manual.

Results: In our first round of data collection, we sent the manual and both surveys to 10 healthcare providers. We have 80% (n=8) responses for the first survey and 50% (n=5) responses for the second survey. On average, respondents' comfort with assessing dementia after utilizing the manual increased from 3.6 to 4.4 points, and comfort in managing dementia after utilizing the manual increased from 3.7 to 4.6 points. Three out of five respondents who completed the second survey reported the tele-dementia manual to be "extremely useful", with the other two respondents reporting the manual to be "useful" or "neutral". Open-ended responses suggested shortening the length of the manual, including tips on how to complete a visit in one hour, and adding visual aids.

Conclusions: Our tele-dementia manual made a positive impact on those who implemented it into their practice. To further improve the manual, we plan to add visual aids, include resources for streamlining visits, and explore ways to shorten the text. We will continue with iterative improvements to finalize a practical guide that can help clinicians provide tele-dementia care.

A64

Improving Osteoporosis Screening and Treatment in the Nursing Home

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Background: In the USA 4% of men and 19% of older women have sustained a Hip Fracture[1]; the clinical manifestation of osteoporosis. The rate of hip fractures among nursing home residents is two times higher than community-dwelling older adults. Fewer than half are treated with fracture prevention medications.[2] Hip fractures are a large financial burden on the healthcare system and have a substantially increased risk of major morbidity and mortality in adults, especially in nursing home residents who may already have multi-morbidity. Half of patients are unable to regain their prior level of function after a hip fracture and there is a 1 year mortality of 24%. Fracture risk can be reduced by 50% with 3 years of pharmacologic treatment for Osteoporosis and benefits can be seen as early as 1 year. Unfortunately, this is often not done in nursing homes despite being a highly vulnerable population.

Methods: A report of nursing home residents at a community nursing facility was generated manually using the facility EMR. An initial review was conducted to capture demographics, weight, height, creatinine, history of osteoporosis, fragility fracture, osteopenia, rheumatoid arthritis, and current long-term steroid use. A standardized flowsheet was used to make treatment recommendations, which were given to the patient's physician to use at their own discretion. Diagnosis and treatment rates prior to and after the intervention will be compared.

Results: Of the 27 patients reviewed, 40% met criteria for osteoporosis treatment. Only 8% of these eligible patients were on pharmacotherapy. 58% of untreated patients qualified for bisphosphonate therapy, while 33% would require denosumab due to contraindications to first line therapy. DEXA scan was recommended to 85% of the patients without a diagnosis of osteoporosis due to an elevated fracture risk.

Conclusions: We anticipate this intervention will increase screening and detection of osteoporosis as well as treatment rates, subsequently decreasing Osteoporotic Fractures in this vulnerable population. Many patients will not be initiated on therapy due to a variety of reasons including life expectancy, level of function, and contraindications to therapy including difficulty initiating pharmacotherapy due to insurance coverage and cost.

References:

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A65

Increasing awareness of non-pharmacologic strategies helped decrease the use of antipsychotics in the VA Community Living Center (CLC) in San Juan, Puerto Rico

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Objectives:

1. Decrease the use of antipsychotics in a Veteran population in the CLC VA Healthcare System.

2. Promote the use of detailed care plans to increase the use of non-pharmacologic strategies to mitigate behavioral disturbances in patients with dementia.

Background: The use of antipsychotics in elderly patients with dementia has been associated with increase mortality and not recommended to treat behavioral disturbances. The purpose of our quality improvement project was to decrease the number of prescribed antipsychotics.

Methods: Patients were veterans admitted to the VACHS' CLC from October 1, 2020 to September 30, 2021 (avg. census 57.8 ± 4.28 patients/day) who had an antipsychotic during the past month. Retrospective chart reviews were performed by a workgroup. Records reviewed focused on: presence of dementia; where was the antipsychotic started; behavioral incidents; non-pharmacologic interventions; detailed care plan; referrals to psychology and psychiatry; and if gradual dose reduction (GDR) was attempted. The workgroup then encouraged Interdisciplinary Team (IDT) members to consider GDR and alternate treatment options. We used descriptive statistics to summarize data and share findings regarding the number of veterans prescribed with antipsychotics; newly started; and most useful non-pharmacological strategies documented in care plans. Data from the SAIL report was used to tract the quality measures for antipsychotic use in CLC residents.

Results: A decrease in number of prescribed antipsychotics was observed. In October 2020 we had 34.24% patients on antipsychotics, and by September 2021 a total of 13.04%. SAIL rank improved from 29/123 to 16/131. Ten patients were started on antipsychotics throughout the year and all had tried non pharmacological interventions.

Conclusions: The creation of a workgroup to increase awareness of the use of antipsychotics, identifying early potential candidates for GDR, engaging the IDT, allowed us to decrease the number of patients in antipsychotics and exhaust non-pharmacological interventions. Promoting consistently the use of non-pharmacologic interventions to address behavioral disturbances in dementia decreased unnecessary use of antipsychotics.

A66

Assessment of Knowledge and Attitudes Regarding the Confusion Assessment Method Delirium Screening Tool

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Background Delirium is associated with increased complications, mortality, and length of stay.[1] Despite its widespread use, Confusion Assessment Method (CAM) has been found challenging to perform[2] and a prior study at our institution found an incongruence between CAM positive scores and diagnosis of delirium.[3] We aim to evaluate the need for reeducation efforts on CAM.

Methods Nursing staff from two pilot units and house staff physicians were targeted to evaluate current CAM practices. Anonymous surveys on provider comfort, knowledge and barriers using CAM were collected.

Results Among nursing staff (N=30), 50% felt very comfortable using the CAM. Among providers (N=18), 33.3% reported unfamiliarity, and 100% of those who knew of the CAM do not use it clinically. 43% of nursing staff and 94% of providers felt they needed more training with CAM, and 61% of providers felt they needed more training with diagnosing delirium. 64% of nurses and 0% providers correctly identified the four features of the CAM. Nurses also identified a lack of knowledge of what to do when the CAM was positive (70%). Providers identified challenges in not knowing patients' baseline (94%), attributing AMS to acute illness (55%) and difficulty differentiating from dementia (44%).

Conclusion Medical staff would benefit from education on CAM to improve delirium diagnosis. Future directions will include educational sessions for nursing and physicians to increase knowledge and comfort in diagnosing delirium, refine pathways for once delirium is diagnosed, and ultimately improve documentation of delirium for CAM positive patients.

References:

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A67

Increasing Shingrix Vaccine Immunization Rates in an Urban Safety Net Geriatrics Clinic

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Background: Shingrix vaccine is more than 90% effective at preventing herpes zoster and post herpetic neuralgia. The CDC recommends all adults over age 50 should receive two doses. In an urban safety net geriatrics clinic, we identified a significant number of patients who had not received the Shingrix vaccine. We sought to implement an intervention that would increase the rate of vaccination in this patient population.

Methods: Using the Epic medical records, we reviewed 1,562 patients who visited the Geriatric clinic between 9/1/2020 and 8/31/2021, and identified patients (>65 years) who had not received Zostavax or Shingrix. Between 10/01/21 - 11/15/21, we implemented an intervention, including chart review and telephone outreach to increase Shingrix vaccination rates. We called a convenience sample of 100 patients lacking either vaccine. We asked patients or caregivers about familiarity with shingles and vaccines to prevent shingles; we provided education about shingles and the vaccine, offered vaccination, facilitated immunization appointments, and documented discussions.

Results: We identified 962 patients (62%) who did not have either zoster vaccine. Among patients we attempted to call, 78 (78%) answered the phone and 49/78 (63%) were interested in vaccination. 17/22 (77%) received a message regarding the vaccine; 3/22 had incorrect numbers, and 2/22 were deceased. 32 (41%) had an upcoming PCP appointment. 23/78 (29%) were not interested in the vaccine and declined. 3/78 (4%) were undecided and 3/78 (4%) had already completed 2 vaccine doses.

Conclusion: In our brief intervention for patients unimmunized against herpes zoster who received phone calls regarding the importance of the Shingrix vaccine, most agreed to receive the vaccine. We continue to monitor the effectiveness of this program and expect that continued education and close follow-up in the geriatrics clinic will lead to increased Shingrix vaccination in this population. This approach may provide a pathway for similar clinics trying to increase vaccination rates.

A68

Enhanced Quality in Prescribing Practices for Older Veterans Discharged from the Emergency Department (EQUIPPED) Program Improves Medication Quality

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Background: EQUIPPED is a multicomponent quality improvement initiative shown to decrease prescribing of potentially inappropriate medications (PIMs) to older Veterans at discharge from VA Emergency Departments (ED). We implemented EQUIPPED at the VA Boston Healthcare System (VABHS) to reduce PIMs prescribing to <5% at discharge from the ED and Urgent Care (UC). PIMs were identified according to AGS Beers Criteria.

Methods: The national EQUIPPED informatics team provided baseline PIMs data, adaptable order sets and training materials, and monthly mentoring meetings. We focused the implementation on our 4 most prescribed PIMs: muscle relaxants, benzodiazepines, antihistamines and NSAIDs. Clinicians received monthly personalized feedback reports including prescribing performance and peer benchmarking data. We sent monthly emails about the groups' overall performance and the most common PIMs. We evaluated the number of clinicians who received education as well as the percentage of overall PIMs and the number of PIMs prescribed from the 4 target classes pre and post.

Results: PIMs accounted for 7.5% of all discharge prescriptions written for older Veterans by ED/UC clinicians from May-October 2020. When we invited 19 clinicians who worked more than 2 shifts/week, 11 attended a one-on-one virtual education session from August-October. PIMs prescribing decreased to 4.0% from November 2020-April 2021. Our clinicians prescribed 80 PIMs from our 4 classes in the six months before implementation: they prescribed 54 PIMs in the last six months of implementation. Prescriptions for muscle relaxants (37 to 16) and benzodiazepines (6 to 3) decreased the most. At the end of implementation, clinicians requested that the monthly feedback reports continue.

Conclusions: EQUIPPED implementation improved prescribing quality for older Veterans at discharge. The program was well-received by staff and was sustained by the institution.

A69

Quality improvement initiative to implement enhanced barrier precautions (EBP) in a VA nursing home (NH)

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Background

Multi-drug resistant organisms (MDROs) account for significant mortality and morbidity in NH and prevention is key to reduce transmission rates. EBP provides an approach for gown/glove use that is based on residents' risk factors rather than their MDRO status. Veterans Affairs NHs have used EBP to reduce Methicillin-resistant staphylococcus aureus (MRSA) transmission since 2013. The new EBP guideline introduced by the CDC in late 2019 expands the use of personal protective equipment (PPE) by staff while providing high-contact care activities (dressing, bathing, toileting, etc.) that increase the risk of MDROs transmissions from staff hands and clothing. Thus, PPE must be used when providing these activities to residents with wounds, devices such as indwelling urinary catheters, G-tubes, and central lines who reside in a unit with other residents infected or colonized with MDROs. It can also improve quality of life by limiting use of contact precautions (CP) in those colonized with MDROs.

Methods

An epidemiologist met with the NH leadership, providers, and nurses to provide education about the new guideline. Providers reviewed the medical charts of all residents and identified those with wounds or medical devices that met the criteria for EBP. Staff and residents were educated about the new guideline. EBP signs were posted outside of rooms, and PPE and hand sanitizers were stocked close to the doors.

Results

Of the 49 residents, 11 (22%) were already on CP because of active infection/colonization with MDROs, 3 (6%) were on EBP for MRSA colonization per previous VA protocol. 9 (18%) residents met the criteria for the new guideline and were placed on the EBP. After 3 months out of 47 residents, 4 (8.5%) were on CP, 17 (36%) continued

to meet EBP criteria, and 7 (15%) of them were previously on CP. This approach led to 13.5% decrease in CP use in our NH.

Conclusions

The implementation of the new EBP guideline in high-risk patients can help reduce the transmission of MDROs in nursing homes. It also allows judicious use of PPE, promotes cost-saving, and allows resident-centered care fostering independence and improved quality of life by avoiding unnecessary social isolation.

A70

A Geriatric Consultation Team improves decision making processes, alleviates workload on critical care units and facilitates patient flow within a tertiary care center.

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Background:

COVID-19 pandemic generated a new role for the geriatric consultation team (GCT), not previously accounted in the literature. In this model, the GCT worked as case manager, actively searching for cases in which the comprehensive geriatric assessment (CGA) could potentially impact and aid in decision-making processes in critical care units where patient overload was higher; also, identifying patients who would benefit from interdisciplinary geriatric interventions that would otherwise be managed by other units. The purpose of this study is to describe the impact of this new model on decision making and patient flow within a tertiary care center.

Methods:

Retrospective descriptive study. We searched electronic medical records (EMR) pertaining to all patients over 64 evaluated through a CGA by the GCT, admitted to the University of Chile Clinical Hospital, from may 2020 through may 2021.

Results:

We analyzed 362 EMRs, patient mean age was 80.9 years, 54.7% were women. Of them, 1.9% came from long term care facilities. Over half of the patients (63.5%) had public insurance subsidized by the government. By FRAIL questionnaire, 61.5% of patients were frail; found a prevalence of delirium was 55.8%. Seventy-two percent of registered consultations came from critical care units including the ER; of those, 57.8% were considered to benefit by a transfer to an acute geriatric care unit. GCT were also involved in decision making in patients which were being considered for invasive treatment, including mechanical ventilation: based on CGA, advanced directives and proportionality, the team recommended to limit therapeutic efforts in 21 out of 66 patients. Recommendations were accepted by other teams in 91% of cases.

Conclusions:

This new GCT model, as a case manager through active search, impacts decision making process in complex critical geriatric patients, alleviating workload of critical units and facilitating patient flow and communication among different areas (critical care, geriatrics, acute wards), resulting in placement of patients in the most appropriate units for their management based on CGA principles.

A71

Witnessed and Assisted Falls in the Veterans Health Administration: Prevalence and Patient Injury Outcomes

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Background: Falls in the older population increase morbidity, mortality, caregiver burden, and healthcare costs. Falls are classified as witnessed and unwitnessed and witnessed falls are categorized as assisted and unassisted. The prevalence of inpatient witnessed and assisted falls and associated patient injury outcomes have not been studied in the Veterans Health Affairs (VHA). The VISN 8 Patient Safety Center of Inquiry implemented quality improvement (QI) efforts to add witnessed and assisted falls to the VHA Inpatient Evaluation Center (IPEC) internal database across all VHA inpatient facilities to evaluate trends of how often staff intervene during inpatient falls and impact on patient injury.

Methods: National-level IPEC data were extracted for fiscal years 2020 to 2021 for total, witnessed, and assisted falls. Confidence intervals were calculated for rates based on monthly IPEC observation data. Patient injury outcomes (e.g., no injury, minor injury, major injury) for total assisted and unassisted falls were examined descriptively with no statistical comparisons.

Results: National-level IPEC data among 8,440,005 bed days of care (BDOC) observed had 35,825 total falls reported; 6,926 of total falls reported were witnessed (19.3%); and 2,403 of the 6,926 witnessed falls were assisted (34.7%). The observed rate of assisted falls per 1,000 BDOC was 0.28 (*95% CI* = 0.27 – 0.30). Patient injury outcomes for assisted and unassisted falls are presented in the table below.

Conclusions: Prevalence data from our QI project indicate that healthcare staff attempt to intervene to assist a patient fall in a third of all witnessed falls. While major patient injuries appear to be lower with assisted falls, our data did not include staff injuries, which is a concern. These findings support the need for further research about the circumstances and mechanics of assisted falls and their impact on both patient and staff safety.

Prevalence of witnessed and assisted falls with associated patient injury outcomes

	Total Falls (N = 35,825)	Assisted Falls (n = 2,403)	Unassisted Falls (n = 33,422)
Fall injury outcome	n (%)	n (%)	n (%)
No patient injury	24,953 (69.7)	1,657 (69.0)	23,296 (69.7)
Minor injury	10,278 (28.7)	718 (29.9)	9,560 (28.6)
Major injury	594 (1.7)	28 (1.2)	566 (1.7)

A72 Encore Presentation

Promoting Trauma-Informed Care through Standardized Screening and Training

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Background: Trauma Informed Care (TIC) is a CMS requirement for nursing homes. Trauma is linked to poor health outcomes. TIC seeks to educate patients and staff about the effects of trauma and reduce re-traumatization by increasing physical and psychological safety. There is currently no gold standard screening tool for trauma and the few that exist are mostly used in research and are lengthy to administer. Our aim was to develop a screening tool and training for TIC.

Methods: We created a patient screening questionnaire using literature and social worker input to implement TIC. We conducted training in two nursing homes - BT and AGR. The training was an hour-long session explaining TIC, screening tool, and role playing to assess practical challenges of implementing TIC. The trainees were surveyed pre-and post-training to assess their understanding of, attitudes toward, and their comfort in screening and delivering TIC. We conducted paired sample t-tests for each item for the entire sample and separately by facility. BT had begun a systematic screening process. We also assessed changes in screening patterns pre- and post-training.

Results: The training was given to 12 trainees, 5 at BT and 7 at AGR; 16% of them were white. All were women and between the ages of 20 and 55. All BT trainees were social workers and AGR trainees included LPNs, CNAs, and nursing and social work staff. In the overall sample, there was a significant positive change in self-rated knowledge of TIC; pre-test (M=1.75, SD=1.13) compared to post-test

(M=3.75, SD=.75), p=.001, as well as an increase in knowledge about how trauma affects patients; pre-training (M=3.18, SD=1.72) to post-training (M=5.64, SD=.81), p=.004. In separate facility results, self-rated knowledge was only significant for AGR and not BT, indicating the change in the overall sample was driven by AGR attendees. Based on case tracking at BT in the 27 days prior to training, of 43 new patients 2.3% of those screened positive for trauma. After the training, 43 patients were admitted in a span of 18 days out of which 7 (17%) patients screened positive for trauma.

Conclusion: A standardized screening tool coupled with training for staff helped boost efforts to screen patients for trauma and aid nursing homes to deliver TIC

A73 Encore Presentation

Appropriate Use of Pancreatic Enzymes in Older Veterans with Pancreatic Cancer

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BACKGROUND

Pancreatic cancer is a leading cause of cancer-related deaths and patients commonly present with exocrine pancreatic insufficiency (EPI). Treatment with pancreatic enzyme replacement therapy (PERT) improves survival and quality of life (QOL) with less flatulence, improved stool consistency, pain relief and weight gain. PERT must be taken with meals and capsules must not be crushed/chewed. Despite being generic, PERT can cost over $1000/month. Inappropriate enzyme use may be misconstrued as refractory symptom. The objective is to evaluate patient education received about proper use of PERT for maximum benefit.

METHODS

Individual semi-structured phone interview with 7 veterans aged 65 and above who are prescribed PERT for EPI secondary to pancreatic cancer was performed to gain baseline information for a quality improvement project. Interview questions primarily assessed their (1) satisfaction with patient education regarding PERT administration; (2) symptom control and (3) compliance.

RESULTS

No patient recalled receiving written information regarding PERT. None recall a nutritionist referral. None knew that higher fat content or larger meals required additional PERT. Additionally, no patient knew that eating desserts (i.e., pudding/chocolate) or shake-style supplements (i.e., Ensure) would also require enzyme supplementation, nor that PERT is needed to absorb fat-soluble vitamins (ADEK). None were aware that failure to gain weight and persistent loose stools may signify inadequate dosing. Patients were not aware that eating fruit alone does not require PERT.

CONCLUSION

This pilot study demonstrates that better patient education on PERT is necessary to achieve optimal outcomes with adequate symptom relief, especially since PERT is expensive and ineffective if not taken correctly. Proper administration of PERT can improve QOL, weight, abdominal pain and steatorrhea, which can potentially decrease usage of opioids and anti-diarrheals.

REFERENCE

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A74

Use of a smart phone app to assess cognition: preliminary interviews with participants

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Background: Smartphone apps offer an opportunity to measure cognition in the context of day-to-day lives and allow for repeated measurement and extended follow up. The BRAIN-e study is exploring the feasibility of apps for self-administered cognitive testing among middle-aged and older adults with normal cognition. We qualitatively assessed participants' perspectives on the feasibility of mobile app-based cognitive testing.

Methods: Individuals enrolled in a clinical trial studying hypnotic discontinuation were invited to join BRAIN-e, an ongoing ancillary study (goal n=20). Participants were aged ≥ 55 years and were taking a benzodiazepine receptor agonist as a sleep aid. Participants were shipped a study smartphone with a pre-installed app (Cambridge Cognition Ltd), and after receiving automated instructions, completed digit span, verbal paired associates, and cued delayed recall of verbal pair tests weekly for 4 weeks. Semi-structured interviews about participants' experiences using smartphones and the app were recorded. Thematic analysis of the recordings and interview notes was conducted by two team members.

Results: Three preliminary themes emerged from interviews (n=8; mean age 66 years): 1) concern about own cognition, 2) coping strategies in response to difficult tests, and 3) level of support required. Participants described worry about their cognition when they could not answer test questions. Coping strategies included embracing the testing as a challenge and voicing an interest in doing more testing to improve their scores; writing or considering writing down responses to memory tests to serve as cues; and early termination of testing. Level of technical support participants sought from study staff varied widely.

Conclusions: Future studies using smartphone apps for cognitive testing is feasible but should address participants' worry about their own cognition and the potential need for supportive services to address concerns. Also, some strategies noted by participants could invalidate results. Finally, availability of technical support resources may be an essential component of successful app-based cognitive testing.

A75

Under Pressure: Optimizing Hypertension Management in a Primary Geriatrics Clinic

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Background: Hypertension (HTN) is an independent risk factor for cardiovascular disease and mortality, yet challenging to control in geriatric patients. As per our healthcare system's Primary Care Institute (PCI), led by ACP and AAFP guidelines, the HTN management goal is blood pressure (BP) of <140/90 in ≥75% of patients. Our objective was to meet this benchmark by developing a dedicated HTN model within our clinics. **Methods:** We retrospectively reviewed charts of patients aged 74-85 seen from 1/2021-present at 2 academic primary care geriatric clinics. We identified 31 patients with BP >140/90 mmHg. Following the Plan-Do-Study-Act (PDSA) cycle, we designed a fellow-driven HTN protocol to accurately identify, evaluate and treat patients with poorly controlled HTN. This protocol includes a standardized BP evaluation method, timely alerts to clinic providers about elevated BP readings, and dedicated HTN clinic visits with a standardized template note that systematically addresses key components of HTN management (patient barriers, medication changes, home BP monitoring, and lifestyle modifications). Measures were determined

based on data obtained from dedicated HTN visits. **Results:** In our patient cohort, mean (+/- SD) age was 80.4+/-3.5 years, 80.6% were women, 41.9% identified as White, 16.1% Hispanic, 22.6% African-American, and 19.4% as other. Most patients were already on anti-HTN medications. Our team has contacted the primary care providers of all 31 patients to schedule dedicated HTN visits. From the dedicated HTN visit notes, we are currently collecting outcome data on BP changes, barriers to HTN control, and clinician-guided interventions. We are actively reviewing completed dedicated HTN visits and medication changes to assess the impact on patients' multi-complexity. **Conclusions:** Many challenges of HTN control in the elderly are due to patient, system-wide and clinic design factors. An interdisciplinary team-based approach incorporating dedicated visits with close follow-up, home BP monitoring, and patient education may help improve BP control.

A76

Implementation of a pre-visit questionnaire to improve clinic efficiency for geriatric medicine fellows

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Background: Older adults have multiple co-morbidities, and it can be challenging to effectively complete a geriatric assessment in the limited time allotted in outpatient clinic visits. Geriatrics fellows recognized an opportunity to address patients' health concerns more effectively by administering a pre-visit questionnaire to help identify goals and set the agenda for patient visits. The aim of this quality improvement project was to develop and implement a pre-visit questionnaire to improve the efficiency of geriatric fellows during clinic visits.

Methods: Geriatric fellows were surveyed to evaluate their perceptions of clinic efficiency and to gauge what information would be helpful to elicit from patients prior to their visit. Pre-visit questionnaires from geriatric clinics were reviewed. A questionnaire was then created to identify the patients' main concerns and collect information on geriatric syndromes and functional status. PDSA cycles included analysis of different means of administering the questionnaire, informed by interprofessional qualitative feedback. Trials included administration of the questionnaire by phone or in the clinic with completion by the nurse, patient, or caregiver. A follow-up survey will be administered to the fellows 2 months from implementation to re-evaluate their satisfaction with clinic efficiency.

Results: The initial fellow survey demonstrated that most fellows (4/5) agreed (scale of 1-5, 1=strongly disagree, 5=strongly agree) that the current clinic flow can be improved upon to allow for adequate time for patient care and for completion of geriatric exams. All fellows agreed or strongly agreed that it would be helpful to know the reason for the clinic visit (chief complaint), as well as the patients' geriatric review of systems and functional status. Implementation of the questionnaire required multiple PDSA cycles with input from every member of the care team.

Conclusion: Most fellows felt clinic efficiency could be improved upon to allow for more effective patient care, including completion of geriatric assessments. We have developed a questionnaire to improve the efficiency and quality of geriatric care in the fellows' clinic. Next steps include re-evaluating fellows' perceptions of clinic efficiency since the implementation of our questionnaire.

A77

Identifying Frailty: Can we do it?

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Background: Frailty is associated with increased health care costs and mortality. Despite well-established measures, real-world identification of frailty remains challenging. Our objectives are to implement a frailty assessment in routine geriatric care, and to compare frailty rates and feasibility of using measures of phenotypic frailty vs deficit accumulation.

Methods: We identified older adults hospitalized in an inpatient geriatric unit or seen in an outpatient geriatric clinic during November 2021 and excluded those with terminal illness. Frailty was assessed with two validated measures: Fried frailty phenotype (Fried) and frailty index-comprehensive geriatric assessment (FI-CGA) using a standardized electronic data collection tool. All patients received a comprehensive geriatric assessment. Questions added to current practice included exhaustion and physical activity, gait speed, timed up and go, and grip strength. We assessed feasibility by comparing data completion, and descriptive statistics to compare frailty rates.

Results: Twenty-three adults (52% Women, 92% Caucasian, 4% African American, 4% Asian) with mean age 81(SD 8.14) were included. Both measures were feasible with no missing data. The mean Fried score was 3.0 (SD 1.26); 30% were classified as pre-frail, 70% as frail, none as robust. The mean FI-CGA score was 0.60 (SD 0.18). FI-CGA identified 7 levels of frailty (Level 1: robust; Level 7: frail). The distribution from Level 1-7 was 0%,4%, 9%, 13%, 22%, 35%, and 17%. Mean FI-CGA score among the Fried frailty categories was Level 4 at 0.42 (SD 0.10) for pre-frail, and Level 6 at 0.68 (SD 0.15) for frail ($p<0.001$). Comparing the Fried categories with the 7 FI-CGA levels revealed a significant difference in frailty rating ($p=0.01$).

Conclusions: Incorporating frailty measures into real-world geriatric practice was feasible. Significant differences between the Fried and FI-CGA measures have implications for how such measures are used. Further data is needed to assess implementation and whether assessment of frailty is sustainable in practice.

A78

Adapting Preop Assessment of Cognition and Frailty to the Telehealth Setting

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Background: Frailty and cognitive impairment are established predictors for postop delirium; screening for these should be included in a comprehensive preop visit with an older adult.[1] During the COVID-19 pandemic, our preop clinic pivoted from in-person to predominantly audio only telehealth visits, prompting us to identify new tools suitable for telehealth.

Methods: We tested validated tools that could be administered via audio only visits, especially to patients with hearing impairment. We chose tools proven to predict postop delirium[2-4] and collaborated with the inpatient geriatrics team to refer those patients determined to be high risk for proactive postop consultation.

Results: In 12/2020, we adopted the FRAIL scale and the Animal Verbal Test for telehealth preop visits for patients age ≥65 scheduled for inpatient surgery. Between 1/-6/2021 the tools were used 620 times by 13 providers indicating widespread adoption. The inpatient geriatrics team found the protocol resulted in involvement of their team as early as POD0, allowing them to implement preventive strategies to reduce delirium risk and severity.

Conclusions: Frailty and cognitive screening in geriatric preop patients during telehealth visits provides valuable clinical information that can be used to reduce the risk of postop delirium. We found the FRAIL scale and Animal Verbal Test well suited to telehealth, especially audio only visits.

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A79

A Virtual Intervention for Isolation and Loneliness of Older Adults

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Description

social isolation and loneliness before and during the pandemic contribute to many physical and mental health problems. isolation and loneliness increase the risk of early death by 26 percent, and has been equated to smoking 15 cigarettes a day. To address this problem an intergenerational program was created with healthcare focused University students, known as Legacy Builders, connecting with residents in the continuum of care settings. Student training focuses on mindfulness, SMART goal-setting, growth mindset, visualization goal-setting exercises, and legacy questions. The students are prepped with listening skills skill and reminiscence therapy. Through scripted virtual encounters, students create a legacy book for older adults engaged in the program. In addition to information about the older adult's life, the book may describe how the student was impacted during the semester.

Evaluation Methods

The UCLA Loneliness Scale to assess older adult loneliness and MoCA evaluates cognitive status before and after the intervention.

Program Results

Residents in a memory care facility, ages 58 to 86, with multiple levels of dementia participated in the program of Summer 2021. In the UCLA Loneliness Scale, 13 of the 16 residents originally reported that they feel lonely or isolated prior to starting the program. After 5 weeks we had 7 out of the 16 residents report that they felt less lonely and less isolated after participating in the group.

The MoCA results displayed that the group that participated in the program had: an overall score of 11.66% improvement on scores in executive functioning, memory, attention, abstract thinking, and naming, while the residents in the placebo group had an overall decrease in score of 0.45% over 5 weeks.

Conclusion

Program impact was greater than anticipated. Although a small sample size, both scales of loneliness and cognition improved. Intergenerational attitudes also improved as We noted positive changes of older adult perceptions of younger students and likewise from younger students towards older adults. Furthermore, we've noted students' newly desired interest in geriatrics. Currently we are exploring how photographs integrated into reminiscence therapy to enhance older adult focus, recall more details, articulate better, and take part in deeper conversations versus encounters without photos.

A80 Encore Presentation

A Multidisciplinary approach to Improving Incidence Rates of UTI at a Post Acute and Long Term Care Setting

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Aim: Using a multidisciplinary approach, the aim is to decrease the incidence rate of urinary tract infections and decrease the use of antibiotics to treat asymptomatic bacteriuria.

Background:

Among patients ages 65 and older, urinary tract infection (UTI) is the most common diagnosis for antibiotic use in nursing homes. Asymptomatic bacteriuria (ASB) comprises of a large portion of suspected UTI. Clinicians find it difficult to distinguish UTI from ASB, especially in the elderly who are likely to have chronic lower urinary tract symptoms, neurocognitive impairments, atypical and nonspecific symptoms.

Methods:

Long Island State Veterans Home is a non-profit 350 bed skilled nursing facility for honorably discharged veterans. Baseline data of the incidence rates of UTI and ASB treated with antibiotics were collected monthly from April 2021-June 2021. During July 2021, we began interventions across multiple levels of care including nursing education, infection control, nursing, nurse aide, and medical provider. We implemented nursing education competencies on aseptic foley insertion and perineal care. We implemented a meeting to review the appropriate use of foley catheters and voiding trials. We implemented the "Active Monitoring for Urinary Symptoms" form adapted from the "Improving Outcomes of UTI (IOU) Study" toolkit. We presented a lecture on UTI at the Geriatric Interdisciplinary Rounds. We created a physician UTI EMR note template. We created an antibiotic order form given to providers to review the clinical reasoning for antibiotics in cases that did not meet criteria for UTI. Post intervention incidence rates of UTI and treated ASB were obtained from August 2021-October 2021.

Results:

The average monthly incidence rate of UTI from April-June 2021 was 1.45/1000 resident days compared to 0.95/1000 resident days from Aug-Oct 2021. The average monthly incidence rate of treated ASB from April-June 2021 was 0.61/1000 resident days compared to 0.28/1000 resident days from Aug-Oct 2021.

Conclusion:

The geriatric population in a skilled nursing facility strongly benefits from multidisciplinary interventions. We found that close monitoring of symptoms, education on skilled nursing activities, and reinforcement on the proper diagnosis of UTI improve infection rates and appropriate use of antibiotics.

A81

Designing Workflow Surrounding Use of Patient-Reported Outcomes to Manage Cognitive Impairment Function in a Primary Care Setting

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Background:

The Centers for Medicare and Medicaid have promoted the use of electronic patient-reported outcome measures (ePROMs) to improve health outcomes. Our hospital uses the EPIC EHR and is aiming to take advantage of available ePROMs to improve cognitive function. Best practices have been establish however, guidelines have also shown that ePROMs are often unfamiliar to providers and as a result, they are unclear about how to respond to abnormal results, making integration difficult. The goal of this poster is to discuss a process by which abnormal raw scores from a specific ePROM will trigger an appropriate order set to help guide clinical decision-making.

Methods:

Patients who are at least 80 years of age with an appointment at one of five chosen primary care clinics in our health system will be sent the Cognitive Function Short Form 4a ePROM through the patient portal prior to their appointment. For patients who do not complete the ePROM, front desk staff will assist them to do so in the clinic waiting area using EPIC's Welcome functionality. The provider can then review these results during the visit encounter. In addition, completed ePROMs with raw scores below a threshold less than one standard deviation will open an order set for the providers.

Results:

Potential workflow issues were explored. The cognitive function order set was developed and adapted with best practices at our institution. Orders were chosen based on potential benefit for improving management. They include further cognitive testing recommendations, depression screening, decision making capacity assessment, lab orders, imaging orders, referrals, and diagnosis codes.

Conclusion:

Electronic patient-reported outcome measures have demonstrated benefit in primary care clinics. However, the integration of ePROMs comes with many known challenges, including workflow and human factors, namely a variability in readiness of stakeholders to adopt these measures into practice. Building decision support tools into the EHR can provide needed guidance to manage abnormal results. Without appropriate design, deployment will be difficult. Having a dedicated order set after exploration of workflow will aid the provider in clinical management by suggesting further screenings, orders, diagnosis codes, and referrals.

A82

Use of a resource referral intervention by caregivers of community-dwelling people with dementia

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Background: Informal caregivers of people with dementia have high rates of unmet needs. CommunityRx-Caregiver (CRx-C), an evidence-based intervention that systematically addresses caregivers' resource needs, includes: 1) normalization of common needs, 2) personalized referral for nearby community resources ("HealtheRx"), 3) an online resource finder (FindRx), 4) coaching on resource activation and 5) text messages offering resource support. Using preliminary data from caregivers enrolled in a RCT of CRx-C (12/2020-11/2021), we examined caregivers' baseline self-efficacy for finding community resources and, among those in the intervention arm, engagement with the intervention.

Methods: Self-efficacy for finding resources was measured using a single 5-point Likert scale item (completely to not at all confident). Engagement with the intervention included replying to a study text message or using FindRx. Differences by dementia severity and self-efficacy were tested using chi-squared or Fisher's exact tests.

Results: More than half of caregivers (53%, N=216) were less than completely confident in their ability to find resources; 48% of those caring for people with mild dementia and 57% of those caring for people with moderate or severe dementia were less than completely confident (p=0.44). Overall, 82% of caregivers enrolled in the intervention arm (n=89) engaged with the intervention at least once (mean study enrollment = 175 days, range 6-348 days). Engagement was not associated with caregivers' baseline self-efficacy for finding resources (p=0.80), but was higher among caregivers of people with mild dementia (93%) compared to caregivers of people with moderate or severe dementia (72%, p=0.01).

Conclusions: Most caregivers engaged with this multi-modal community resource intervention, but higher engagement among caregivers of persons with mild dementia may indicate an opportunity for supporting caregivers early in the course of dementia caregiving.

A83

A Cluster Randomized Crossover Trial to Reduce Inappropriate Dosing of High-Risk Drugs in Hospitalized Elderly Patients: Methodological Considerations

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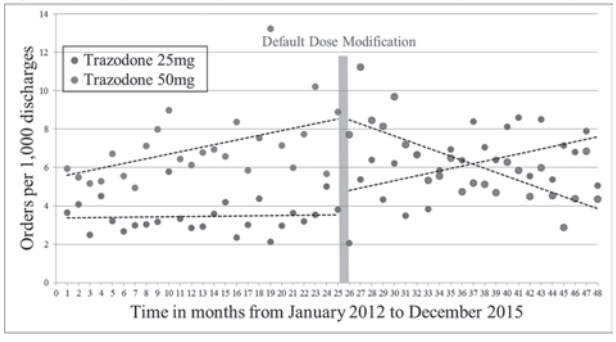
Background: We outline methodological considerations in designing a trial randomizing a non-intrusive "nudge" intervention, which involves modifying the default dose for high-risk drugs when prescribed electronically to hospitalized patients aged ≥65 years.

Methods: This cluster randomized crossover trial (CRXO) involves 10 sites in an urban health system: 5 clinics will start the trial under the intervention and other 5 clinics under control during first time period (T1) after which they switch intervention/control status (T2). The primary outcome is prescription rate of a lower default dose for 10 high-risk drugs. Other inputs for trial design are: baseline rate of prescriptions meeting the geriatric standard (sources:local data, *Geriatrics At Your Fingertips*), within-period intraclass correlation coefficient (ICC, correlation between two randomly chosen observations in the same cluster), cluster autocorrelation (ratio of between-period ICC to within-period ICC), and coefficient of variation of cluster sizes (required when unequal sample size per cluster is expected).

Results: We aimed for ≥80% power to detect a ≥50% increase in prescriptions meeting the geriatric standard; this is based on previous studies and our own preliminary data on Trazodone (**Figure 1**). Power analysis using all inputs described above indicated a minimum of 4 weeks needed for each study period. We oversampled by determining 3 months for each study period to allow for subgroup analyses in terms of individual high-risk drugs, timing of prescribing and patient characteristics such as age and sex.

Conclusion: This study will inform the effectiveness of EHR-based "nudge" interventions to reduce inappropriate prescribing of high-risk drugs for elderly patients.

Figure 1. Impact of (non-randomized) default dose modification of Trazodone (Jan 2012- Dec 2015)



A84

A Pilot to Implement Chronic CareManagement Services at an Academic Medical Center

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Objectives:

A significant number of Medicare beneficiaries suffer from multiple chronic conditions. Providing chronic care management (CCM) to this high-risk group can potentially reduce health care utilization and increase patient satisfaction. In 2015, Medicare began

paying the non-face- to face components of these services. Our aim is to describe and evaluate a pilot study to implement the chronic care management services within our home based primary care program. We aimed to establish the program and identify processes, and verify reimbursement for these services.

Design

Pilot study and retrospective review of patients participating in the CCM pilot

Setting

Interdisciplinary non-face-to face delivery of chronic care management services at an academic center accountable care organization

Participants

Older adults 65 and over with two or more chronic conditions expected to last at least 12 months or until the death of the patient from July 15th, 2019 to June 30, 2020. The chronic conditions had to place them at significant risk of death, acute exacerbation/decompensation, or functional decline. We excluded patients without access to online patient porta.

Results

We enrolled twenty-three patients in the CCM pilot by June 30, 2020. All patients had traditional MCR. Four were dual eligible. The average age of the patients was 82 years, with 72% female. Majority of the patients were white (67%). One thousand sixty six dollars ($1066) was collected from MCR for CCM services during this pilot. The co-pay for traditional MCR was $8.47. Insurance reimbursement amount ranged from $33.21 to $41.68. The most common chronic disease diagnoses for CCM enrollment were hypertension, congestive heart failure, and chronic kidney disease, dementia with behavior and psychological disturbance and type 2 diabetes mellitus.

Conclusion:

CCM services can increase coordination of care, improve patient satisfaction, offer an additional revenue source for providers [1], and promote patient health outcomes.

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A85

DePrescribing in Chronic Kidney Disease (CKD): Does Choice Between Modification of Diet in Renal Disease (MDRD) and Cockroft-Gault (CG) Formulae Matter for Dosing? (Off-shoot of a PI project)

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Background

With aging, there is a gradual decline in kidney function due to arteriosclerosis and loss of nephrons. Decline is hastened by co-morbidities such as diabetes, hypertension. The goal here was to compare the values for estimated glomerular filtration rate (eGFR) using MDRD and CG formulae to determine the stage of CKD for each individual. The project is an off-shoot from the data of a performance improvement (PI) project in our geriatrics fellowship program meant to deprescribe medications in CKD based on eGFR. The choice of equation was relevant.

Methods

Sample study population was derived from CKD geriatric patients (Stage 2 to 5, aged >60 years) in hospital(H), nursing home(NH) and outpatient clinic(C) in the Bronx, from September –November 2021. Data was collected by fellows using a specially designed tool under supervision of Geriatrician faculty attendings and entered into an excel file.

Results

Total 156 participants studied; 102(65%) female; 69(44%) were Black race, 49(32%) White, 25 (16%) Hispanics and 13(8%) others; 90(57%) from NH, 54(34%) from C and 12(8%) from H.

Conclusions

Our analysis reveals

1. CG formula overestimates staging of CKD (lower kidney function) as age progresses beyond age 70years, as compared to MDRD. The difference progresses as age progresses

2. The consequences of choice of formula for determining eGFR matter, as dosage will be lower with CG over MDRD in individuals >70 years with CKD. The difference may relate to the fact that CG formula considers actual body weight

3. The implication is that for a given individual or in a study, the same formula should be used across settings and over time to avoid discrepancies in dosing (We used MDRD)

Age Group	Female	Body weight (kgs) avg.	S. Creatinine, in mgs%, avg.	MDRD, avg	CG, avg
61>70	13	79.77	1.46	58.52	64.28
71>80	26	70.40	1.70	56.57	47.61
81>90	38	69.00	1.60	55.10	42.41
91>100	24	62.95	1.26	49.43	31.64
>101	1	57.20	1.08	42.00	24.38

A86

Supportive C-TraC: Transitional Care for Serious Illness

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Background: Transitions of care are high-risk for older adults with complex illnesses. The Coordinated Transitional Care Program (C-TraC) is one program that has demonstrated potential to reduce this risk. C-TraC was designed to address immediate post-hospital needs, but cannot halt the inevitable progression of serious illnesses. As patients approach end of life, they require more focus on care planning and quality of life. Using a structure already described and piloted by a sister site, we replicated a modified version of C-TraC at our Midwestern academic Veterans Hospital intended to improve care transitions and provide additional support for veterans with serious illness.

Methods: Over 12 months, C-TraC was adapted to create a supportive care transitions program for patients with serious illness. Patients were enrolled based on identified unmet supportive care needs. Patients were contacted prior to inpatient discharge and were followed via telephone on a weekly, biweekly, or monthly basis, as needed, until death or hospice enrollment. Our protocol integrated introductions to palliative care and hospice, and functional, symptom, and caregiver burden evaluations into the post-discharge transitional care structure of C-TraC.

Results: 43 paticipants were admitted and discharged in the 12 months evaluated. The average participant had 2.5 inpatient visits, 8.6 telephone calls, and 6 hours of total contact time with the team RN. 80% of patients received all elements of transitional care. 95% of patients had at least one discussion regarding their goals and values, averaging 4 discussions per patient. 72% of patients discussed hospice services, with an average of 1.6 discussions per patient. 86% of decedents were enrolled in hospice at time of death, and all but two decedents died outside an acute hospital setting. 88% of patients had documented of life sustaining treatment (LST) preferences, of which 42% updated documentation after enrollment.

Conclusions: Supportive C-TraC, a model for delivering telephonic transitional care for patients with serious illness, was successfully replicated at our facility over the course of 12 months. Patients were engaged in multiple serious illness conversations over the course of the enrollment and had a high rate of LST documentation and hospice enrollment at time of death.

A87

Urinary Tract Infection Prevention Practices Reported by Michigan Nursing Homes from 2018-2021

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Background: Urinary tract infections (UTI), including catheter associated (CAUTI) remain the most commonly over-diagnosed infection leading to inappropriate hospital visits and antibiotic overtreatment. We surveyed nursing homes (NHs) in an AHRQ-funded study on UTI/CAUTI prevention strategies.

Methods: Between 2018-2021, 78 NHs participated in a 12-month program to reduce healthcare-associated infections. A 36-question survey on infection prevention and control (IPC) characteristics was sent prior to the start of each cohort. Surveys were completed by infection preventionists (IPs), nursing directors, or NH administrators.

Results: 74 NHs (95%) completed the survey. UTI/CAUTI prevention strategies included hydration practices (75%); nurse-initiated indwelling urinary catheter removal (56%) and others (Table 1). Despite no evidence of efficacy, 60% used cranberry juice/tablets to prevent UTI/CAUTI. Awareness of NH UTI rates was high; hand hygiene (HH) and gown/glove use rates were not. UTI data were shared with NH leaders (99%), less with nursing staff (66%) and residents/families (19%). A multivariable analysis adjusted for NH bed-size and IP characteristics noted associations between IP hours worked and knowledge of HH rates, (OR 2.82; 95% CI 1.24, 6.38) and gown/glove rates, (OR 2.14; 95% CI 1.00, 4.62).

Conclusion: NHs have implemented key UTI prevention strategies. Next steps should prioritize overarching practices - HH, enhanced barrier precautions – and investing in IPC programs, evaluating their impact to reduce infections and antibiotic resistance.

Table 1. UTI/CAUTI: Prevention strategies, outcomes, measures, & policies

	N=74; N (%)
UTI/CAUTI Prevention Strategies	
Hydration practices	54/72 (75.0%)
Nurse-initiated indwelling urinary catheter (IUC) discontinuation	40/72 (55.6%)
Cranberry juice/tablet	43/72 (59.7%)
Electronic alerts/reminders of IUC need	18/72 (25.0%)
Multidisciplinary rounds examining indwelling devices	17/72 (23.6%)
No prevention strategy	3/72 (4.2%)
Knowledge of facility UTI/CAUTI rates	
UTI Rates	66/73 (90.4%)
CAUTI Rates	62/72 (86.1%)
Process measures in facility	
Aware of hand hygiene rates	33/72 (45.8%)
Aware of glove/gown use rates	28/72 (38.9%)
Share infection data with:	
NH leadership	72/73 (98.6%)
Bedside nursing staff	48/73 (65.8%)
Residents and families	14/73 (19.2%)
UTI/CAUTI Prevention Policies	**N= 68;** N (%)
Urinary catheter insertion	67/68 (98.5%)
Urinary catheter maintenance	66/68 (97.1%)
Prevention of catheter-associated urinary tract infection (CAUTI)	57/68 (83.8%)
Indication for urinary catheter use	64/68 (94.1%)
Perineal care	67/68 (98.5%)
Fluid monitoring	60/68 (88.2%)

A88

Tracking the Tracker: Utilization of a Long-Term Care Visit Tracking Tool

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Background: Center for Medicare and Medicaid Services (CMS) guidelines mandate long-term care (LTC) residents be seen by a provider bimonthly.[1] To optimize compliance and best utilize resources, we implemented a new visit tracking system. This quality improvement (QI) project assessed provider response to the tracker and effect on compliance with CMS practice guidelines.

Methods: This QI project is in a 145-bed LTC facility staffed by 5 attending physicians, 1 nurse practitioner, and 2 geriatric medicine fellows. Our tracking system utilizes an Excel sheet populated with a formula based on CMS visit schedule mandate and stored on a HIPAA-compliant shared drive. We created a free-response survey and distributed it to 7 current and previous faculty. Completed surveys were analyzed to identify themes and improvement opportunities. EMR chart audits assessed accuracy of tracker at one point in time using 5 sample patients and compared two 6-month periods pre- and post-intervention.

Results: 7 of 7 providers recruited completed the survey. 5 of 7 providers noted improvement in strategic planning & triaging work flow with tracker use. All providers perceived positive influence on compliance with CMS guidelines. A noted opportunity is the tracker as a practice-based learning and improvement educational tool for fellows. Main challenges were consistent utilization among providers and maintenance. Comparing tracker to note audit for 5 patients at one point in time Nov 2021 showed all visit dates in agreement. At that time, 2 of 5 patients sampled were overdue for visits. Chart review of these patients from June - Nov 2021 found 1 other overdue visit. In the 2019 period, 3 of 5 patients were seen at least monthly and most more often, max of 8 times. Only 1 patient was seen more often in 2021 compared to 2019. LTC population studied is 67% female, 40% Black, and majority with disabilities.

Conclusion: Surveyed providers perceived increased LTC compliance and more strategic workflow using tracker. In a small sample, tracker use did not consistently result in on-time visits and actually decreased frequency of visits. Next steps in project include larger quantitative analysis and revisions to tracker use based on provider feedback.

Citations

Center for Medicare and Medicaid Services. CMS Medicare Claims Processing Manual (Pub. 100-04) https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Downloads/clm104c12.pdf

A89

Aspirin and Statin use for primary prevention in the nursing home: a risk/benefit analysis

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Background:

Current guidelines recommend aspirin and statin use for primary prevention of cardiovascular disease in adults. However, there is limited data to guide use of these medications in nursing home patients with limited life expectancy. The objective of our study was to assess risk versus benefit of continuing aspirin and statin for primary prevention in the nursing home population.

Method:

This was a retrospective analysis of patients > 65 years on an aspirin or statin admitted to a single nursing facility for long-term care from January 2018-January 2020. Data points included age, gender and comorbidities using ICD-10 codes for DM, HTN, CKD and dementia. Use of medications for primary or secondary prevention was recorded. History of falls, GI bleeds and myalgias was also recorded. Frailty was assessed using Life Tables. Descriptive analysis was used to calculate data points.

Results:

The study included 65 patients. 44% were males and 56% were females from which 29% (65-70 years), 41% (71-80 years), 26% (81-90 years), 10% (>90 years). 78% patients had HTN, 53% had DM and 29% had CKD.

29% of patients were on aspirin and 41% were on statins for primary prevention. 100% of the patients on a statin for primary prevention were on moderate or high intensity statin. 90% of patients with myalgias were on a statin for primary prevention. 25% patients with a diagnosis of GI bleeding were on aspirin for primary prevention. Life-tables hypothesized patients to be in the lowest 25th percentile based on degree of impairment and comorbidities. This was <10 years across all age groups. For primary prevention: 53% patients on aspirin had a history of dementia and 71% had falls while 51% on statins had dementia.

Conclusion:

While ACC/AHA provide strong evidence for aspirin and statin use in community dwelling adults for primary prevention, little data exists for continuing their use in the nursing home where the average life expectancy is 2.2 years. Our study showed aspirin and statin use in some patients despite a diagnosis of myalgias and remotely GI bleeding. Additionally, some had a diagnosis of dementia which is considered a life-limiting illness.

In the absence of strong evidence-based data, there will continue to remain significant practice variation in management strategies for these patients and the benefit versus risk of continuing therapy with these medications for primary prevention should be reassessed.

A90

Outcomes of 4Ms Assessments during Early Phase of Adoption at an Urban Safety Net Primary Care Geriatrics Clinic

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Background: We recently implemented the Age-Friendly Health System's 4Ms (What Matters, Medication, Mentation, and Mobility) framework in New York City Health + Hospitals/Bellevue Hospital Center's Geriatrics clinic to improve care of older adults.

Methods: We examined the impact of 4Ms assessment on patient care and changes in care processes through specific interventions triggered after assessment. We conducted chart reviews of patient visits during March 2021, the first month of 4Ms implementation and identified interventions made during these visits. To assess "What Matters" providers asked "What Matters the most to you;" potentially inappropriate Medications (PIM) were identified using the Beers list; Mentation was evaluated using the Mini-Cog; and Mobility was determined using timed up and go (TUG) test. We used descriptive statistics to characterize findings.

Results: Among the 121 patients who had 4Ms assessment in March 2021, 85% (n=103) were asked "What Matters;" providers reviewed Medications for almost all (n=118; 98%) and conducted a Mini-Cog for 64% (n=78). Most not cognitively assessed were either previously screened (n=11; 9%) or had dementia (n=12; 10%). Providers used the TUG test for 87% (n=105). What Mattered to patients most commonly was "getting better" (n=24; 23%). There were 39 (33%) patients with potentially inappropriate Medications (including proton pump inhibitors, gabapentinoids, and NSAIDS) of which 10 (26%) Medications were either discontinued or reduced. Other interventions included further cognitive evaluation (n=2) and home care referrals (n=2) among 14 (18%) with an abnormal Mini-Cog. Among the 51 (42%) patients with an abnormal TUG, providers intervened for 19 (37%) with devices, referrals or home services.

Conclusion: The adoption of 4Ms assessment during routine visits identified issues with Medications, Mentation and Mobility, triggering several interventions for common geriatric conditions. 4Ms assessment is a helpful strategy to organize geriatric care, routinely assess patients for common geriatric syndromes, and improve care. Future directions include prioritizing interventions integrated with "What Matters" to maintain patient-centered care.

A91

What Matters: Eliciting Overarching Goals from Older Adults Admitted to an Inpatient Service

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Background: In older adults, elicitation of robust overarching goals (OG), consistent with geriatric principles/5Ms focus, may improve the operationalization of matching treatment with patient-centered outcomes – the what matters most.

Methods: As part of a quality improvement project, we interviewed consecutive patients and/or caregivers who received consultative geriatric (acute care of the elderly) services during their admission to a tertiary university hospital. The interviewer provided examples of OGs and asked "Would you be able to tell me What Matters Most to You?" Further elaboration was asked to clarify OGs with respect to mobility, mind, and medications. OG responses were rated as robust if qualitatively thought to be specific, measurable, achievable, relevant and Time-limited. Cueing was documented to be present if prompts were needed. We gathered clinical variables to characterize the cohort.

Results: Among 11 admitted patients (mean age: 80.2 ± 9.9 years, 55% women, 73% white, 36% with limited English proficiency), 82% accepted the interview. There were equal proportions (36%) of interviews with patients and caregivers; 1 interview was with both. The primary admitting diagnosis was a fall in 45% of participants. The majority (73%) did not have advance care planning (73%) or physician ordered life-sustaining therapy form filled (55%) with 73% documented to be a full code. A general theme of OGs elicited were about spending time with family and quality of life. However, only 27% of OGs elicited could be considered robust. The majority (89%) needed cueing to improve OG specificity. Qualitatively, more robust answers were obtained in regards to mobility than cognitive function and medication/polypharmacy. Obtaining an OG for medications was the most difficult and non-robust.

Conclusions: We found that initiation of discussions of OGs during routine clinical care is possible. However, OG elicitation was often non-robust and needed cueing. Future iterations of OG elicitation will focus on being specific, measurable, achievable, relevant and time-limited. This may help to translate the what matters most into operational goals that can be acted on by the healthcare team.

A92

Advance Care Planning in an Urban Safety Net Geriatrics Clinic

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Background: Primary care physicians are well situated to hold advance care planning (ACP) discussions given their longstanding relationships with patients. Nonetheless, ACP discussions in primary care remain stubbornly low. Whether a geriatric focus increases the frequency of ACP discussions is unknown.

Methods: We measured the frequency of ACP discussions in an urban safety net geriatrics clinic and examined physicians' attitudes towards ACP discussions. We conducted a 6-month (5/1/2021-10/31/2021) retrospective analysis of patients in our geriatrics clinic, administratively querying for the presence of an ACP discussion (within patient problem lists), the focus of that discussion, as well as demographic data and acute care utilization episodes. Using a 5-point Likert scale (1= least important, 5= most important), we asked geriatric providers and fellows about the importance of ACP discussions.

Results: Few patients (14/1495, 0.9%) had ACP in their problem list. For those having an ACP discussion, the mean age was 78 years, 8 (57%) were female, and 3 (21%) were married. 6 (43%) had an ED visit and 5 (36%) had an inpatient admission during the 6-month study

period. Based on chart review of patients with ACP in their problem list, appointing a health care proxy was discussed most frequently. End of life wishes, personal values, and preferences for receiving information were rarely discussed. Eleven clinicians (92%) provided survey responses. These are summarized in the table.

Conclusion: In an urban safety net geriatrics clinic, only a small percentage of patients have ACP discussions documented in their problem list. Despite acknowledged importance of discussing a patient's values and quality of life as part of an ACP discussion, this was rarely done. Our methods may have under detected ACP completion recorded elsewhere in the chart. Our findings, however, indicate that the ability to easily access an existing ACP record is important to providers. Providers should document ACP in problem lists for information access during a later encounter.

Indicators	Mean	% Likert = 4 or 5
Importance of conducting ACP discussions not addressed over past 6 months	3.36	45%
Importance of discussing patient values and quality of life	4.64	100%
Importance of easily accessing existing ACP record	4.27	82%
Effect dementia diagnosis has on devoting clinic visit time to ACP	4.00	82%

A93

Understanding Factors Driving COVID-19 Vaccination in Older Adults in a Culturally Diverse Patient Population

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Background: In NYC, the COVID-19 vaccination rates remain lowest among the oldest old and those who are Black despite efforts to encourage vaccination. To identify strategies to improve vaccination rates, we sought to understand health and psychosocial factors driving older adults' decision to receive this vaccination.

Methods: In a NYC Geriatric safety net clinic, we used electronic health records to identify patients 65 and older fully vaccinated against COVID-19 from 1/1/2021 to 9/30/2021. We made telephone calls to the first 105 patients having an odd-numbered Medical Record. We administered telephone surveys in patients' preferred languages, asking "what made you get vaccinated," vaccination status and number of household adults, trusted person for vaccine information, depression, social isolation, quality of life, and chronic pain. Chart reviews provided age, gender, religion, ethnicity/race, flu and pneumococcal vaccines, and number of PCP visits in 2021.

Results: Of 105 patients called, we reached and completed interviews for 40. Mean age was 79 years (standard deviation (SD): 5.9 range: 68-95). 65% were women, 50% Hispanic (Table). Reason for vaccination was most commonly to be protected; 40% identified their children as the most trusted person and for 32.5%, their PCP. Only 12.5% had not received flu or pneumococcal vaccines while only 10% had not seen their PCP during the past 9 months.

Conclusion: Most vaccinated older adults understood the importance of vaccination, trusted their PCP and their children's recommendations, lived in a vaccinated household, and were unlikely to feel socially isolated or have a poor quality of life. Although this sample size is small, these findings will influence how we best address COVID vaccine hesitancy, especially in underrepresented groups.

Respondents (n=40)	
Race/ethnicity n (%)	Black: 5 (12.5) Caucasian: 5 (12.5) Asian: 5 (12.5) Hispanic 20 (50) Missing: 5 (12.5)
Reason for COVID-19 vaccination n (%)	To be protected:16 (40) Physician advice: 14 (35) Right thing to do: 5 (12.5) Family advice: 3 (7.5) Scientific reason: 1 (2.5) Wife died from COVID: 1 (2.5)
Trusted person n (%)	Spouse: 7 (2.5) Child: 16 (40) Friend: 4 (10) PCP: 13 (32.5)
Household adults: 1/>1 n (%)	16 (40) / 24 (60)
Vaccinated household n (%)	Fully: 36 (90) Partially: 4 (10)
Depression n (%)	4 (10)
Social isolation n (%)	6 (15)
Chronic pain n (%)	27 (67.5)
Quality of life n (%)	Excellent: 7 (17.5) Good: 12 (30) Fair: 19 (47.5) Poor: 1 (2.5) Refused: 1 (2.5)
N (%) Flu and pneumococcal vaccines	Flu: 20 (50) Pneumococcal: 32 (80) Neither: 5 (12.5)
Number of PCP visits (n)	None (4) 1 (3) >1 (33)

A94

Withdrawn

A95

A novel Pressure Injury Care Bundle for dependent patients with pressure injuries in Bermuda

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Background

Pressure injury (PI) management is a challenge in dependent patients in acute care wards (ACW) despite standard care (regular pressure relief measures, incontinence management, debridement, optimisation of hydration and nutrition). A Pressure Injury Care Bundle (PICB), introduced by the Department of Geriatrics, enhanced standard care by diligent and regular interdisciplinary team monitoring of patients with PIs following transfer to Long Term Care (LTC) wards and thus may improve outcomes.

Methods

The PICB was delivered by multiple PI Nurse Champions with education of all nurse assistants and medical staff into PI aetiology/management. Progress was monitored with weekly PI measurements/photography and Nurse Champion-lead team review of all PIs. Data are presented as mean+/-1SD.

After 96+/-103 days in the ACW, the PICB was applied to 30 consecutive patients aged 80+/-14 years, (19(60 %) were female). All had stage 2-4 PIs (present in 25(83%) on admission to ACW). On transfer to LTC wards, all patients had severe physical dependency with a mean Charlson Comorbidity Index of 7+/-3, 27(90%) had palliative needs and 24(80%) were bedfast. Cognitive impairment was present in 22(68%) patients with 12(37%) dying due to advanced dementia. Patients were followed for 116+/-274 days.

Results

PI improvement by >2 stages occurred in 11(36%) patients after a mean of 103 days. Ulcers closed fully after 154+/-48 days in a further 15(50 %) patients. However, new ulcers emerged or preterminal (<21 days prior to death) deterioration occurred in 5(17%) patients, related to severe contractures, preterminal poor nutrition and sarcopenia with 16(54%) patients dying.

Conclusion

These results suggest that an intensive multimodal intervention involving best practice enhanced by PI Nurse Champions and delivered by educated staff with regular PI team progress reviews results in

significant improvement/healing of PIs in severely dependent patients with palliative needs. Expansion of the PICB to other wards with prospective evaluation has been planned.

A96

Use of home blood pressure monitoring to identify opportunities for deprescribing antihypertensive drugs in older people

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Background: A simple office blood pressure measurement can lead to overtreatment with antihypertensive drugs due to the white coat effect. Home blood pressure monitoring (HBPM) is a safe and simple method to identify cases and enable dose or medication reduction and avoid unnecessary risks, especially in older patients. The aim of this study is to describe the use of HBPM to identify older patients who are candidates for possible deprescription of antihypertensive drugs.

Methods: The study was carried out in a Brazilian pharmacy. Older patients who used antihypertensive drugs and were accompanied by clinical pharmacists were invited to participate in the study. Each patient received a digital blood pressure measuring device and was instructed to take blood pressure measurements twice a day for seven days, according to the study protocol. The device recorded the measurements, and a software was used to calculate the mean blood pressure as well as to record each measurement, taken in the morning and at night. Brazilian guidelines were used to consider Blood pressure (BP) values as normal. We evaluated the difference in mean blood pressure in the office and at home. White coat hypertension was considered in cases where the office measurements were higher than at home and these patients were considered candidates for deprescribing. The drugs used by each older patient were also analyzed to identify potential adverse effects in addition to hypotension.

Results: 135 patients completed the protocol; mean age was 68.7(+/-6.4) years, 67.4% were brown, and 67% female. The mean difference in BP between office and home measurements was 10.3mmHg (+/- 2.1). In 17% of cases, BP at home was normal and these patients were classified as candidates for deprescribing. The most frequent drugs identified in overtreatment were: beta-blockers (atenolol) 39%, loop diuretic (furosemide) 22%, and potassium-sparing diuretic (spironolactone) 13%. These medications can cause potentially serious adverse effects such as hypokalemia and dehydration.

Conclusions: The data show that the difference in mean blood pressure measured in the office and at home was significant. Home blood pressure monitoring proved to be a good alternative to identify elderly patients undergoing possible overtreatment and to avoid other possible adverse effects in addition to hypotension.

A97

A Quality Improvement Project to Address lower urinary tract symptoms by pharmacists in the community: Study Design and Initiation

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Background: Lower urinary tract symptoms (LUTS) are common in older adults, yet often unrecognized. Seniors do not bring this concern forward and healthcare professionals often fail to inquire and assess LUTS. Because seniors visit their community pharmacy 4-8x more frequently than a physician's office it is rational that the pharmacist could be involved in care for LUTS. In Alberta, Canada, pharmacists also have a broad scope of practice. The purpose of this project was to conduct a randomized controlled trial (RCT) in community pharmacies to determine the impact of pharmacist identification and initial management of LUTS in older adults.

Methods: The RCT was designed for community pharmacies to have pharmacists ask 3 screening questions of individuals age 60years and older coming to the pharmacy. Patients who express interest will be consented and will complete an initial online questionnaire including demographics, description of LUTS, and score 3 validated stools, the PPBC, B-SAQ, and ICI-Q-SF. For patients randomized to the intervention group the pharmacist will review the questionnaire, patient provincial electronic medical record (including consultations, labwork, medications), and consult with the patient. For patients in the intervention group the pharmacist will provide a brochure on healthy aging. The intervention patients will be followed up at 4 weeks, and all patients will complete the final questionnaire including the 3 validated measures, at 8 weeks.

Results: The protocol has been registered, and approved by the research ethics board. The study was launched after pharmacist training in April 2021, adapted for online delivery during COVID. A total of 7 pharmacies agreed to participate. Recruitment is ongoing, with some pharmacies unable to recruit during COVID pandemic. Feedback from the pharmacists regarding the initiation of the study has identified administration during COVID as too burdensome, LUTS as too time-consuming, and not feeling confident to address LUTS in a busy environment.

Discussion: It is possible to design a research project with adequate pharmacy sites to study impact on LUTS, but COVID and pharmacy resources are an impediment to patient recruitment. Further study regarding pharmacies as locations for management of geriatric syndromes is needed.

A98

Characteristics of Older Home Care Patients with Chronic Heart Failure

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Background: The characteristics of older home care patients with chronic heart failure have not been adequately elucidated yet. We aimed to describe the characteristics of older home care patients with chronic heart failure.

Methods: We prospectively registered 179 older adults (103 males and 76 females), estimated to receive physician home visits for more than six months, in a clinic Chiba, Japan. The mean (±SD) age was 85.1±7.4 years and ranged from 68 to 102 years. We investigated clinical information, the Edmonton Symptom Assessment System Revised Japanese version (ESAS-J), Dementia Assessment Sheet in Community-based Integrated Care System 21 items (DASC-21) and the incidence of patient transportation by ambulance, hospital admission and death after six months of the commencement of physician home visits. We compared the characteristics between all older home care patients (all patients) and those with chronic heart failure (CHF patients).

Results: All subjects of our study were Japanese older adults living in Japan. The most frequent principal diagnosis was dementia (33.8%) and chronic heart failure (12.8%), cerebrovascular diseases (12.3%), bone and articular diseases (12.3%), neurological diseases (9.7%) followed. Thirty- five patients suffered from chronic heart failure. The severity of dyspnea of CHF patients was not different from that of all patients (Mann-Whitney's U test). The proportion of patients showed more than 30 points on the DASC-21, suggesting cognitive impairment was 80.0% in CHF patients and 92.8% of all patients. During the first six months of physician home visits, 31.4% of CHF patients and 19.6% of all patients had hospital transportation by an ambulance, 31.4% of CHF patients and 24.6% of all patients admitted to the hospital, and 25.7% of CHF patients and 18.4% of all patients died.

Conclusions: Most older home care patients with chronic heart failure suffered from cognitive impairment. We should carefully manage CHF patients, because of the higher frequency of hospital admission or death compared to all patients. Hence most of them required intensive medical management in addition to care for daily life.

A99 Encore Presentation
Withdrawn

A100 Encore Presentation
Caregiving Patterns, Burdens, and Benefits Among Caregivers of Persons with and without Dementia

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Background: Dementia caregivers report a higher burden compared to caregivers of persons without dementia; yet, little is known about experiences of benefit among these caregivers. Using the construct of "care types" we examine (1) whether caregivers providing more demanding care experience higher burden and lower benefits compared to those providing less demanding care, and (2) whether this association varies by the recipient's dementia status.

Methods: Data are from the National Study of Caregiving (N=2,146), and the National Health and Aging Trends Study. In a previous analysis, we derived five care types at baseline (2015), that varied in care activities, intensity, and regularity. Participants reported whether caregiving was financially, emotionally, and physically difficult. And whether caregiving increased their confidence, ability to deal with difficult situations, closeness with the recipient, and satisfaction with the recipient's care. We estimated the effect of care types derived at baseline on reports of caregiver burden and benefits at follow-up (2017) using logistic regression. Models were adjusted for sociodemographic and health confounders.

Results: Among dementia caregivers, those in more demanding care types were more likely to report physical burden compared to those in less demanding types. Among non-dementia caregivers, those in more demanding care types were more likely to report physical, emotional, and financial burdens, and to report that caregiving increased their ability to deal with difficult situations and satisfaction with the recipient's care.

Conclusion: Care types can be used to predict burdens and gains experienced by caregivers and to effectively target caregiver support services and interventions to reduce the burden and enhance benefits.

		Caregivers of Persons with Dementia								Caregivers of Persons without Dementia							
		Type 1: High, regular help, all activities		Type 2: Mobility, self-care, household, other		Type 3: Household, other		Type 4: Irregular help, mobility, self-care		Type 1: High, regular help, all activities		Type 2: Mobility, self-care, household, other		Type 3: Household, other		Type 4: Irregular help, mobility, self-care	
		OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Burdens	Financial	1.07	(0.92, 1.25)	1.04	(0.89, 1.20)	0.98	(0.86, 1.13)	0.94	(0.78, 1.14)	1.16	(1.04, 1.29)	1.02	(0.96, 1.09)	1.03	(0.96, 1.11)	1.06	(1.00, 1.13)
	Emotional	1.06	(0.87, 1.30)	1.19	(0.98, 1.45)	1.11	(0.88, 1.40)	1.15	(0.90, 1.46)	1.20	(1.02, 1.42)	1.11	(0.95, 1.28)	1.08	(0.91, 1.28)	1.02	(0.90, 1.15)
	Physical	1.22	(1.05, 1.42)	1.14	(0.98, 1.33)	1.05	(0.89, 1.33)	0.94	(0.80, 1.09)	1.32	(1.19, 1.47)	1.23	(1.12, 1.36)	1.09	(0.98, 1.21)	1.13	(1.04, 1.23)
Benefits	Increased confidence	0.59	(0.13, 2.67)	0.97	(0.22, 4.30)	0.20	(0.06, 0.73)	1.26	(0.14, 11.68)	1.59	(0.69, 3.67)	1.46	(0.67, 3.17)	1.99	(0.83, 4.78)	1.67	(0.93, 2.99)
	Deal better with difficult situations	1.23	(0.48, 3.12)	1.98	(0.73, 5.38)	0.86	(0.36, 2.05)	1.83	(0.72, 4.65)	1.95	(0.98, 3.87)	2.08	(1.13, 3.83)	2.67	(1.32, 5.42)	1.62	(1.02, 2.57)
	Feel closer to recipient	1.07	(0.22, 5.19)	1.27	(0.29, 5.61)	0.88	(0.20, 3.93)	1.67	(0.24, 11.84)	0.80	(0.25, 2.56)	1.00	(0.40, 2.49)	1.77	(0.51, 6.21)	0.62	(0.25, 1.53)
	More satisfied with recipient	1.84	(0.54, 6.29)	1.00	(0.33, 2.97)	2.12	(0.50, 8.91)	1.01	(0.31, 3.30)	4.63	(1.52, 14.16)	1.09	(0.49, 2.42)	2.55	(0.86, 7.55)	1.48	(0.64, 3.38)

Note. Care Type 5 (Low, irregular help, transportation) was the reference type.

A101
Validating intrinsic capacity to measure healthy aging in a low to middle-income country: findings from the ELSI-Brazil

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Background: Intrinsic capacity (IC) has been proposed as a multidimensional indicator of healthy aging. However, evidence of its validity and reliability is relatively limited in ethnically and socially diverse populations, particularly from low-middle income countries (LMIC). We examined the association of IC with a wide range of activities of daily living in a representative population of Brazilian adults aged ≥ 50 years.

Methods: This cross-sectional analysis included 7,175 participants from the Brazilian Longitudinal Study of Aging (ELSI-Brazil). The IC domains (i.e., cognitive, psychological, sensory, locomotor, and vitality) were determined using self-reported measures and physical performance tests. IC was operationalized through factorial analysis. We estimated the associations of IC and its domains with functional ability in basic, instrumental, and advanced activities of daily living (ADL, IADL, and AADL) using logistic regression models adjusted for sociodemographic, medical, and lifestyle variables. We also tested the interaction of sociodemographic factors on the relationship between IC and functional ability.

Results: The IC bi-factorial model revealed satisfactory goodness-of-fit. In adjusted analyses, every standard deviation increment in the IC composite score was associated with almost twice the odds of preserved ADL (odds ratio [OR]=1.72; 95% confidence interval [CI]=1.54-1.93), preserved IADL (OR=1.95; 95%CI=1.77-2.16), and high performance in AADL (OR=1.79; 95%CI=1.59-2.00). Similar results were reported using the five IC domains as predictors. Although age, race/ethnicity, and education did not influence the associations of IC with functional ability, we found significant sex differences, with a stronger relationship of IC with preserved ADL or IADL in women.

Conclusions: The IC construct was associated with preserved functional ability in ADL, IADL, and AADL among older adults living in an LMIC. Our results support the IC validity and reliability to measure healthy aging in diverse socioeconomic settings. This construct might support holistic and more person-centered public health actions in our aging societies.

A102 Encore Presentation
A Real-World Comparison of Mortality, Health Care Resource Utilization, and Cost Among Medicare Beneficiaries With *Clostridioides difficile* Infection (CDI) With and Without Inflammatory Bowel Disease (IBD)

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Background: IBD is a common chronic disorder including Crohn's disease (CD) and ulcerative colitis (UC); these patients frequently get CDI. The burden of CDI on IBD patients age 65+ has not been fully explored. Our study compares health care outcomes in patients with primary CDI (pCDI) and recurrent CDI (rCDI) both with and without IBD.

Methods: This retrospective study utilized 2009–2017 Medicare fee-for-service (FFS) claims to identify patients aged ≥65 with ≥1 CDI episode. Patients were continuously enrolled in Medicare parts A, B, and D for 12 months prior to and up to 12 months after an index CDI episode. CDI was identified as ≥1 inpatient claim with CDI dx, or ≥1 outpatient dx plus ≥1 claim for CDI treatment. CD and UC were identified by ≥1 claim pre-CDI index. Outcomes included mortality, health care resource utilization (HRU), and per-patient-per-month (PPPM) cost.

Results: Of 497,489 individuals with CDI, 7.2% had IBD. CDI patients with IBD were younger, more likely female, less likely dual eligible for Medicaid, and had similar Charlson Comorbidity Index scores versus those without IBD. Mortality was higher among CDI patients without IBD ($P < .0001$), and higher for IBD patients with pCDI versus rCDI ($P < .001$). Post CDI-index, all cohorts had high hospitalization use (86%–99%, $P < .0001$); IBD patients had higher HRU than those without. Adjusted costs for CDI patients with UC who died were significantly higher ($P < .0001$ for pCDI and rCDI) than those without UC. Adjusted costs for CDI patients with CD who died were similar to those without CD but higher in those with CD who survived (pCDI, $P = .0061$; rCDI, $P = .0306$).

Conclusions: Patients with CDI and IBD had lower mortality rates, but higher HRU and costs compared with patients without IBD. Patients with CDI and UC who died had significantly higher monthly costs. Patients with CDI and IBD may be more rapidly identified due to elevated risk, but require more resources to treat, which could explain the lower mortality with higher HRU.

A103

The interrelation of frailty with depressive and anxiety disorders through the lifespan

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Background: Frailty, operationalized by the deficit accumulation model, is a known marker of biological aging. While affective disorders negatively affect longevity, their relationship with frailty is largely unknown. To assess the impact of frailty on the course of depression and anxiety, and vice-versa.

Methods: Lifelines, a prospective population-based cohort study, evaluated 150,187 people living in the North of the Netherlands. Participants were invited by their general practitioner or self-registered (aged ≥18 years). Bidirectional associations between frailty and affective disorders were investigated in younger and older adults separately. Frailty was based on the deficit accumulation model, which resulted in a 60-item frailty index (FI) at baseline and a 39-item FI at baseline and 5-year follow-up. Current depressive and anxiety disorders (DSM-IV criteria) were assessed with a semi-structured diagnostic interview (the MINI).

Results: FI predicted the onset (younger adults, OR=1.12 [1.11 – 1.13], $P<.001$; older adults, OR=1.13 [1.09 – 1.16], $P<.001$) and persistence of a depressive disorder (younger adults, OR=1.06 [1.04 – 1.08], $P<.001$; older adults, OR=1.09 [1.01 – 1.19], $P=.036$). Conversely, any affective disorder was associated with the onset of frailty at 5-year follow-up (younger adults, OR=2.07 [1.84 – 2.32], $P<.001$, and older adults, OR=1.58 [1.25 – 2.00], $P<.001$). Among younger adults, both depressive (OR=1.85 [1.67 – 2.06], $P<.001$) and any anxiety disorder (OR=2.11 [1.88 – 2.38], $P<.001$) were associated with frailty. Including all depressive and anxiety disorders in one model, the presence of a depressive disorder and social phobia lost significance. Among older adults, any anxiety disorder was associated with frailty onset (OR = 1.65 [1.30 – 2.10], $P<.001$), whereas depressive disorder was not.

Conclusions: Anxiety and depressive disorders have a reciprocal relationship with frailty. Since results are more robust in younger people, interventions to slow down biological ageing should focus on younger and middle-aged people. To develop targeted treatment, future clinical and epidemiologic studies should examine underlying pathways of this bidirectional association.

A104

Standard Patient-Reported Measures of Limitation in Physical Function in Late Midlife Predict Late-Onset ADRD: Health and Retirement Study 1998-2016

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Background: We sought to determine if self-reported functional limitation in late midlife predicts Alzheimer's Disease and Related Dementias (ADRD) symptoms 4-18 years later.

Methods: We conducted a **p**rospective longitudinal national study using the Health and Retirement Survey of adults aged 51-59 years in 1998 who had no symptoms of ADRD by 2002 and followed them from 2002 to 2016 to identify ADRD onset. The main exposure variables were difficulty with activities of daily living, mobility, large muscle strength, gross motor and fine motor activities. The outcome was incident ADRD identified by the Lange-Weir algorithm,[1] death, or alive with no ADRD. We fit two GEE multinomial models for each measure: 1) baseline measure of function with outcome and 2) change in function over time.

Results: In the model with baseline only and outcome, only difficulty with mobility predicted future ADRD across levels of difficulty with near dose-response effect (risk ratio (RR) comparing no difficulty (reference) to number of mobility functions having difficulty with from 1 (RR: 1.82 95%CI: 1.22, 2.70) to 5 (RR:4.03 95%CI: 1.50, 10.9). It also predicted ADRD when allowing for change over time among those with severe mobility limitations 3 (RR: 1.76 95%CI: 1.07, 2.89) to 5 (RR:2.37 95%CI: 1.17, 4.79).

Conclusions and Implications: Self-reported measures of mobility limitation may be early indicators of ADRD in late midlife and should be considered for policy and public health planning.

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A105

Relationships between distressed behavior, blood pressure, and antihypertensive treatment in nursing home residents with dementia

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Background: Distressed behaviors in dementia (DBD) are common and may increase blood pressure (BP) by increasing sympathetic nervous system activity. The aim of this study was to examine the associations between DBD, BP, and antihypertensive prescribing in nursing home (NH) residents with dementia.

Methods: We identified long-stay Veterans Affairs (VA) NH residents with dementia in 2019-20 electronic health data. Those with a BP reading and a DBD incident on a single calendar day (DBD group) were matched and compared with those with a BP reading but without a DBD incident on that same day (comparison group). In each group we calculated the difference between BP readings on the DBD incident day and a day without a DBD incident <=1 week prior. We estimated a difference-in-difference model adjusted for baseline prior characteristics. In each group we calculated changes in number of antihypertensive medications 1 week after the DBD incident day.

Results: The DBD and comparison groups consisted of 775 and 2609 individuals, respectively. The DBD group was older (74 vs. 72 y), more likely to have severe cognitive impairment (14% vs. 7%), more likely to receive antipsychotic medication (42% vs. 17%), and

had worse Charlson comorbidity (7.1 vs. 6.5) and physical function (15 vs. 13) scores. The most common DBD incidents were cursing, screaming, complaining, not following directions, restlessness, and hitting. In the DBD group, mean systolic BP was 131.3 mmHg on the DBD incident day. This was 0.93 mmHg higher than on a day without a DBD incident <=1 week prior (p=0.01), a difference that was not observed in the comparison group (diff =-0.12 mmHg; p=0.55). The difference-in-difference effect was attenuated after multivariable adjustment (p=0.09). The diastolic BP effect was similar. There was no significant change in number of antihypertensive medications (mean=1.1) in either group.

Conclusions: NH residents with dementia have higher blood pressure on days that they experience DBD incidents, but the difference is small and not associated with intensification of antihypertensive prescribing.

A106

Replacing Unintentional Weight Loss with CT-Assessed Sarcopenia in Physical Frailty Phenotype in Kidney Transplant Recipients

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BACKGROUND: Kidney transplantation (KT) experts did not support using unintentional weight loss to measure shrinking in the Physical Frailty Phenotype (PFP) due to its subjective nature; a clinically feasible and predictive measure of shrinking is needed. To test whether unintentional weight loss could be replaced by sarcopenia assessed by existing clinically obtained CT scans, we performed a prospective cohort study of adult KT recipients with original PFP (oPFP) measured at KT.

METHODS: We ascertained sarcopenia by calculating skeletal muscle index from existing CT scans within 1-year pre-KT (male<50cm^2/m^2;female<39cm^2/m^2) and combined it with the original 4 components to construct new PFP (nPFP). Frailty was classified by frailty score:0:non-frail;1-2:pre-frail;≥3:frail. Mortality and graft loss hazard ratios (HRs) were estimated using Cox proportional hazard models. Model discrimination was quantified using Harrell's C-statistic.

RESULTS: Among 1113 recipients, 18.6% and 17.1% were frail by oPFP and nPFP, respectively. Compared to non-frail recipients, frail patients by either PFP had higher risks of mortality (oPFP HR=1.67,95%CI:1.07-2.62;nPFP HR=1.68,95%CI:1.06-2.66) and graft loss (oPFP HR=1.67,95%CI:1.17-2.40;nPFP HR=1.66,95%CI:1.15-2.40) with similar model discrimination (p>0.2).

CONCLUSIONS: oPFP and nPFP are equally strong risk predictors for KT recipients. oPFP may aid in identifying patients for pre-KT interventions; nPFP may assist in nuanced clinical decision-making.

Association between frailty at kidney transplantation defined by oPFP or nPFP and post-transplant outcomes (n=1103)

	Original Physical Frailty Phenotype		New Physical Frailty Phenotype	
	cHR (95% CI)	aHR (95% CI)	cHR (95% CI)	aHR (95% CI)
All-cause mortality				
Non-frail	Reference	Reference	Reference	Reference
Pre-frail	1.32 (0.88, 1.98)	1.26 (0.84, 1.90)	1.44 (0.96, 2.17)	1.25 (0.83, 1.88)
Frail	2.11 (1.35, 3.29)	1.67 (1.07, 2.62)	2.40 (1.52, 3.79)	1.68 (1.06, 2.66)
C-statistic	0.562	0.710	0.565	0.710
All-cause graft loss				
Non-frail	Reference	Reference	Reference	Reference
Pre-frail	1.23 (0.89, 1.69)	1.19 (0.86, 1.64)	1.25 (0.91, 1.72)	1.18 (0.86, 1.63)
Frail	1.91 (1.33, 2.73)	1.67 (1.17, 2.40)	1.97 (1.37, 2.83)	1.66 (1.15, 2.40)
C-statistic	0.552	0.631	0.549	0.634

Crude and adjusted hazard ratios (cHRs and aHRs) with 95% confidence intervals (95% CIs) are presented from Cox models; adjustments include age at KT, sex, Black race, donor type and Charlson Comorbidity Index.

A107

Place Still Matters: Area Deprivation Index and healthcare utilization among subsidized housing residents

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Objective

To determine whether neighborhood socioeconomic disadvantage, as determined by the Area Deprivation Index, increases health care utilization in older adults who live in subsidized housing.

Methods

This cross-sectional retrospective study from January 2019 to December 2019, included 3,769 subsidized housing residents living in age-restricted congregate communities across multiple states led by a national nonprofit housing organization. Respondents were asked how many times they went to the emergency room or were hospitalized over the last 12 months (responses were stratified as none and one or more). Housing community addresses were identified and then linked to the Neighborhood Atlas Area Deprivation Index v3.1 (ADI) dataset. Using logistic regression, we examined the odds of self-reported healthcare utilization among respondents living in the top 15th percentile of most disadvantaged neighborhoods compared with the 85th percentile least disadvantaged neighborhoods.

Results

In 2019, respondents average age of was 77 years old, they were mostly white (39%), female (67%), lived alone (75%), and 25% reported excellent or very good health. 11% of these older adults lived in the top 15th percentile of most disadvantaged neighborhoods, 31% reported that they had one or more emergency room visits and 21% reported that they had one or more hospitalizations. Older adults living in the most disadvantaged neighborhoods had a higher odds of emergency room visits (odds ratio 1.59, p<0.0001) and hospitalizations (odds ratio 1.57, p<0.0001) even after accounting for individual-level factors.

Discussion

Area deprivation is an important factor that influences self-reported use of health care services. Understanding the contextual neighborhood environment influence on the health and well-being of older adults living in age-restricted subsidized housing communities can inform population health strategies and housing policy that seek to promote aging in place and community.

A108

Palliative care needs of hospitalized older adult decedents with obesity

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Background: Obesity in older adults is associated with high utilization of acute care, intensive care, and increased mortality. Hospice utilization is variable among older adults with increasing obesity class. Severe obesity (BMI≥40) is associated with higher mortality and is an issue of importance to the ongoing COVID-19 pandemic.

Objective: To describe the palliative and end-of-life care of decedents with obesity who died in a tertiary care academic medical center.

Methods: A retrospective chart review (n=99) compared obese (BMI≥30) and non-obese patients (BMI≥18 and <30) who died as inpatients in 2019. Using descriptive statistics, we assessed the cause of death, symptom control, advance care planning, intensive care unit (ICU) utilization, delivery of palliative care, hospice discussion, and other factors among obese and non-obese decedents. BMI groups of ≥40 and <40 were compared for care location at the time of death and whether hospice was offered using Fisher's exact test.

Results: Mean (SD) age was 75.3 (11.3) years among non-obese decedents (BMI≥18 and <30), 65.6 (12.5) years among obese decedents (BMI≥30) (T-test p=0.0001), 71.4 (12.0) years among decedents with a BMI <40 (including those who were obese but not severely obese), 63.9 (16.9) years among decedents with severe obesity (BMI≥40) (T-test p=0.06). The two BMI groups (<40 and ≥40) differed with respect to care location at the time of death (Fisher p=0.01). All patients with severe obesity died in the ICU, and those with BMI<40 died in varied settings (55.2% intensive care, 26.4% acute care, and 18.4% palliative care unit). Hospice was offered to 25% of patients with severe obesity as compared to 44% for BMI <40 (Fisher p=0.0008). There were no significant differences between these two groups relating to the presence of palliative care consultation, goals of care discussions, and comfort care.

Conclusion: When compared to non-obese decedents, obese adults who died in inpatient settings were associated with younger age and need for ICU settings. Hospice was offered less often in patients with severe obesity (BMI≥40) compared with those who were not (BMI<40). This study supports the need for more research on the trajectory of illnesses in obese adults during hospitalization, their palliative care needs, and hospice referrals.

A109

COVID-19 and Neurocognitive Disorders among Hospitalized Adults

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About 30% of those hospitalized with COVID-19 (C-19) develop delirium. We describe cooccurrence of C-19 and neurocognitive disorders among hospitalized adults. We explored demographic differences across patients and C-19 variants.

We included C-19 positive adults (over 18) hospitalized via the ED of a health system in Florida from 4/1/20 - 9/30/21. We also considered intervals of national peaks of the alpha and delta variants. We identified C-19 patients with delirium or encephalopathy by using the following ICD-10 codes: R41.0, R41.82, R41.9, F05, F44.89, G92, G92.8, G92.9, G93.40, G93.41, and F93.49.

A sum of 3590 C-19 patients were hospitalized, 35.5% of those were during the delta variant peak. Among C-19 patients, 1071 (29.8%) were diagnosed with delirium or encephalopathy. The diagnosis was present on admission for 546 patients (15% of C-19 patients). Adults over 65 comprised 37.7% of C-19 hospitalizations; 55.7% had C-19 and neurocognitive disorders. Adults under 65 represented a higher proportion of C-19 hospitalizations during alpha (66.9%) and delta variant peaks (68.1%). Among all C-19 hospitalizations, 50.4% were male; however, 55.0% of patients with C-19 and neurocognitive disorders were male. Black patients were 30.5% of total C-19 hospitalizations; 29.0% with C-19 and neurocognitive disorders. Hispanic patients comprised 6.6% of total C-19 hospitalizations; 5.4% with C-19 and neurocognitive disorders. During the delta variant, the proportion of Black patients was lower, and the proportion of Hispanic patients was higher.

Our analysis supports evidence of co-occurrence of C-19 and delirium or encephalopathy. For >50% of patients with a neurocognitive disorder, the diagnosis was present on admission. Delirium or encephalopathy may be an early symptom or complication of C-19. C-19 with a neurocognitive disorder was more prevalent among older patients and males. Black patients comprise 20.3% of the hospital's direct catchment area, but 30.5% of C-19 hospitalizations. We did not find racial differences in co-occurrence of C-19 with neurocognitive disorders, but racial disparities may have impacted the distribution of cases over time.

A110

Investigating the immune response to SARS-CoV-2 in long-term care (LTC) homes.

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Background: Canada's LTC sector has been disproportionately burdened by the COVID-19 pandemic. Vulnerable LTC Residents have suffered higher rates of severe adverse outcomes of COVID-19 than the general population. As of November 29th, 2021, in Canada, of all confirmed COVID-19 cases of adults 60 years of age or older, 61.2% were hospitalized, of which 57.8% were admitted to the intensive care unit (ICU), and 93% resulted in death. **Objectives**: The overall objective of this study is to understand the level and duration of vaccine or infection-mediated protection in the LTC sector. **Methods**: We used convenience sampling to recruit residents, caregivers, and workers from LTC homes across Ontario (ON) and British Columbia (BC). Using dried blood spot (DBS) cards, we will follow our cohorts for a year, sampling every three months. Humoral immunity is assessed using a quantitative ELISA test for IgG and IgA antibodies for the spike (S), Receptor Binding domain (RBD) and Nucleocapsid (N) proteins as antigens. **Results**: DBS samples from 2,132 participants were collected and analyzed, of which 575 (27%) are residents, 268 (13%) are caregivers, and 1,289 (60%) are workers. The mean age across our three cohorts is 57.64 (SD = 19.98), with 78% females, and 22 % males. Preliminary results show a significantly poorer immune response in fully vaccinated LTC residents, based on their IgG-RBD and IgG-S levels ($p < 0.0001$), which are waning starting at 4 months post-vaccination. When comparing vaccine type in fully vaccinated participants, Moderna (Spikevax) generated higher levels of both IgG-RBD ($p < 0.001$) and IgG-S ($p < 0.0001$), compared to Pfizer (Comirnaty). Lastly, age correlated with a weaker immune response in LTC residents (IgG-RBD, $p < 0.0001$; IgG-S, $p < 0.001$). **Conclusion**: Fully vaccinated participants presented with an appropriate immune response, mapped to their IgG-RBD and IgG-S levels. However, LTC residents have a poorer vaccine-mediated protection when compared to caregivers and workers, which was more pronounced with age. With the introduction of a third booster dose for LTC residents, caregivers, and workers, we will be able to follow the level and duration of their vaccination-induced immune response to ensure the protection of this vulnerable population.

A111 Encore Presentation

Changes in Closeness and Conflict in Relationships Between Persons Living with Dementia and their Care Partners During the COVID-19 Pandemic

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Background: Concerns about COVID-19 and adaptation to public health measures implemented to mitigate its spread have transformed both physical and social environments. The effects of these influences on persons living with dementia (PLWD) and their relationships with their care partners (CPs) are not fully understood. Further, the impact of vaccine availability on these dynamics has not yet been reported. This study explores the relationship closeness and conflict within dementia caregiving dyads during the COVID-19 pandemic.

Methods: Cross-sectional survey data were drawn from a larger longitudinal study examining the relationships between PLWD aged 65+ and their CPs being conducted in a metropolitan city significantly affected by COVID-19. Interviews with were conducted remotely via videoconferencing and telephone. Data on relationship quality,

conflict, and caregiver stress, both before and after widespread vaccine availability, were collected and analyzed using descriptive statistics and tests of independence.

Results: Results from PLWD (n=40) and CPs (n=46) showed the vast majority (85%) experiencing increased togetherness, particularly in leisure activities (63%) and conversation (57%). However, most participants reported increased stress during COVID-19 due to health concerns (57%) and COVID's impact on the PLWD (73%) or other family members (54%). Prior to widespread vaccine availability, CPs reported considerable conflict, in an average of 3.2 out of 9 areas. CPs interviewed after widespread vaccine availability indicated significantly less conflict, in an average of only 1.6 out of 9 areas ($p<.05$). The most notable drops were in conflict surrounding caring for the PLWD (26% to 8%, $p<.05$) and decisions on caring for the PLWD's health (26% to 8%, $p<.05$).

Conclusion: These results confirm that heightened levels of stress and conflict have been present during COVID-19 but suggest that conflict may be mitigated in the context of vaccine-related protection against the virus. Further analyses and inquiry in other parts of the country would be helpful to determine whether this is driven by individual or societal effects, and the degree to which these decreases may be mitigated by lower levels of vaccine uptake.

A112 Encore Presentation

Prevalence and Outcomes of Patients with HFrEF and Alzheimer's Disease and Related Dementias (ADRD)

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Background

The average Medicare beneficiary with HFrEF is 80 years old. ADRD is more common among older adults. The treatment of HFrEF relies on complex medications and lifestyle changes, which are difficult in ADRD. This study aims to determine the prevalence and outcomes of patients with concurrent HFrEF and ADRD.

Methods

We used 100% Medicare Parts A and B and a random 40% sample of Part D to create a cohort of 397,680 FFS beneficiaries with ≥1 hospitalization for HFrEF between 2012-2018. We required 1 year of FFS before and after discharge to capture comorbidities and outcomes over time. We used previously validated ICD-9/10 codes to define ADRD.

Results

Thirteen percent (n=53,092) of patients with HFrEF have concurrent ADRD. The average HF+ADRD patient is 4 years older than the average non-ADRD HF patient and comorbidity rates are all higher among HF+ADRD patients. Differences in 30-day and 1-year readmission rates are statistically significant, but small. 30-day and 1-year mortality rates are markedly higher for HF+ADRD patients **(Table 1).**

Discussion

Thirteen percent of HFrEF patients have concurrent ADRD. This population is older, frailer and has more comorbidities than those without ADRD. While readmission rates are similar, HF+ADRD patients have markedly higher short and long-term mortality. Additional work is needed to understand how much of this increased mortality can be prevented with improved HFrEF care.

	HF without ADRD		HF with ADRD		P-Values
	(N=344,588)	%	(N=53,092)	%	
Age		79.5		84.1	<0.001
Female	177,695	51.6	33,044	62.2	<0.001
White Race	387,715	83.5	42,289	79.7	<0.001
Black Race	30,449	8.8	6,220	11.7	<0.001
Other Race	26,424	2.5	4,583	2.9	<0.001
Hypertension	279,905	81.2	48,247	90.9	<0.001
Diabetes	152,602	44.3	24,188	45.6	<0.001
Renal Failure	92,008	26.7	18,071	34.0	<0.001
Chronic Lung Disease	108,133	31.4	19,623	37.0	<0.001
Vascular Disease	80,335	23.3	18,276	34.4	<0.001
Frailty Score		0.2		0.3	
ICU During Hospitalization	124,252	36.1	17,341	32.7	<0.001
30d Death	17,633	5.1	5,331	10.0	<0.001
30d Readmission	75,372	21.9	13,078	24.6	<0.001
1y Death	102,740	29.8	25,985	48.9	<0.001
1y Readmissoin	219,643	63.7	35,025	66.0	<0.001

A113

No Bones About It: The Need for Increased Screening in Men with Osteoporosis

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Background: Osteoporosis in men can lead to significant morbidity and mortality. Screening for osteoporosis has largely focused on women, however, a growing body of research shows increasing prevalence and complications in men. Currently the National Osteoporosis Foundation (NOF) recommends screening all men above the age of 70, and men between 50-69 years of age with risk factors of; androgen deprivation therapy, low BMI, chronic steroid use, and prior fragility fractures.

Methods: We performed a retrospective chart review of male patients aged 50 years and older (50-97 years old) seen at the Center for Advanced Health Management and Complex Care Clinic at Virginia Commonwealth University. Charts were reviewed of patients that were seen in the clinic over the past 3 months. Patients aged 50-69 were reviewed for risk factors including: chronic steroid use (>3 months), any smoking history, alcohol use (>3 drinks per day), androgen deprivation therapy, prior fragility fracture, gastrectomy, and BMI <25.

Results: A total of 585 men over the age of 50 were included in this study; 348 men were above the age of 70, and 238 men were between the ages of 50-69. Of the 348 men above age 70, 13% had a bone density screening. There were a total of 238 men between the ages of 50 to 69, and 175 of them had at least one risk factor. Of the 175 men aged 50-69 with at least one factor, 11% got screened. Those aged 50-69 with a history of fragility fracture or history of chronic steroid use were among highest groups screened at 83% and 64% respectively. Those aged 50-69 with risk factors of any smoking history of heavy alcohol use (>3 drinks/day) were among the lowest screened at 10% and 14% respectively. No patients in this data set fell into the category of age 50-69 with history of gastrectomy. Three patients in the age group 50-69 had the risk factor of androgen deprivation therapy and was not screened.

Conclusion: The overall incidence of screening men for osteoporosis who met the NOF criteria was low, consistent with our hypothesis. Only 13% of men aged 70 and above and 11% of men aged 50-69 with a risk factor for osteoporosis were screened. It is important to explore possible causes that influence the rates of screening.

A114

Polypharmacy in World Trade Center (WTC) General Responders

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Background: By 2030, the majority of WTC responders will be aged 65+. WTC responders, with exposure to environmental hazards and the burden of WTC-related conditions (e.g., cancers, PTSD), may develop age-related conditions such as frailty more rapidly. Polypharmacy is highly prevalent in older adults and is associated with negative health outcomes. As the WTC cohort ages, further understanding medication use and polypharmacy patterns is needed.

Objectives: To our knowledge, this is the first examination of polypharmacy in WTC responders; we will also examine factors associated with polypharmacy.

Methods: We examined prevalence of polypharmacy (≥ 5 medications) in the WTC general responder cohort (rescue and recovery workers), age ≥ 50, with 1+ monitoring visits from 2017-19 at the Mount Sinai WTC Health Program Clinical Center of Excellence. Data were collected using structured questionnaires at WTC health visits that assessed the use of medications (including prescriptions, over the counter medications, and supplements). Demographics and other variables, collected through clinical examination and survey, such as chronic conditions, self-reported health status, activities limitation, were used to construct a previously validated frailty index.[1]

Results: A total of 7,679 responders were included in the cohort, with a median age of 58 (IQR 54-63); the sample was 14% female, 14% Black, and 22% Hispanic. Approximately 56% responders take ≥5 medications, and 22% responders take ≥10 medications. The prevalence of polypharmacy increases to 80% for those aged ≥70. Approximately 8% of responders took medications categorized as falls risk increasing drugs (FRIDs). In multivariable analysis, factors associated with polypharmacy included age (OR 1.08, p<0.001), female sex (OR1.33, p<0.001), obesity (OR 1.90, p<0.001), and deficit count from frailty index (OR 1.21, p<0.001).

Conclusion: Polypharmacy is common among WTC responders, and frailty is independently associated with polypharmacy. Targeting polypharmacy through interventions may help to promote healthy aging among WTC responders.

Ref: Bello GA et al. Development and Validation of a Clinical Frailty Index for the World Trade Center General Responder Cohort. J Aging Health. 2021;33(7-8):531.

A115

Dementia and Mild Cognitive Impairment between ages 70-95: prevalence and associated mortality. The Jerusalem Longitudinal Study

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Background: Within the Jerusalem Longitudinal Study (1990-2021), home cognitive assessment was performed between ages 70-95. The objective of this study was to describe the prevalence of Mild Cognitive Impairment (MCI) and dementia, the conversion from MCI to dementia, and the association between cognitive status and mortality with advancing age.

Methods: We examined a large representative sample of community dwelling Jerusalem residents born 1920-1921, aged 70, 78, 85, 90, and 95, at 1990, 1998, 2005, 2010, and 2015 respectively. Comprehensive assessment included medical, functional, social, and cognitive status. Cognitive assessment included the Mini Mental State Examination (MMSE), whose maximum score is 30 (normal cognition), and lowest score is 0, indicating most extreme cognitive impairment. Normal cognition was defined as 29-30/30; MCI defined as 24-28/30; and dementia was defined as ≤23/30. Mortality data were collected from the Ministry of Internal Affairs.

Results: The number of subjects with normal cognition steadily decreased with rising age, while the rising prevalence of dementia was 3.2%, 4.2%, 24.3%, 31.3%, and 35.7% at ages 70, 78, 85, 90, and 95 respectively. Similarly, rising prevalence of MCI was 13.5%, 21.5%, 38.7%, 37%, and 50% respectively. Transition from MCI to dementia at subsequent follow-up was more common with increasing age, as observed among 6.5%, 29.3%, 37.0%, 50.9% from 70-78, 78-85, 85-90, and 90-95 respectively. Dementia at all ages was significantly associated with increased mortality throughout the entire study period: at age 70-78 Hazards Ratio=4.36 (CI 95%: 2.09-9.10), age 78-85 Hazards Ratio=1.83 (CI 95%: 1.0-3.36), age 85-90 Hazards Ratio=1.76 (CI 95%: 1.27-2.43), and age 90-95 HR=1.5 (CI 95%: 1.01-2.21). In contrast, MCI was not associated with increased mortality, apart from at age 85: HR=1.38 (CI 95%: 1.04-1.82).

Conclusions: Not only the prevalence of both MCI and dementia consistently rise with advancing age, but also the conversion from MCI to dementia increased with rising age. Unlike MCI, which was largely unassociated with mortality, dementia at all ages was significantly associated with increased mortality between ages 70-95.

A116

Correlation Between Multimorbidity and Frailty Among Thai Older Persons with HIV

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Multimorbidity correlates with frailty in Persons with HIV (PWH) in Western countries, but few studies exist in Asian PWH. From March 2016-April 2017, we explored the correlation between multimorbidity and frailty among Thai 324 virally-suppressed PWH and 132 uninfected subjects aged 50&older. The primary predictors were the number and types of comorbid conditions. The outcome was having additional domains of Fried frailty phenotype (3-5=frail, 1-2=pre-frail, 0=non-frail). Most subjects were male (63% PWH, 67% uninfected), young (mean age=56.1 PWH, 58.3 uninfected) with few comorbidities (mean=1.4 for PWH, 0.9 for uninfected) and frailty (8.6% PWH, 3.8% uninfected). Having additional comorbid conditions increased risk of frailty by 16% (p<0.01) in PWH but not the uninfected. Certain conditions increased risk of frailty among PWH, including chronic kidney disease (lower eGFR 30mL/minute=30% risk, p<0.01), osteoporosis (lower T-score 1.5 point=18% risk, p=0.04), orthostatic hypotension (lower diastolic 10mmHg=10% risk, p<0.01), hyperlipidemia (1% ASCVD risk=1% frailty risk, p<0.01), and depression (1 point Thai Depression Scale=3% risk, p<0.01). Asian PWH experienced increased effect of multimorbidity on frailty, similar to Western counterparts. New diagnoses of certain comorbidities should prompt a frailty evaluation. Future research should explore whether superior control of these conditions leads to reduced frailty in PWH.

A117

The trend in the clinical and economic burden of hospitalization of adverse drug events by cardiovascular agents in older patients in the United States: National Inpatient Sample 2016-2018

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Background: While the benefits of cardiovascular agents are well-established, they are associated with adverse drug events (ADEs) in older adults. Recent evidence has demonstrated that cardiovascular agents were responsible for approximately 50% of medication harm in older adults. However, there is limited data on national annual trends of hospitalization and economic burden associated with ADEs by cardiovascular agents in older adults in the United States.

Methods: We examined trends in hospitalizations for cardiovascular agent-related ADEs in older adults from 2016 to 2018 using the US National Inpatient Sample (NIS) from the Agency for Healthcare Research and Quality (AHRQ). The primary discharge diagnosis of hospitalization included the ICD-10 diagnosis codes for ADEs of antihypertensive drugs, cardiac glycosides, antiarrhythmics, coronary vasodilators, and anti-arteriosclerotic drugs. We calculated the incidence rates of hospitalizations for ADEs per 10,000 hospitalizations among patients who were 65 or older. Sample weights were utilized to make estimates nationally representative. The total hospital expenditures were also calculated from total charges using a cost-to-charge ratio provided by the AHRQ.

Results: There were 12,480 hospitalizations (0.03%) with primary discharge diagnoses of ADEs by cardiovascular agents. The prevalence of hospitalizations declined slightly (2016: 3.59, 2018: 2.95, p<0.001). However, there was no significant change in the hospitalization rate associated with antihypertensive drugs and coronary vasodilators during the period. Total hospital costs showed no significant change from 2016 to 2018 ($15,184; 95% CI, 13,226-17,142 to $11,233; 95% CI, 10,210-12,257, p=0.07).

Conclusions: Our study notes that hospitalizations with cardiovascular agents continued to be elevated. More work is needed to monitor ADEs by cardiovascular agents.

A118

Median beta-blocker doses by age groups among older adults with heart failure with reduced ejection fraction (HFrEF)

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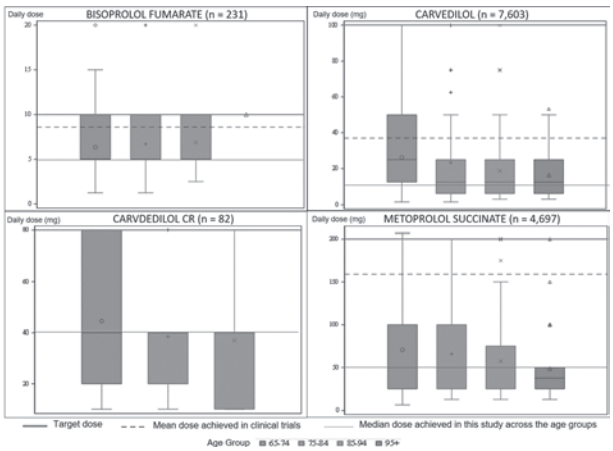
Background: A great proportion of older adults do not tolerate high maximum target doses from the HFrEF management guideline. There is a knowledge gap if the prescribed beta-blocker doses vary in different age groups among older adults with HFrEF

Methods: We assessed the median doses of beta-blockers in different age groups through a cross-sectional study using a 10% sample of Medicare Fee-For-Service 2015 claims data,

Results: Total 12,613 Medicare beneficiaries (age ≥ 65) with HFrEF received relevant beta-blocker prescriptions. The overall median doses for beta-blockers were 5mg (bisoprolol fumarate), 12.5mg (carvedilol), 40mg (carvedilol CR), and 50mg (metoprolol succinate). The median doses for each age group (65~74, 75~84, 85~94, +95) for bisoprolol were 5mg, 5mg, 5mg, and 10mg, respectively (p-value for trend 0.30); for carvedilol, 25mg, 12.5mg, 12.5mg, and 12.5mg (p-value <0.01); for carvedilol CR, 40mg, 40mg, and 40mg (no patients in +95, p-value 0.23); and for metoprolol succinate, 50mg, 50mg, 50mg, and 37.5mg (p-value <0.01). Most patients were prescribed lower than the target dose (95.9%) or mean doses achieved in clinical trials (81.1%). (Figure)

Conclusion: Among Medicare beneficiaries 65 or older, older age groups were prescribed lower doses carvedilol and metoprolol than younger age groups, but not for Bisoprolol and carvedilol CR.



Box plots of beta-blockers in different age groups

A119

Comparing behavioral symptoms, functional and cognitive status, and caregiver measures among persons with Early-Onset and Late-Onset Dementia

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Background:

Persons with early onset dementia (EOD) account for only ~5% of persons living with dementia, and little is known about how the disease and its effects differ from those diagnosed with late onset dementia (LOD). This study aimed to understand differences between persons with EOD and those with LOD in behavioral symptoms and resulting caregiver strain and burden.

Methods:

This cross-sectional study examined the 1091 initial participants in the UCLA Alzheimer's and Dementia Care Program and compared persons with EOD (participants < 65 years of age) to LOD (participants ≥ 80 years of age); 311 participants 65-79 years were excluded from these analyses. Patient measures included the Neuropsychiatric Inventory Questionnaire (NPI-Q), mini mental status exam (MMSE), and activities of daily living (ADLs). Caregiver measures included the Dementia Burden Scale–Caregiver (DBS-CG) and Patient Health Questionnaire (PHQ)-9. Fisher exact tests were performed to compare differences by onset of dementia.

Results:

Among the 780 participants (49 with EOD and 731 with LOD) in the analysis, 67.7% were women, 66.9% were non-Hispanic White, and 62.7% were college or higher educated. Persons with EOD were more likely to have spouse caregivers (57.1 vs 26.1%, p<0.001), whereas persons with LOD were more likely to have children as caregivers (57.3 vs 16.3%, p<0.001). Although persons with LOD

had higher NPI-Q severity scores compared to persons with EOD (10.5 vs 8.5, p=0.014), there were no statistically significant differences between EOD and LOD participants on MMSE, ADLs and instrumental ADLs dependency, PHQ-9, and DBS-CG.

Conclusions:

Compared to those with LOD, persons with EOD had similar cognition and functional status and fewer behavioral symptoms. More often persons with EOD were cared for by spouses in contrast with children who more often care for persons with LOD. However, these standardized tools may not capture the unique behaviors, caregiver challenges, and social consequences uniquely associated with EOD.

A120

Prevalence and Associated Factors of Colorectal Cancer Screening Uptake in Community Dwelling Older Adults

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Background: Colorectal cancer (CRC) is the most common cancer in Singapore. Regular screening is key in preventing and detecting CRC early when it is most likely to be curable. Till date, there is a lack of data on the prevalence and factors associated with take-up of CRC screening among community dwelling older adults in Singapore. Identifying these factors is crucial in designing strategies to increase participation in screening.

Objective: To determine the prevalence and factors associated with the take-up rate of colorectal screening via fecal occult blood test (FOBT) evaluation in community dwelling older adults

Methods: A cross-sectional study was conducted among community dwelling older adults (≥ 65 years) in an urban Singaporean town. Data was collected using interview questionnaires. Validated instruments were used to assess cognitive and psychosocial variables including EQ-VAS for self-rated health. Analysis was done using SPSS software.

Results: Participants included older adults (n=1048) aged 65-108 years (mean age=71.2±5.5), of which 57.3% were female. The overall prevalence of FOBT screening uptake was 46.1%. Among the different ethnicities, higher uptake was seen in the Chinese (49.3% vs 28.8-40.6%). Older adults who underwent screening were likely to have higher self-rated health scores (81.3 vs 79.3), higher education (6.4 vs 5.7 years), higher MMSE scores (26.0 vs 25.3), no smoking history (77.0% vs 66.4%), known family history of cancer (30.2% vs 22.8%), and participation in leisure activities (52.8% vs 37.3%).

Conclusion: Higher education levels, better self-perceived health status and healthier lifestyle measures were significantly associated with higher FOBT uptake. Further cancer screening campaigns will need to target groups with lower education and lower cognitive levels. Future studies can be conducted to evaluate the impact of knowledge on uptake and validate the association of these factors with other screening programs.

A121

Breast cancer screening knowledge and mammogram uptake amongst community dwelling older women

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Background:

The incidence of breast cancer among older women is increasing. Older women are more likely to die from breast cancer than younger women as they often present with advanced disease, owing to lower screening rates and late detection. Better understanding of the factors influencing the knowledge and uptake of breast cancer screening amongst older women could help clinicians and policymakers devise strategies to improve early detection and clinical outcomes.

Objective:

To determine factors associated with the knowledge of breast cancer screening via mammography amongst community dwelling older women in Singapore.

Methods:

A cross sectional study was conducted among older adults ≥ 65 years old residing in an urban Singaporean town. Information on the participants' demographics, education background, and lifestyle habits were obtained using interview questionnaires. Female participants were surveyed on their knowledge and uptake of mammography.

Results:

600 women were surveyed (mean age = 71 ± 5.4), 493 participants (82.2%) knew about mammography but only 417 (69.7%) have had a mammogram. There were significant ethnic differences with 53.8% of Malay ethnic group having no knowledge about mammography, compared with 12.9% of Chinese and 25.6% of Indian ethnic group. Lack of knowledge about mammography was significantly associated with lower mini mental state examination (MMSE) scores (21 ± 6 vs. 26 ± 3) and fewer years of education (2.3 ± 3.0 vs 5.3 ± 4.1). A greater proportion of respondents with no knowledge of mammography were frail (23.3% vs 6.5%), had smoking history (13.1% vs 4.5%), did not participate in leisure activities (78.5% vs 51.9%) and had lost weight in the last 6 months (24.8% vs 12.5%).

Conclusion:

Malay ethnicity, fewer years of education, lower MMSE scores, and negative lifestyle habits such as smoking and lack of participation in leisure activities were significantly associated with poorer knowledge of mammography. More effort is needed to tailor breast cancer screening campaigns to the Malay community, as well as groups with lower education and cognitive levels. There is also a need to raise awareness of breast cancer screening in Individuals at risk for adverse health outcomes, such as those with a smoking history, limited participation in leisure activities and weight loss.

A122

Dog Ownership and Risk of Disability and Mortality among Community-Dwelling Older Japanese

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Background

This study examined the association between dog ownership, the onset of disability and all-cause mortality in an older population. Dog owners take more regular exercise and have closer social relationships than non-owners. We assessed the beneficial effects of this mediating variable on the onset of disability and/or mortality.

Methods

Dog ownership data were collected from 11,233 community-dwelling adults age 65 years or older who lived in Japan. These data were matched with data about the onset of disability held by the Japanese long-term care insurance system. Local registry data were used to ascertain all-cause mortality.

Results

At baseline 8.6% (n=963) of the sample were current dog owners, 22.6% (n=2540) were past owners, and 68.8% (n=7730) had never been owners. During the approximately 3.5 years follow-up period, 17.1% of the sample suffered onset of disability, and 5.2% died. Older adults with current and past dog ownership had odds ratios of 0.54 (95%CI: 0.37-0.79) and 0.84 (95%CI: 0.67-1.03), respectively, for incident disability after controlling for baseline socio-economic and health variables; these compared with the reference group who had

never owned a dog. Of interest, the odds ratio of disability for current dog owners who do regular exercise is 0.44 (95% CI=0.28-0.71), and for current dog owners with no-exercise habit is 0.85 (0.43-1.65), respectively, as compared with never dog ownership with no-exercise habit. The odds ratio of all-cause mortality for current and past owners were 1.06 (95% CI=0.74-1.53) and 0.98 (0.75-1.29), respectively, and the association of dog ownership th all-cause mortality was not statistically significant.

Conclusions

Dog ownership appears to protect against incident disability among older Japanese adults. Additional benefits are gained from ownership combined with regular exercise. Daily dog care may have an important role to play in health promotion and successful aging.

A123

Insomnia and Daytime Sleepiness in Older Caregivers versus Non-Caregivers

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Background: Aging-related changes and caregiver burden may increase the risk for sleep disturbances among older caregivers, yet few studies have examined the prevalence of insomnia and daytime sleepiness in this group. We examined the relationship of caregiver status with insomnia or daytime sleepiness.

Methods: Using data from the Yale Precipitating Events Project (collected 2005-2007), we examined the prevalence and correlates of insomnia (Insomnia Severity Index [ISI; 0-28]) and daytime sleepiness (Epworth Sleepiness Scale [ESS; 0-24]) among caregivers (n=95) and non-caregivers (n=288) age ≥75 years. Caregivers were persons who reported caring for another person in the past week or caring for/helping a friend or relative >4 times in the past month. We used nonparametric regression to examine the relationship between caregiver status with insomnia or daytime sleepiness adjusting for sociodemographic (age, sex, race, marital status, education, Medicaid eligibility), physical (chronic conditions, medication use, self-rated health, physical activity, functional disability), and mental (cognitive impairment, depression) factors.

Results: Average age in the sample was 84±5 years, 67% were female, 12% were African American and 25% were caregivers. Compared to non-caregivers, caregivers were younger, more likely to be male, more educated, and less likely to be Medicaid-eligible; were less obese and reported better self-rated health, physical activity and less disability; and had less cognitive impairment and depression. Mean ISI and ESS scores were 7±5 and 6±4 versus 7±6 and 6±5 among caregivers and non-caregivers, respectively (normal range). Multivariable-adjusted models demonstrated no significant differences in ISI and ESS scores between caregivers and non-caregivers (regression coefficients for ISI and ESS scores of -0.06 [95% CI=-1.55-1.70] and 0.01 [-0.89-1.31], respectively).

Conclusions: Despite caregivers having more favorable physical, mental and psychosocial characteristics, scores on the ISI and ESS were the same in older caregivers versus non-caregivers. Future work should elucidate caregiving-related factors, e.g., high nighttime care burden, that may increase the risk of sleep disturbances among older caregivers.

A124

Preoperative Psychosocial Challenges in Older Adults undergoing Major Surgery: A Qualitative Study

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Background: Preoperative psychosocial vulnerabilities (e.g., anxiety, fear, guilt) are associated with poor functional recovery after surgery. Most older adults undergoing surgery experience these challenges. Yet, there is limited understanding of what these psychosocial vulnerabilities are, how and when they emerge, and how older surgical patients cope with them. This study aims to address this gap.

Methods: Patients that were 65 years and older scheduled for major surgery were identified and interviewed preoperatively. Interviews were transcribed and thematic analysis was performed.

Results: A total of 25 pre-operative interviews were conducted. Most participants (15) identified as male. Mean age was 74, 67% had a cancer diagnosis. Two major themes emerged: 1) patients experience a variety of psychosocial vulnerabilities before surgery and 2) patients use varying coping strategies including their social support network.

Regarding psychosocial vulnerabilities, patients commonly discussed anxiety over postoperative symptoms and outcome: "was I mentally going to be OK afterwards?" Participants expressed fear of "is this going to work? Am I going to make it out alive?" Patients experienced guilt over the impact of surgery on loved ones and discussed having "more concern for them by a long way."

Patients coped differentially in response to these vulnerabilities. Spirituality helped some with their "ability to move forward and have faith that things are going to turn out OK." Social support provided emotional support and lessened postoperative concerns, especially for those who felt their network is "more than perfectly capable of handling anything that will come up." Many participants adopted a positive outlook to cope with their emotions and mentioned "really looking forward to not having to live [their] life with that kind of pain."

Conclusions: Patients encounter many psychosocial vulnerabilities preoperatively and vary in their coping strategies. These findings emphasize the importance of providing greater resources aimed at addressing psychosocial needs before surgery, as these concerns affect postoperative recovery.

A125

Patient treatment goals are not elicited during surgical consultations for diverticulitis: Preliminary results of a qualitative study

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Background: Person-centered care, which is aligned with patient goals, is a pillar of healthcare quality for older adults and of the age-friendly health system. It is not known how older patients and surgeons communicate about patient goals during consultations for elective (non-emergency) surgery in the outpatient setting.

Methods: This was a prospective study of patients age 65 and older with diverticulitis referred to a surgeon for an elective yet potentially high-risk colectomy. We performed a preliminary qualitative analysis of transcribed audio recordings of surgical consultations and patient interviews to understand patient treatment goals, their expression during surgical consultations, and how these are incorporated into treatment decisions.

Results: To date, we have enrolled 5 patient-surgeon dyads. Patients ranged in age from 71 to 82 years. Patient interviews identified a number of health and treatment goals which were largely functional,

such as "I walk everyday at the park," "I have grandkids that I need to see," and "I just want to be comfortable and get some energy." Clinic visit recordings showed that surgeons conducted standard informed consent discussions in which they described the disease, presented treatment options, and discussed the risks of surgery, however, surgeons did not elicit patient goals nor discuss functional outcomes. When asked why they did not discuss their goals with the surgeon, patients took a passive stance, as one stated, "it just never came up".

Conclusions: Our preliminary analysis shows that surgical consultations do not routinely include a discussion of patient health or treatment goals. As a result, surgeons do not incorporate these patient-centric goals into informed consent discussions or treatment plans. This highlights an opportunity to improve patient-surgeon communication and enhance person-centered care for older surgical patients.

A126

Caregiver and Clinician Perspectives on Hospitalization Events among People with Dementia Residing in Socio-contextually Disadvantaged Regions

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Background: People living with dementia are hospitalized and re-hospitalized at high rates, introducing added risks for adverse outcomes including delirium, mortality and hastened cognitive decline. While residing in a disadvantaged region increases hospitalization risk and populations with greater exposure to socio-contextual disadvantage experience a higher burden of dementia, the experiences of these populations surrounding hospitalization events are poorly understood. The aim of this study was to examine family caregiver perspectives surrounding hospitalizations for people living with dementia residing in highly disadvantaged regions.

Methods: We used data from the Stakeholders Understanding of Prevention Protection and Opportunities to Reduce HospiTalizations (SUPPORT) Study, a multi-site qualitative study designed to determine family caregiver perspectives surrounding hospitalizations for people living with dementia residing in highly disadvantaged regions. Data were analyzed using thematic analysis.

Results: We interviewed 56 caregivers. The racial/ethnic composition of participants was 67% Black, 34% White Non-Hispanic, and 2% not reported. Caregivers perceived that collaboration, communication and trust between providers, family members and patients during hospitalizations was at times poor. Caregivers described being inconsistently and occasionally poorly integrated into care plans. Caregiver support was identified as a potential strategy to help mitigate avoidable hospitalizations and to improve engagement. Strengthening competencies among staff for dementia-specific care was endorsed as a major barrier to improving hospitalization experiences. Caregivers also perceived system-level factors (such as financial pressures) as challenges to providing adequate care for patients during hospitalizations.

Conclusions: Caregivers recognized considerable challenges and identified specific opportunities to improve hospitalization experiences for patients with dementia residing within socio-contextually disadvantaged contexts. Future work is needed to assess the feasibility and efficacy of existing approaches to mitigating identified barriers in highly disadvantaged settings.

A127 Encore Presentation

Using the COM-B Model and Theoretical Domains Framework to Identify Barriers and Enablers to Deprescribing Benzodiazepines in the Hospital

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Background: Older hospitalized adults have a high prevalence of pre-admission benzodiazepine prescriptions. Benzodiazepines are associated with serious adverse events in older adults, including falls, fractures, cognitive impairment, delirium. A hospital visit may be an opportunity for clinicians to encourage and begin deprescribing benzodiazepines, but barriers exist to implementation.

Methods: We used a qualitative study design. We conducted semi-structured interviews with pharmacists (n=5), hospitalists (n=4), and nurses (n=4) working in a large urban hospital between March and August 2021. We coded and categorized barriers and facilitators using the Capability, Opportunity, Motivation and Behavior (COM-B) model and Theoretical Domains Framework (TDF).

Results: As deprescribing benzodiazepines is a complex process, we identified several behaviors which form part for the deprescribing process. These behaviors include: (1) identifying potentially inappropriate prescription(s), (2) modifying the dose during hospitalization/holding the medication if medically appropriate, (3) engaging the patient and/or caregiver about medication risks, (4) engaging other inpatient providers about the need to modify the medication or dose, (5) engaging the outpatient prescriber about the need for a dose reduction or cessation, (6) modifying the discharge prescription with the recommended dose reduction. We identified numerous barriers and enablers to deprescribing benzodiazepines in the hospital, as detailed in Table 1.

Discussion: By mapping barriers and enablers to deprescribing benzodiazepines in the hospital, clinicians and researchers can develop implementation strategies aimed at overcoming these barriers and capitalizing on strong enablers.

Table 1. Use of the COM-B Model and Theoretical Domains Framework to Identify Barriers and Enablers to Deprescribing Benzodiazepines in the Hospital

COM-B Category	Barriers	Enablers
Capability	- Lack of knowledge about how to approach patient/family when benzodiazepines are not related to reason for hospitalization	- High levels of knowledge about deprescribing / harms of benzodiazepines - Various hospital-level initiatives to prevent falls
Opportunity	- Hospital stays are short, provide few opportunities to deprescribe - Competing tasks in the inpatient setting (e.g., managing acute condition, preparing patient for discharge)	- Strong pharmacy program in the health system with empowered clinical pharmacists - Regular rounds and huddles to identify inappropriate medications
Motivation	- Perception that hospitalists are hesitant to change outpatient prescriptions - Perceptions that patients are resistant to changing outpatient medications when not related to reason for hospitalization. - Concerns about lack of post-discharge follow-up	- Beliefs that patients will be receptive if the benzodiazepine is related to the reason for hospitalization (e.g., fall, fracture) - Belief that inpatient pharmacists are ideally suited to counsel/educate patients about harms of benzodiazepines - Perception that hospitalists are receptive to pharmacist recommendations if there is a strong safety concern

A128

Healer's Art: Building a Foundation of Compassion and Resilience

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Background: 30% to 40% of physicians experience burnout at some time and higher rates have been associated with COVID-19. There is a well-established link between burnout and negative outcomes for providers including suicide, depression, anxiety and substance abuse. Ultimately, burnout leads to poor patient outcomes, decreased patient safety, lower productivity and increased medical errors. The Healer's Art Course addresses two main drivers of burnout: loss of meaning and isolation. Both issues have been

exponentially impacted by the COVID pandemic. It is important to teach methods to build resilience in healthcare students before burnout occurs.

Methods: We offered trainings to impart capacity to find meaning across the lifespan utilizing the Healer's Art course. The curriculum offered a safe learning environment for personal, in-depth exploration of service, healing relationship, reverence for life and compassionate care. The Healer's Art utilizes principles of adult education, contemplative studies, humanism, cognitive psychology, creative arts and storytelling to present and explore human dimensions of medicine rarely discussed in medical training. The curriculum utilized small group experience, journaling and reflection. This enabled students to uncover and strengthen their altruistic values, sense of calling, and intention to serve thus creating a firm foundation for meeting the demands of medical training and practice. Students evaluated the Healer's Art curriculum.

Results: 74 medical students participated in the Healer's Art course at NEOMED. Students reported overall quality of the course as a mean of 4.9 (SD 0.3) on a 5-point Likert scale. There was strong agreement (5-point scale) that medical students felt more committed to medicine (mean=4.4, (SD 0.8)) and patient-centered care (mean=4.7, (SD 0.6)). Nearly 50% of participants indicated they would use journaling to reinforce what they have learned in the Healer's Art course.

Conclusion: Affective domain learning, like the Healer's Art program, is lacking in traditional medical and health care professional training that concentrates on cognitive knowledge and technical skill development. It is important to teach students self-care methods that bolster resiliency to impart life-long skills to prevent burnout.

A129

Organizational Elder Abuse Across the Continuum of Care: Recognizing its Sources for Better Prevention

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Background: Organizational abuse and neglect is growingly documented in different sectors of the healthcare system. Organizational abuse and neglect is a polysemic concept (WHO, 2002; Santos *et al*., 2019) that can be defined as "any prejudicial situation created or tolerated by the procedures of organizations responsible for providing care or services of any kind, which compromises the exercise of the rights and freedoms of persons". This type of abuse is increasingly recognized, particularly since the pandemic when seniors experienced deplorable situations in nursing homes. To learn more, we conducted research research to answer the following question : what are the sources (micro, meso and macro) of organizational elder abuse in Residential nursing facilities. This presentation aims to identify sources of organizational abuse and neglect, acknowledged by health professionals working with elderly in Residential nursing facilities. Methods: This study used a phenomenological approach (Husserl) to conduct individual interviews with occupational therapists (n=23) working in different Residential nursing facilities. The interview, which lasted between 60 and 90 minutes, consisted of open-ended questions to document the ethical issues encountered by participants in their professional practice. Individual semi-structured interviews have been transcribed into verbatim and analyzed by co-analysts to identify ethical issues related to organizational abuse and neglect. To do so, the analysis of verbatim was carried out according to the fundamental principles of Husserl's (1970, 1999) phenomenological reduction. Results: Two main themes and six sub-themes have been identified: (1) lack of resources which causes a (a) difficulty to address the needs of seniors and (2) fake living environment which brings (b) a lack of respect for autonomy and human dignity, (c) an inadequate response to basic needs, (d) an over-emphasis on safety, (e) occupational deprivation and insignificance. Conclusion: Although these sources of organizational abuse occur in Residential nursing facilities, they are rooted in a broader social context that must be addressed for effective prevention. Combating organizational abuse is possible and requires the mobilization of a large number of actors from different social spheres, including medical and political.

A130

Factors Associated with Burnout among Geriatricians

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Background: The field of geriatrics has consistently high levels of satisfaction, but also presents unique challenges that can contribute to burnout. We aimed to understand the risk and protective factors related to burnout in geriatricians.

Methods: We conducted a cross-sectional survey of US physicians specializing in geriatrics through the AGS member forum in 2020. We identified burnout as a validated two-question substitute of the Maslach Burnout Inventory, representing high levels of emotional exhaustion and/or depersonalization. Potential exposures of interest included demographic characteristics, professional characteristics, number of days off per month, resilience factors, and influential factors attracting and keeping them in the field, stressful components of the job, teaching responsibilities, and interaction with people in various roles. Statistical analysis included descriptive statistics, and univariable and multivariable analysis using generalized linear models with binomial distributions and log link to calculate the prevalence ratios (PRs) and 95% confidence intervals between the exposure of interest and physician burnout.

Results: We had 125 physicians complete the survey and 52% reported experiencing burnout. The multivariable analysis identified number of days off a month as a protective factor against burnout Physicians who were burned out had on average 4.0 days off a month (SD: 2.9), compared to physicians not burned out with 6.3 days off (SD: 5.6). Risk factors identified include high levels of stress from electronic medical record challenges, life goals discussions, and patient coverage outside "normal hours".

Conclusions: We were able to identify job factors that correlated to burnout in geriatricians, as well as factors that protected physicians from experiencing these effects of burnout. The expanding geriatric patient population needs physicians to help care for their unique needs and challenges. Our results can help guide targeted interventions for burnout reduction in the field of geriatrics, as well as increasing recruitment to and retention into the field as a whole. Understanding the factors related to burnout in geriatricians can help with physician satisfaction and care of the aging adult population.

A131

Senior Moments: Self-reports, Abnormal Cognitive Testing, and Perceptions of "Normalcy"

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Background: Older adults often use the term "senior moment" to describe Subjective Cognitive Decline (SCD) which is defined as self-reporting worse or more frequent episodes of memory loss. SCD can be a precursor of Alzheimer's disease (AD). We sought to examine older adult self-report of SCD, perceptions about SCD, and whether self-report of SCD reflected impaired cognitive testing.

Methods: As part of the PlanYourLifespan-LitCog study, we have been longitudinally examining Long-Term Care decision making among a cohort of older adults (65 years and older) with extensive health literacy and cognitive testing, over the past 15 years. Cognitive testing was conducted through a detailed neuropsychological battery and

grouped into 3 categories: no impairment, mild cognitive impairment (MCI), moderate dementia. Subjects were asked about their personal experiences with memory loss and their perceptions. Responses were analyzed using a mixed-methods approach. Descriptive statistics were used for demographics and cognitive testing; open-ended responses about perceptions of SCD were coded by three coders using constant comparative analysis with triangulation of themes.

Results: Of the 293 subjects interviewed, the mean age was 73.0 years, 72.7% female, 40.4% under-represented minority. Almost half (47.4%, n=139) reported experiencing SCDs, with 42.4% (n=59) experiencing weekly and 18% (n=25) monthly events. Of those who reported SCD, 78.4%, (n=109) subjects felt it was normal for their age. Qualitative analysis revealed five major themes surrounding this belief: 1.) Comparison to peers, 2.) Prior experience with others, 3.) Inevitability, 4.) Consulted with Primary Care Provider, and 5.) Denial. Despite 22.2% (n=65) of participants testing at levels of mild or moderate cognitive impairment, 46.2% (n=30) of these participants denied experiencing any SCD. Of those with normal cognitive testing (n=218), 47.8% (n=104) reported SCD events.

Conclusion: With over one third identifying SCD, older adults felt that it was normal and provided themes consistent with it being expected with age. Self-report of SCD did not correlate to abnormal cognitive testing. Possible reasons could be denial or lack of insight on SCD occurrences. These findings may help providers to press for further cognitive testing regardless of a patient reporting SCD.

A132

A Guatemalan Immigrant Who Could Not Stop Crying. Despair, A Challenging Component of Existential Distress at the End of Life and its Impact on the Care Team

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Background: End-of-life despair has been linked to low spiritual well-being, particularly, in patients with demoralization associated with severe physical symptoms and functional decline. Some patients experience significant suffering despite adequate symptoms management and spirituality-based interventions. This leads to exhaustion of the family and care team members. In these cases, patient's cultural differences, language barriers, and unfulfilled dreams may play a role.

Case description: A 67-year-old woman was admitted to the hospital for syncope. Four months prior, she was diagnosed with recurrent metastatic and locally invasive cervical cancer requiring a bilateral nephrostomy and colostomy due to obstructive uropathy and a rectal-vaginal-vesical fistula. Physical exam showed profuse vaginal bleeding with hemodynamic instability requiring an iliac artery embolization. Imaging showed worsening disease despite chemoradiation. Patient elected hospice and received care in the inpatient unit for one month until her death. During this time, she constantly cried and moaned despite increasing doses of opioids through patient-controlled analgesia (PCA) which relieved her pain, antidepressants, antipsychotics, and benzodiazepines. When asked about her symptoms, she described a feeling of despair. As a Latino immigrant, she expressed sadness for being away from her family in Guatemala. She had adequate support from her husband and church. Interdisciplinary team support included, social worker who arranged family phone calls, and frequent chaplain visits. Medical and nursing care was provided in Spanish. Despite these efforts, the existential pain persisted until shortly before her death, as did the emotional distress in her family and care team members.

Conclusion: Addressing cultural causes of despair is essential for adequate end-of-life care. Cultivating personal and collective well-being among care team members reduces the psychological impact of patient's suffering and promotes healthy emotional and professional boundaries.

A133

Vascular Risk Burden and Neurodegenerative Disorders

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Vascular risk factors can affect individual's global clinical state and brain morphology; however, little is known about the association between cumulative vascular risk factors(i.e. burden) (VRB) and neurodegenerative disorders. Our aim was to investigate the association between VRB, gait performance (gait speed during usual, dual-task and fast walks), cognition(memory, attention and executive functions), and brain morphology [white matter hyperintensities volumes (WMH) and normal appearing matter volumes (NAM)] across neurodegenerative disorders. The VRB score was the sum of 5 vascular risk factors (0-5) including hypertension, diabetes, dyslipidemia, obesity, and history of smoking. VRB was analyzed in 520 participants from the Ontario Neurodegenerative Disease Research Initiative (ONDRI) cohorts: amnestic mild cognitive impairment/Alzheimer's disease(MCI/AD), Amyotrophic lateral sclerosis, Frontotemporal dementia(FTD), Parkinson's disease and Cerebrovascular disease(CVD) compared with 41 controls from the Gait & Brain study. Ordinal logistic regressions revealed that, compared with controls, there was a significant higher probability of increased VRB for individuals with MCI/AD (1.5times), FTD(1.7times), and CVD(2.6times) adjusted for age, sex and ApoEe4. When all groups were collapsed across(N=561), multivariate linear regression models revealed that increased VRB was significantly associated with both, worse lower motor function (Wilk's Lambda=.97;p=.009; gait slowness) and worse brain morphology (Wilk's Lambda=.97;p<.004; larger WMH volumes). When clinical groups were analyzed separately, VRB was only associated with worse gait function in CVD(Wilk's Lambda=.92;p=.02); whereas in controls, increased VRB was associated with worse cognitive functioning (Wilk's Lambda=.61;p=.01;slower set-shifting) and worse brain morphology(Wilk's Lambda=.69;p=.05;larger white matter hyperintensity volumes and atrophy). Overall, VRB mostly affect older person's motor function likely due to white matter deterioration and may complicate the clinical status of neurodegenerative disorders. Strict management of vascular risk factors may stabilize or decelerate motor and cognitive declines related to neurodegeneration.

A134

Novel Rho/MRTF/SRF Inhibitors modulate mitochondrial dynamics

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Background: Aberrant mitochondrial function, morphology, transport and oxidative stress are one of the main features of cardiac aging. Serum response factor (SRF) is involved in transcriptional regulation of muscle growth and differentiation. It is evident that SRF directly activates genes that regulates mitochondrial dynamics. Different reports indicate that SRF levels are increased in the aging heart muscle, therefore it must be strictly controlled to maintain cardiac homeostasis. CCG-203971 and its derivative CCG-232601 are specific inhibitors of Rho pathway-mediated signaling which has been reported to inhibit Rho/SRF mediated transcriptional regulation. To date, studies have indicated that these inhibitors affect cell morphology, migration, viability and overall function. It has been shown to be useful in the treatment of various malignancies *in-vitro*.

Methods and Results: Because the wide array of effects of these inhibitors, we sought to examine whether the inhibition of RhoA or the downstream transcription pathway of MRTF-A/SRF could block

transcription of genes involved in energy metabolism thereby affecting mitochondrial function. C2C12, a mouse skeletal muscle cell line is used as model system to study the effect of these inhibitors. The treatment of these inhibitors at different dosages demonstrated the reduction in mitochondrial size, mitochondrial membrane potential and the mitochondrial oxygen consumption rate. Further, utilizing C2C12 cell line and SRF over-expressed transgenic mouse model, we hypothesized that these inhibitors alter the intracellular NAD/NADH ratio and reduce the expression of *PGC-1α* as well as *mitofusin-1* and *mitofusin-2* genes. Further, using MTT assay, we are sought to measure the cellular metabolic activity as an indicator of cell viability, proliferation and cytotoxicity with the treatment of these inhibitors.

Conclusion: CCG-203971 and CCG-232601 inhibitors of MRTF/SRF-regulated gene transcription, potentially represent a new therapeutic strategy targeting the Rho/MRTF/SRF mechanisms to control SRF over-expression to cardiac dysfunctioning in the aging heart.

A135

Comparative Protein Expression after Ingestion of Essential Amino Acids verses Whey Protein in Older Adults

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Background: Our previous research has found the health benefits of nutritional diet supplement with essential amino acids (EAAs) based composition vs whey protein in older adults. We aimed to study the comparative protein expression following ingestion of EAAs vs whey protein from same subjects.

Methods: Subjects were randomly assigned to consume 15g of either a proprietary EAA composition or whey protein daily for 12 weeks. Blood samples were collected from subjects at baseline and at the end of the study. SOMAScan assay was used to characterize their proteomic profiles, followed by statistical analysis of data using Volcano and Heatmap plots.

Results: To check differential protein expression in blood plasma samples of subjects after ingestion of EAAs vs whey protein, proteomics data was transformed according to a threshold level of statistical significance ($p>0.05$). Total of four significant proteins were extracted using volcano plot from both groups, and their fold change expression was analyzed using heatmap plot. Out of total four proteins, only one protein showed significantly higher fold change in EAAs group i.e., Adenylate kinase isoenzyme 1 (AK1), an important regulator of cellular energy expenditure. On the other hand, three proteins which showed significantly higher fold change in whey group are 1) Formimidoyltransferase-cycloaminase (helps in cytoskeleton organization), 2) NADPH-cytochrome P450 reductase (required for electron transfer from NADPH to cytochrome P450) and 3) Glucagon (plays a key role in glucose metabolism and homeostasis).

Conclusion: Although each of the four proteins play an important role in regulating cellular metabolism of the body, AK1 is very important for controlling the expenditure of cellular energy and known to be well expressed in tissues with high energy demand, such as heart, skeletal muscle, and brain. It showed a higher fold change in the essential amino acid (EAA) group vs whey protein. These results support our previous studies that demonstrated that EAA supplements have the potential to improve muscle strength and physical function in older adults.

A136

Aged mice exhibit diminished resilience to sleep deprivation with impaired physical and cognitive performance

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Background

Approximately 50% of older adults experience sleep disturbances that can induce short-term functional and cognitive deficits and ultimately associate with clinically important declines in well-being. Thus, the ability to "bounce back" from acute sleep deficits (i.e., resilience) may be an important indicator of future outcomes. To better understand resilience during aging, here we examine the impacts of sleep deprivation on physical and cognitive performance and time to recovery in young and aged mice.

Methods

Young (8-month) and old (26-month) mice received an RFID implant under 4% isoflurane anesthesia and were group-housed with Phenosys HomeCage System for constant monitoring. Control mice were compared with the intervention groups that received 6 consecutive days of a six hour sleep deprivation by gentle handling starting at zeitgeber time 0 (lights on = 7 AM). Physical (balance beam) and cognitive (T-Maze) performance were assessed at baseline and 24h and 48h after completion of the six days of sleep deprivation. Serum and tissue analysis of biomarkers associated with sleep disturbances and cognitive impairment is ongoing.

Results

Young mouse control (YCON) and sleep-deprived (YSD) mice exhibited similar performance on the balance beam test 24 hours after sleep deprivation (YCON: 12.37 ± 2.7s versus YSD: 18.95 ± 4.2s, $p=0.86$) and T-maze tests (YCON: 4.25 ± 0.5 alternations versus YSD: 3.87 ± 1.6, $p=0.49$). Old sleep-deprived (OSD) mice had worse balance beam performance 24 hours after sleep deprivation compared to old control (OCON) mice (OCON: 7.40 ± 1.3s versus OSD: 27.55 ± 1.6s, $p < 0.01$) and reduced alternations on T-maze test (OCON: 3.6 ± 0.5 versus OSD: 1.5 ± 0.9, $p<0.01$). At 48h, no differences were found in balance beam or T-maze behavioral assessments in old mice. OSD mice compared to YSD mice had worse overall physical performance after sleep deprivation (F (2.38) $p<0.01$).

Conclusion

Young mice were resilient to sleep deprivation and maintained physical and cognitive performance. Aged mice were less resilient to sleep deprivation and required a full 48h to restore cognitive and physical performance. Future studies will look into biomarkers associated with sleep deprivation and aging.

A137

Dementia training in a geriatric dental clinic

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Background: To improve dental care of dementia patients, a collaborative action plan was created between the Specialty Care Clinic at the Eastman Institute of Oral Health by partnering with the Rochester & Finger Lakes Region Alzheimer's Association. The main goal of this action plan was to elaborate an educational training opportunity for building dental providers' knowledge and awareness of cognitive impairment for individuals living with Alzheimer's disease and related dementia.

Methods: A needs assessment was conducted to gather information about current processes, potential gaps in the case, and opportunities for improvement. This assessment included clinical workflow analysis, evaluation of current clinical practices, screening and treatment approaches. With this information, experts representing the Alzheimer's Association, and the Department of Geriatric

Medicine URMC developed a plan to increase baseline knowledge of Alzheimer's disease across all staff, increase screening for cognitive concerns, and address common challenges in dental care.

Results: "Eastman Dental Training Plan" is composed of three 60-minute modules: 1) Understanding Alzheimer's and Dementia - an overview of the Alzheimer's Association Programs and Services, 2) Dementia and Dentistry - scheduling, treatment planning, and maintaining oral hygiene, and 3) Cognitive Assessment Tools, and Interdisciplinary Care Planning - review of Mini-Cog and UB2. Pilot training sessions were conducted in ZOOM as part of geriatric training for dental residents. Staff and dental hygienists' participation were elective. Each session was recorded, the modules included ample time for questions & answers and a short evaluation (Likert scale; 0-5) after each session.

Conclusions: Pilot testing (n=6) of the three modules revealed that the respondents were satisfied with the content of the presentations, learned new information, and believed that it may improve their patient care (strongly agreed, mean of 4.83). Respondents had a slightly lower agreement on whether they may apply the information they learned in clinical situations (mean of 4.50). They perfectly agreed that the information provided was the right amount (mean of 5.0). In summary, the new training modules were evaluated as beneficial in geriatric dental education and considered included in a dental CE module for providers.

A138

Breaking Down the Hierarchy: Impacts of a Certified Nursing Assistant (CNA) Experience on Internal Medicine Residents

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Background: Within skilled nursing facilities (SNF), certified nursing assistants (CNA) provide a majority of the hands-on patient care, yet are often undervalued and excluded from team discussions and important care decisions. Physicians generally lack training in teaming with CNA's and similar professions. In order to improve interprofessional collaboration and empathy, we created an Internal Medicine (IM) resident shadowing experience focused on CNA skill appreciation, as well as a consideration of the impact of structural discrimination and traditional clinical hierarchies.

Methods: The CNA experience is embedded within the IM intern's 2-week Geriatrics rotation. Interns are assigned readings reviewing the social and demographic background and experiences of CNAs. Then interns engage in a structured shadowing experience of a CNA, during which the resident asks pre-selected questions aimed at understanding the CNA's job experience, teaming perceptions, and areas for intern self-improvement. The intern also directly participates in hands-on patient care alongside the CNA. This experience is followed by structured-reflection process with a psychology fellow to identify learning points, captured in quantitative and qualitative responses.

Results: Nine interns have completed the CNA shadowing and structured-reflection process. All agreed they learned a new detail about the role of a CNA (78% strongly agreed, 22% agreed). When asked if they were able to generate ideas about working with CNAs differently going forward, 89% of the interns agreed (67% strongly agree, 22% agree, 11% indifferent). All interns agreed that their communication with interprofessional team members will be positively influenced going forward in response to their CNA experience (89% strongly agreed, 11% agree). A common theme emerging from the psychology fellow-led reflections is increased appreciation for the value CNAs bring to the care team.

Conclusions: The CNA shadowing experience can enhance young physicians' appreciation and respect for CNAs' contributions to the care team. This new perspective has the ability to translate into more effective interprofessional communication, teaming, and better patient outcomes.

A139

Supporting COVID-19 Recovery in Skilling Nursing Facilities: Curriculum Design of a Virtual Certified Nursing Assistant Leadership Academy using Project ECHO

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Background: Over 40% of all COVID-19 deaths in Illinois have occurred at nursing homes (NH). Within Chicago, deaths have been higher at nursing homes with majority Black or Latinx residents. At the same time, NHs have seen increasing turnover and burnout among staff leading to staffing shortages. High certified nursing assistant (CNA) turnover is correlated with lower quality ratings of NHs and worse outcomes for residents. Educational and skill-building workshops focused on COVID-19 and age friendly care can help CNAs feel empowered at work.

Methods: We created a CNA Leadership Academy using Kern's six-step model for curriculum design. (1) Problem identification and general needs assessment: see background (2) Targeted needs assessment: topics were drawn from areas of concern NH staff faced as a result of the COVID-19 pandemic and areas of geriatrics care CNAs are most likely to encounter. Community members were consulted to provide feedback and identify additional areas of concern. (3) Goals and objectives: developed by geriatricians and experts in NH care. (4) Educational strategies: were created with Project ECHO, incorporating the 4Ms of age-friendly care: mentation, mobility, medication and what matters. (5) Implementation: was done collaboratively with Chicago NH networks. (6) Evaluation: pre- and post- surveys were designed to measure CNA job role self-efficacy and behavior change.

Results: Our process resulted in the following curriculum design: Participants will be enrolled from a single NH network in Chicago. Participants will attend 1-hour workshops once a month for 9 months. Topics include: dementia, depression & isolation, transitions of care, maintaining and promoting mobility, communication and documentation, advance care planning, vaccine hesitancy, outbreak responses, COVID-19 vaccination, and quality improvement. The project was well-received by stakeholders; one NH network proactively reached out after hearing about this effort. Barriers to participation included staffing shortages and CNA retention.

Conclusion: A Project ECHO skills-building and educational workshop was found to be acceptable and valuable by stakeholders and fulfills training needs for CNAs.

A140

Evaluation of a Post-Acute and Long-Term Care (PALTC) Curriculum Leveraging a Continuing Care Retirement Community (CCRC) for Medical Students

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Background: Many older adults will experience the full spectrum of Post-Acute and Long-Term Care (PALTC) in their lifetime. Older adults encounter physical deconditioning during hospitalizations and require subacute rehabilitation at a skilled nursing facility (SNF) before returning home. Many older adults also move into independent, assisted, or memory care long-term care (LTC) settings. To be fully prepared, medical students require skills to care for older adults across the PALTC continuum. A major limitation among many

medical school curriculums is the limited time delegated to PALTC. Continuing care Retirement communities (CCRCs) provide an opportunity to see all levels of PALTC in one place. We sought to develop, implement, and evaluate the effectiveness of a PALTC curriculum for third year medical students.

Methods: With the input of interdisciplinary PALTC staff and providers, a video didactic and tour of a CCRC was created. All third year medical students completed a pre-test of their knowledge and beliefs around PALTC. Students then viewed the developed video didactic and participated in an immersive tour of the CCRC that includes skilled nursing, assisted living, memory care, and independent living, and spoke to residents there. After finishing, students complete a post-test and evaluation of their satisfaction with the PALTC Curriculum.

Results: Early thematic results showed that students reported they found the video didactic and CCRC immersion visit helpful and exposed them to settings that they would not have otherwise seen in standard medical school curriculums. Students also reported better understanding of the distinct levels of care available and what services were offered in each. A comparison of pre and post-test responses on the knowledge test and formal qualitative analysis of student comments from the evaluation is ongoing.

Conclusions: Medical students found a PALTC curriculum informative and beneficial to their learning. With limitations in time for most medical school curriculums, collaborating with a CCRC may provide an ideal connection to examine the full-spectrum of PALTC.

A141

Implementation and Evaluation of a HELP Rotation for Internal Medicine Interns During COVID-19 Pandemic

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Background: The COVID-19 Pandemic limited clinical learning opportunities in Geriatric Medicine and created an increased need for training in delirium.

Aims: We aimed to determine if integrating exposure to the HELP into Internal Medicine Intern's Geriatric Medicine rotation could improve interns' ability to recognize, evaluate and prevent delirium and provide valuable clinical exposure in the context of limitations related to the COVID-19 pandemic.

Methods: Objectives and a structure for a HELP rotation were outlined. Interns performed supervised and independent comprehensive geriatric assessments (CGAs) and delirium screens using the confusion assessment method (CAM) on hospitalized patients enrolled in HELP. Interns' responses to the experience were evaluated with surveys completed after the rotation. Survey responses were compared to those from trainees who had not completed the rotation.

Results: Interns who participated in the HELP rotation reported more understanding of the role of HELP in the hospital (OR=33) as well as more confidence in their ability to evaluate delirium in hospitalized patients (OR=5) relative to non-participant intern and resident respondents. Results were statistically significant despite being limited by a small number of respondents.

Conclusions: Integrating a HELP rotation into Geriatrics Education for Internal Medicine Interns improved self-reported understanding of the role of HELP and ability to evaluate delirium in hospitalized patients. Further study of this hybrid educational model is warranted to determine the value of its broader application.

Comparing Positive Responses

Statement	Rotators Responding Positively	Non-Rotators Responding Positively	OR
I understand the role of HELP at our University Hospital	92 % (11/12)	25 % (3/12)	33
I am confident in my ability to evaluate delirium in hospitalized patients, including appropriate application of tools such as the Confusion Assessment Method and the Mini-Cog	83 % (10/12)	50 % (6/12)	5
I am comfortable discussing delirium and risks of hospitalization with patients, families, and care team members	83% (10/12)	83% (10/12)	1
I routinely perform an assessment of baseline mental status, home support, and baseline functional status when admitting a patient 70 or older and assess for changes in functional status during hospitalization.	33% (4/12)	50% (6/12)	0.5
Rotating with HELP improved my abilities to evaluate, manage, and discuss delirium in hospitalized patients.	75 % (9/12)	NA	NA

A142

Rapid-Cycle Quality Improvement of a Virtual Interprofessional Geriatric Education Model

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Background: Delivery of effective healthcare for the geriatric population is complex due to the interplay between medical conditions, social determinants of health, function and geriatric syndromes. This complexity lends itself to an interprofessional (IP) team approach. The literature on team training supports active learning pedagogies, but it is unknown if it can be effective in a virtual delivery translation. Pandemic restrictions necessitated a rapid transition from in-person to virtual instruction for health provider students, but benefits of this mode of delivery should be examined for continuing post-pandemic.

Methods: A multi-step IP simulation-based education model was designed using Wagner's Chronic Care Model along with the Constructivist/Active Learning theoretical framework at the start of the pandemic. Learning outcomes were advancement of IP collaborative competencies in geriatrics care, and satisfaction. The transition from in-person to virtual education by an IP team of educators consisted of transforming progressive steps including didactics, skills posters, professional huddles, and team meeting simulation with debriefing while maintaining active learning. Rapid–cycle quality improvement processes were used along the way. Online tools such as breakout rooms were utilized for small grouping of students into huddles, and the IP team simulation, and polling games added interaction. Additionally, standardized patients presented the patient/caregiver perspective during the team simulation.

Results: Cohort comparisons between first virtual offering and one year later were made. Collaborative competencies using ISVS-9B results showed statistically significant increase in the later cohort on 7 out of 9 items, and overall scores ($p<.05$). Student satisfaction using an investigator-generated 11-item survey on a 5-point Likert scale revealed high satisfaction scores in both cohorts for all items (range 3.74-4.19 mean scores), with one item rating organization statistically higher in the later cohort ($p<.01$).

Conclusion: Virtual simulation trainings have some benefits regarding logistics and numbers of learners that can be accommodated. Rapid-cycle quality improvement of the initial virtual offerings resulted in greater progression of IP collaborative competencies and satisfaction among learners after improvements. These results indicate that virtual learning can be an effective option in a post-COVID setting.

A143

Collaborative Development and Testing of a Milestone-Specific Feedback Tool for Geriatric Fellows

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Background: ACGME requires direct observation as means of formative assessment for fellows. We experienced low response rates using the mini-CEX as faculty and fellows found it lengthy and lacking in geriatrics-specific content. Revised ACGME milestones

provided us an opportunity to build a new direct fellow performance observation tool to promote the delivery of formative feedback to Geriatric fellows.

Methods: Establishing survey content: Key domains and anchors for fellow performance were identified using the revised ACGME milestones. Fellows and faculty collaborated to revise the content of the tool in an iterative fashion over the past year. Testing the tool: The tool was tested using the institutional evaluation platform, Medhub, in various clinical settings. Faculty and fellows reviewed qualitative input from initial testing, revised the administration process of using the tool, and set the following protocol: 1)Fellows request feedback before the start of a patient encounter, 2)Feedback is based on observation of a full or a partial encounter or case presentation, with selection of a few content domains for feedback, 3)Faculty document online evaluation while discussing feedback with the fellows in-person, 4)Face-to-face feedback could be deferred until the end of the workday to avoid disruption to clinical work. Evaluating the tool: We plan to administer a survey in the next 2 months to evaluate fellow and faculty satisfaction, number of evaluations completed as compared to the recommended number of evaluations, and perceptions of the impact and applicability of the feedback given to fellows.

Results: We have implemented a new bedside feedback tool after several cycles of testing and revisions. Content domains for observation include cognitive function, polypharmacy, communication, falls, and interprofessional teamwork, among several others. We migrated the tool to Qualtrics to improve its usability. We added separate sections of the tool for use in additional rotations, including for memory disorders clinic and palliative care.

Conclusions: Fellows and faculty collaboration played a major role in creating and testing a new feedback tool. Ongoing engagement with faculty and fellows is needed to increase the frequency of use of the tool, expand the usability of the tool in more clinical settings, and evaluate its effectiveness over the next 2 months.

A144

A Model to Transform Communities Towards Dementia Friendly

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Background: By 2050, 13.8 million American's over 65 will be living with dementia, and most will live in the community. To extend each person's ability to remain living in their homes, it is important for communities to educate consumers and providers alike about Alzheimer's Disease and related dementias. According to the World Dementia Council, three components are important to effectively engage a community to become dementia inclusive, 1) raising awareness and decreasing stigma, 2) enabling participation, and 3) providing support—including in health and care settings.

Methods: The Geriatric Workforce Enhancement Program (GWEP) sponsored by HRSA provides an organizing framework around which Dementia Friendly Community initiatives can be successfully implemented. All GWEPs partner across agencies throughout the state to deliver interprofessional education at the community, primary care, and acute care levels. Dementia Friendly community initiatives require this kind of high level interagency coordination. Ultimately, transformation of communities can only occur through educational efforts delivered to specific community sectors. For example, our GWEP's county health department partnered with the local County Board of Developmental Disabilities (DD) to systematically incorporate Dementia Friends and Intellectual Development Disabilities and Alzheimer's disease and related dementia training to the DD staff and their provider network.

Results: We used the Dementia Friends curriculum to train participants in our Dementia Inclusive Community initiative. Data were collected through online surveys using the Brief Tool for Dementia-Friendly Education and Training Sessions. Results (n=96) indicate participants felt more confident interacting with people living with dementia (t = -6.27, p<.001) and better able to respond to people living with dementia with understanding (t = -2.99, p=.005) at post-session compared to pre-session.

Conclusions: Dementia Inclusive Communities require awareness across multiple sectors and established networks such as GWEPS may facilitate collaborations. Changes at the individual level may create more inclusive communities for people living with dementia and those who care for and about them.

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A145

Impact of an interprofessional virtual geriatrics curriculum on the confidence and clinical knowledge of rural health professions students

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Background: Oregon's Area Health Education Centers (AHEC) Scholars program trains interprofessional (IP) student cohorts interested in rural practice; yet despite rural counties having high proportions of older adults, there was no prior geriatrics curriculum. To fill this gap, we created a statewide longitudinal virtual rural geriatric patient care curriculum anchored on AHEC program goals. Curriculum goals were to improve student confidence and demonstrate knowledge retention in rural geriatric care.

Methods: We led four 1-hour virtual talks annually discussing depression/suicide, pain, social determinants of health, and falls in rural older adults. Sessions concluded with interactive patient discussion. Post-session assessments included session feedback (4-pt scale), multiple choice knowledge (MCQs), change in content self-efficacy (5-pt scale), and topic confidence (4-pt scale). At end of academic year (EOY), all Oregon AHEC Scholars, regardless of series participation, were asked the same MCQs. Student participants were assessed on sustained EOY confidence. We ran descriptive statistics and paired t-tests on EOY responses comparing student participants/non-participants on pooled 2-years of data.

Results: Fifty students (29% of cohort) from 8 training programs participated. Post-session data showed significant improvement in content/skills self-efficacy (p<0.05 all questions). Pooled post-session percent correct for all session MCQs was 92.8%. At EOY, participants (≥1 session) answered more MCQs correctly compared to non-participants (p=0.02). There was no significant difference between participants' post-session and EOY percent of MCQs correct (p=0.14). Average confidence scores decreased from 3.4/4 post-session to 2.8/4 at EOY ("moderate" confidence range).

Conclusions: A virtual geriatrics series for rural-focused students showed improved patient care self-efficacy and sustained knowledge at EOY. Spiraled content likely led to high EOY scores for participants even if not attending all sessions. We encountered challenges in attendance and assessment completion, thus transitioned to an online archive/assessment system to offer more flexibility. We will next collect qualitative data to understand session effect on participants' training. This curriculum is translatable to other rural-focused or IP training programs, particularly those embracing a virtual format.

A146

Early Benefits of Chief Fellows: An Opportunity for Integrated Geriatrics and Palliative Care Fellowships

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Background: The concept of a chief resident is familiar, and the impact of near-peer mentoring and leadership has known benefits. However, in most fellowships, there is no standardized equivalent role for a chief fellow (CF). Time constraints limit CF implementation in 1-year fellowships; but the development of 2-year integrated geriatrics and palliative care fellowships (GPC) create an opportunity to utilize 2nd year fellows in a CF role. We aim to describe the initial impact of implementing CFs into our local GPC.

Methods: Program leadership (PL) from a single GPC discussed the need for CFs to assist with changing program needs with specific emphasis in the following categories: communication, wellness, orientation, recruitment, and improvements. The CF role was implemented at the start of the July 2021 academic year with the goals to act as liaison between co-fellows and PL, advocate for wellness activities, mentor co-fellows, assist in new fellow orientation, aid in virtual recruitment, enhance educational activities, and other duties. To better define this role and assess initial effectiveness, PL were asked to rate CFs on a 0 to 100 Likert scale after the 1st academic quarter. Responses were analyzed to measure improvement compared to the prior academic year.

Results: 2 program directors, 2 assistant program directors, and 2 program coordinators were included in the PL asked to evaluate the CFs with a 100% response rate. CFs had highest gain on orientation with an improvement of 94.4% among PL followed by 94.2% on recruitment impact, which was of specific focus for GPC during the first academic quarter. Overall program improvements increased by 91.3% and both communication and wellness had gains of 89.4%, compared to the prior academic year.

Conclusions: CFs demonstrate early benefits in communication, wellness, orientation, recruitment, and improvements showing overall value for GPC. We encourage all GPC to implement CFs to adapt to their program needs. Future studies should formally evaluate co-fellow and PL attitudes throughout the academic year to examine if CF focus changes in response to changing program needs.

A147

What Matters Most in the Emergency Department: Examining Learner Understanding of Front-Line Older Adult Care

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Background: The benefits of initiating specialty palliative care services in the emergency department (PCED) are well documented. Many models exist for implementing "What Matters Most" conversations (MM) for older adults (OA) in this setting. The need for PCED is expected to increase as the OA population increases, making learner development of these skills necessary. Little is known regarding Geriatrics and Palliative Care (GPC) fellowship programs' ability to adapt curriculum to fill this need and no study has assessed learner knowledge in PCED. We aim to examine learner understanding and perspectives towards providing PCED.

Methods: GPC fellows from a single institution completed a pre-training survey to assess knowledge, experience, and attitudes of directly integrating MM into routine Emergency Department (ED) services. Learners received a 1-hour didactic modeled after the Center to Advance Palliative Care Toolkit Integrating Palliative Care Practices in the ED and the American Geriatrics Society 5Ms "What Matters Most". Review of current literature was also used to teach current guidelines and screening tools to identify high risk OA in the ED likely to benefit from early PCED. A post-training survey was conducted following this intervention. Survey questions consisted of both multiple choice and open-ended responses which were analyzed to assess knowledge and attitudes towards implementing PCED.

Results: 16 learners completed the pre-survey and 11 completed the post-survey, response rates of 88.9% and 61.1% respectively. No learner had prior experience or training in PCED and only 25% of learners could correctly state at least two benefits of PCED prior to the training. 82% of learners named at least two benefits post training. 73% of learners plan to seek further training in implementing PCED and are extremely likely to advocate for PCED in the future.

Conclusions: Implementing an educational session on MM in the ED increases learner understanding of the benefits of early PCED as well as the tools available to improve quality of care to OA in this setting. Future studies should examine learner effectiveness in utilizing these skills.

A148

Applying the Age-Friendly Health Systems 4M Framework to Create Geriatric Education

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Background:

Through our four Geriatric Workforce Enhancement Programs (GWEP) and Geriatric Academic Career Awards (GACA), our universities have developed innovate ways to integrate Age-Friendly principles into our education. Additionally, our programs pivoted during COVID-19 to virtual and hybrid learning environments by grounding our work in age-friendly principles.

Methods:

Each of our programs have developed curriculum to align with the primary principles of the 4M Model which includes 1) What Matters Most, 2) Medications, 3) Mentation, and 4) Mobility. While the implementation varied among our GWEPs/GACAs, collectively, we have created geriatric training that has focused on the 4Ms. At Dominican University, learners were engaged in an intergenerational project that paired them with community dwelling older adults, where they focused on creating life profiles that highlighted key elements of the 4Ms in their own lives. At the Univ. of Illinois at Chicago and Univ. of Louisville, learners were trained specifically in how to align 4M content with annual wellness visits (AWVs) and screenings using multiple hybrid modalites. At the Univ. of North Texas, an online course was created to teach learners the principles of 4Ms and included a forum for discussing application and barriers for implementation in practice. Pre and post tests on knowledge and skill, chart reviews, and qualitative interviews were used to assess learning outcomes related to age-friendly content.

Results: Across all of our GWEPs and GACAs, 500 learners have participated in our age-friendly clinical training. Our study found that using different methods to integrate age-friendly principles into our clinical curriculum has created positive learning experiences and shifted focused towards better patient care. Additionally, we have found that the infusion of age-friendly healthcare into our work has led to stronger patient outcomes including a focus on the priorities and goals of the patient.

Conclusions:

While COVID-19 has posed a challenge in delivering geriatric education, our programs have found innovative and meaningful ways to train learners in clinical work using the principles of age-friendly healthcare.

A149

Technology Guided Assessment for Urinary Tract Infection: Creating a Common Interprofessional Language

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A Model of Shared Meaning for communication between nurse and primary care providers (PCPs) in the nursing home (NH) directed feasibility testing of a clinical decision support app (CDS app). A structured observational design was used with quantitative and qualitative description. The CDS app algorithm provided a common language to assess a resident with the goal of sharing this information with a PCP. The CDS app guided LVNs (n=10) in assessing a standardized nursing home resident experiencing symptoms of a potential urinary tract infection (UTI) in a simulation setting. Interviews with LVNs following assessment of residents provided details of CDS app usability and concerns involving the use of CDS app with NH residents. Videos recorded LVNs interacting with the resident while using the CDS app on a tablet. Videos were coded for eye contact, conversation, and touch between LVN and resident. Findings indicate areas for changes in language in the algorithm, The CDS app enabled LVNs to collect information based on language used by PCPs to make decisions about the presence of UTI, and supported the relationship between initial constructs in the Shared Meaning Model. This CDS app holds promise for building a common language to enhance professional communication involving individuals with a variety of training and experience.

A150

Improving Geriatric LGBT+ care in graduate medical education: a needs assessment

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Background:

LGBT+ older adults face numerous barriers accessing safe, equitable healthcare.[1] Medical residents and fellows caring for this diverse population would benefit from training on issues related to the care of LGBT+ older adults, but this is not often part of standard graduate medical education.

Methods:

An anonymous needs assessment survey was administered online to Family Medicine residents and Geriatrics and Palliative Care fellows at an urban academic institution. Seven true/false questions assessed knowledge of LGBT+ older adult care: gender-affirming care, HIV, cancer screenings, and end-of-life issues. Seven Likert questions (not at all confident – very confident) measured comfort with specific aspects of care.

Results:

20/33 (60%) individuals responded to the survey. The average score on knowledge questions was 4.6/7 (66%). Likert questions on gender-affirming care revealed that 15/20 respondents (75%) felt "not at all" or "not very" confident locating guidelines; 18/20 (90%) felt "not at all" or "not very" confident prescribing hormones to older adults as well as discussing hormone discontinuation. 12/20 (60%) were "not at all" or "not very" confident offering screenings relevant to LGBT+ older adults. 8/20 (40%) felt neutral and 8/20 felt "not very confident" assisting in the management of older adults with HIV; 9/20 (45%) felt "neutral" and 9/20 were "not very confident" managing HIV medications. 8/20 respondents were neutral and 7/20 (35%) were "quite confident" they could assist trans older adults with advance care planning.

Conclusions:

Based on this survey, there is a clear need to improve teaching LGBT+ care competencies at the graduate medical education level. Comfort in offering gender-affirming care was lower, indicating need for further training. Knowledge of cancer screening disparities and recommendations for LGBT+ older adults was also suboptimal. Significant variability in knowledge and comfort among respondents was noted, highlighting a need for standardized education. Based on this needs assessment, curriculum development to address these gaps is imperative.

Reference:

Choi SK, Meyer IH. LGBT Aging: A Review of Research Findings, Needs, and Policy Implications. The Williams Institute: UCLA School of Law.

A151

Tell Me Your Story COVID19 Version: Medical student remote vs. in-person interviews with healthy older adults

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Background:

Impactful teaching about geriatrics in medical education is critical considering the predicted shortfall of 27,000 Geriatricians by year 2025. We created an event for pre-clinical medical students (MS1s) to meet with community-living older adults in their homes called Tell Me Your Story (TMYS) to mitigate ageism regarding older adults and expand perspectives in aging. Due to COVID19 pandemic, this previously in-person event was transitioned to a remote platform. Our goal is to demonstrate sustained effectiveness of a remote versus in-person event via evaluation data.

Methods:

MS1s were assigned a community-dwelling older adult partners (OAPs) residing in a continuing care retirement community (CCRC), to interview by telephone or video conference. The MS1s then had a follow-up debrief discussion with faculty facilitators (FF).

Online surveys were completed by MS1s and FF immediately following the TMYS program, as in previous years. Seven years of in-person event data (2013-2019) were compared to one year of remote event evaluations.

Results:

1052 surveys were completed during the in-person events 2013-2019 and 180 surveys from the remote event in 2020. Topics discussed included relationships (94% in-person vs. 84% remote), professionalism (91% vs. 73%), health care accessibility (83% vs. 63%), dying/grieving/loss (72% vs. 86%), nutrition (69% vs. 43%), ethics (64% vs. 33%), and cultural competence (61% vs. 28%). The COVID-19 pandemic was a topic discussed for 18% during the remote event. Despite remote interviews with OAPs in 2020, 93% of MS1s reported that the event was somewhat (42%) or extremely (51%) valuable; and 88% agreed or strongly agreed that they were able to conduct an empathic conversation with their OAP.

Three open-ended questions yielded 2297 responses from in-person events and 540 responses from remote events. Coded themes included person-centered care (29% vs. 17%), patient perspective (19% vs. 26%), life experiences/personal stories (15% vs. 20%), and the doctor-patient relationship (13% vs. 14%).

Conclusions:

TMYS is similarly effective as in-person event and as a remote event. TMYS continues to be highly valued by students as an important experiential learning activity that effectively expands perspectives on aging in pre-clinical medical education.

A152

Critical Elements in Community-Academic Partnerships Supporting Interprofessional Geriatrics Education

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Background: Education of health professions learners requires strong community-academic partnerships (CAPs) to provide optimal care. Yet, despite strong literature on CAPS for research and practice, there is limited guidance specific to geriatrics education.

Methods: As interprofessional geriatrics educators representing community, education, and health care systems, we reviewed a CAP Model (Advancing a Healthier Wisconsin Endowment-AHW) to identify elements associated with geriatrics education partnerships. The AHW CAP model uses 3 elements: 1) Understand the partnership environment (needs/barriers, organizational structures and economics, need for ROI; 2) Commitment to partnership (trust, mission, goals, assets); 3) Partnership development (relationships, develop/implement/assess outcomes). We then created the geriatrics education (meeting) debrief tool (GEDT) to assure principles critical to our joint education projects were enacted.

Results: The GEDT highlights interprofessional geriatrics education elements under each CAP Model element. PARTNER ENVIRON: A) Identifyand align education topics and strategies across each professions', schools', health systems', and communitys' needs and resources (e.g., dementia caregiver needs). PARTNER PRINCIPLES: A) Focus learning/performance outcomes within the bandwidth of each partner; B) When stymied bring to team to apply collective expertise. PARTNER DEV: A) Set CAP responsive, yet firm, timelines for implementation and analyses. B) Utilize CAP strength to "persuade" external dependencies (e.g., IT staff). Since development, GEDT has been included in agenda and minutes for project team meetings, providing "space" to flag concerns, address and revisit items. Using the model, a grant was written/funded, "Student Champions: Connecting dementia patients/caregivers to essential community resources".

Conclusions: Explicitly identifying and adopting geriatrics education CAP principles allows all voices to be included to optimize design, delivery, and evaluation of training initiatives for health professions learners.

A153 Encore Presentation

Geriatric Medicine Fellow-led Educational Session for Nursing Home Staff to Improve High-Risk Medication Awareness

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Background: Older adults in skilled nursing facilities are often complex and at high-risk for polypharmacy and adverse medication reactions. The goal of the session was to improve nursing facility interprofessional team awareness of polypharmacy and high-risk medication use for older adults. We aimed to address the core component of "medications" in the 4Ms framework of geriatric care for Age-Friendly Health Systems through collaboration with skilled nursing facility team members. **Methods:** The Geriatric Medicine Fellow-led educational session for nursing home staff consisted of a 1-hour virtual session designed to improve recognition of high-risk medications in the nursing home setting. We incorporated a short interactive didactic presentation, reflection, and knowledge reinforcement with review questions. The session summarized categories of high-risk medications for older adults, medication side effects and drug-drug interactions. We also discussed tools to identify high-risk medications for future reference in practice. A survey was provided to obtain feedback on the session and measure the session's educational impact on participants. **Results:** Eleven participants from a single skilled nursing facility attended the session. Participants were from various healthcare professional backgrounds (i.e., RN, LPN, PT, MD). The post-session survey used a mixed methods approach. Paired t-test scores were used to assess the survey responses. A 5-point scale (1= low, 5= high) was used to rate knowledge (pre 3.5 vs post 4.1, p=0.005) and confidence (pre 3.7 vs post 4.1, p=0.037). 82% of participants reported that after this session, they would change their practice in geriatric medicine. Participants expressed a positive impact from this session and interest in future educational sessions. **Conclusion:** This educational session for skilled nursing home staff was an interprofessional activity aimed at enhancing knowledge surrounding high-risk medications for older adults. The session served as a starting point for future educational collaborations between nursing home team members. Overall, the session was well received, and participants reported an increase in knowledge and confidence in identification of high-risk medications.

A154

Physician Assistant Students' Medication Training: Small Groups Versus Online Training

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Background: Physician Assistants (PAs) are underutilized in filling the workforce gap of geriatrics-competent providers. According to 2018 data from the National Commission on Certification of Physician Assistants, 794 PAs (<1%) worked in geriatrics as their primary specialty. Our PA training program's mission includes developing competence in geriatrics.

Methods: An immersive learning experience occurs annually mid-clerkship year on the Institute for Healthcare Improvement 4Ms. In 2019 medication content was delivered via in-person small groups. In 2021 medication content was delivered via three case-based, online modules as advance preparation for 4Ms immersive learning. After the immersive training, students from each class completed retrospective pre- and post-assessment of knowledge, skills, and confidence in medication management. Students also provided qualitative feedback on future plans for clinical practice.

Results: The student population for each class year was 40% minority. In every category improvement after training was reported by 36 (Class 2019) and 45 (Class 2021) responders. For both classes students rated knowledge greater than skill, and skill greater than confidence. For both classes lowest rated knowledge was "awareness of importance of drug-drug interactions"; lowest rated skill "ability to identify specific drug-drug interactions". Lowest rated confidence Class 2019 "identifying drug-drug interactions"; Class 2021 "detecting adverse medication reactions". Using Likert-scale rating of 1 (low) to 5 (high), self-rated overall competence in medication management had mean 3.50 / 3.58 before and 4.19 / 4.21 after training for Class 2019 and Class 2020 respectively. Sample comments for plans to implement in clinical practice: "I will be more aware of medication management in the older population. This workshop helped me acknowledge medications that are not ideal and may be replaced with alternatives in the geriatric community.", "Medication review for all elderly patients at risk for polypharmacy - as this can affect cognition, delirium, and fall risk."

Conclusions: PA students report similarly improved geriatrics knowledge, skills, and confidence with plans for clinical practice implementation after in-person or online medication training. Our training materials are readily available for adaptation by other programs.

A155 Encore Presentation

Training Clinic Providers on Advance Care Planning Improves Provider Self-Efficacy

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Background: Advance care planning (ACP) is a vital step to ensure patients receive and prioritize the care that best aligns with their end-of-life wishes, including discussion and documentation of an advance directive. Significant gaps in ACP among underserved populations have been well documented. Research suggests a successful strategy for increasing the communication between provider and patient about ACP is to educate clinicians on this important issue.

Methods: Seven, 2.5 hour training sessions were provided to healthcare staff of a large chain of older adult primary care clinics across multiple states. Lecture materials were created and presented by a palliative care (PC) physician and PC nurse practitioner. Presentations were held both in person and virtually. Participants were asked to complete a pre/post-training survey online which included a validated 17-item ACP Self-Efficacy Scale (Baughman, 2017), perceived barriers checklist, and additional quality improvement measures.

Results: A total of 289 providers attended one of the seven training sessions. One hundred thirty four providers (46.4%) and 79 providers (27.3%) completed pre- and post-training surveys respectively. Scores on a 17-item validated ACP Self-Efficacy Scale were significantly higher after training (Wilcoxon signed rank test, Z= 5.34, p <.001). Participants ranked "lack of time" as the number one barrier to having ACP conversations both before and after the training, whereas "lack of training" ranked 2nd and fell to 7th after the training.

Conclusions: These initial results suggest ACP self-efficacy among providers can be increased through a one-time training session. Previous literature has highlighted the importance of provider self-efficacy as factor in increasing ACP conversations with patients.

A156

Identifying Knowledge Deficits Among Trainees to Inform Geriatric Curricular Redesign

L. R. Hersh, N. Safian. *Thomas Jefferson University, Philadelphia, PA.*

BACKGROUND

An aging population poses a simultaneous challenge and opportunity to healthcare systems while raising the stakes to train critical masses of clinicians skilled in geriatric care. Exposure to geriatrics at US medical schools is far from standardized and curricula are frequently limited in duration or reach. Our goal is to create an assessment tool (framed by the 27 *Minimum Geriatrics Competencies for Graduating Medical Students [MCGs]*) that identifies strengths/weaknesses of individual trainee knowledge and informs curricular redesign.

METHODS

Fourth year students enrolled in a geriatric subinternship (n=8) developed a pre- and post-rotation comprehensive Assessment & Plan writeup for a fictional geriatric patient whose vulnerabilities highlight the *MCGs* (**m**ulticomplexity, **m**ind, **m**obility, **m**edications, what **m**atters **m**ost). Pre- and post-rotation writeup of the *same* case measured shifts in students' knowledge and grasp of *MCGs* via standardized checklist.

RESULTS

Our Table lists the 11 *MCGs* cited in pre- and post-rotation write-ups, thereby identifying strengths of the current curriculum.

Of greater significance is the identification of 16 *MCGs* missed by ALL students pre- and post-rotation: **MIND (**capacity, delirium, agitation management), **MEDICATIONS** (reconciliation, prescribing cascades), **MULTICOMPLEXITY** (health equity, care transitions, hospitalization hazards, atypical presentation, aging physiology, prognosis, individualized recommendations, sensory impairment, pressure injuries), **MATTERS MOST** (communication, symptom assessment).

CONCLUSION

This assessment tool provides an effective gap analysis – highlighting the discrepancy between what is known and what should be known for graduating medical students.[1] The results identify opportunities for a revamped curriculum that closes competency gaps and prepares trainees to care for aging populations.

Learning Needs Assessment: Not Only for Continuing Education. J Nurses Prof Dev. 2016 Jul-Aug;32(4):E8

CORE COMPETENCIES	NUMBER OF STUDENTS ADDRESSING COMPETENCY: PRE-ROTATION WRITEUP	NUMBER OF STUDENTS ADDRESSING COMPETENCY: POST-ROTATION WRITEUP
MIND: COGNITIVE ASSESSMENT	4	5
MOBILITY: FALLS RISK SCREENING	6	7
MOBILITY: FALLS RISK MANAGEMENT	7	7
MOBILITY: FUNCTIONAL ASSESSMENT	0	1
MEDICATIONS: GERIATRIC PHARMACOLOGY	3	6
MEDICATIONS: DEPRESCRIBING	8	8
MULTICOMPLEXITY: URINARY INCONTINENCE	6	6
MULTICOMPLEXITY: FRAILTY	0	1
MATTERS: PSYCHOSOCIAL/SPIRITUAL NEEDS	1	5
MATTERS: ADVANCED CARE PLANNING	4	7
MATTERS: PATIENT PRIORITIES	0	3

A157

Improving Older Adult Mistreatment Education

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Background: Interest in social determinants of health (SDOH) is growing, but a dearth of education in the SDOH of older adult mistreatment (OAM) remains[1]. OAM is under-reported despite high prevalence in those with dementia, disability, and institutionalization. Protective agencies have high caseloads, yet are underfunded. Many practitioners feel ill-equipped to address OAM. We anticipated modular education would improve self-rated OAM knowledge confidence.

Methods: Starting in May 2021, 3rd year UTHealth medical students in a Geriatric Medicine clerkship completed an interactive online case-based module for a Social Justice Longitudinal Theme requirement. Pre- and post-module Likert scale measurements about OAM knowledge confidence, and OAM exposure and healthcare impact were analyzed with Stats Kingdom software paired T-tests.

Results: Student confidence in OAM knowledge (Table 1) and awareness of OAM healthcare impact (p=<0.001, SD=0.0946) increased significantly post-module. 30.4% denied and 19.1% were unsure about clinical OAM exposure. 20.0% strongly disagreed, 33.9% somewhat disagreed, and 16.5% felt neutral about pre-clinical OAM education adequacy; only 11.3% strongly agreed there was enough.

Conclusions: SDOH education is increasing, but OAM education remains insufficient even though OAM is impactful, prevalent, and expensive. Many demographics and diagnoses predispose older adults to mistreatment, resulting in much identification and management burden falling to Geriatric Medicine. Few OAM education options exist, but Geriatric Medicine educators are uniquely poised to train and teach. Brief modular education significantly improved confidence in OAM and provided opportunity for education on this SDOH of aging.

References: 1) Alt, Kim L, et al. "The Effectiveness of Educational Programs to Improve Recognition and Reporting of Elder Abuse and Neglect: A Systematic Review of the Literature." Journal of Elder Abuse & Neglect, U.S. National Library of Medicine, July 2011.

Confidence in OAM.

Self-rated confidence in:	Mean pre-rating (SD) n=111	Mean post-rating (SD) n=114	p-value
Types of OAM	2.82 (0.110)	3.97 (0.110)	0
Identification of self-neglect	2.92 (0.128)	3.87 (0.128)	<0.0001
Risk factors for OAM	2.88 (0.111)	4.03 (0.111)	0
Association of OAM as a SDOH	2.84 (0.110)	4.11 (0.110)	0

A158

Bringing the 4Ms to the bedside: a feasibility study implementing an Age-Friendly bundle with Internal Medicine trainees

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The Age-Friendly Health Systems (AFHS) initiative is leading to more reliable, evidence-based practice to older adults framed around the 4Ms, yet most medical trainees are not familiar with the 4Ms. We sought to evaluate the feasibility and acceptability of a 4Ms bundle (4MB) on inpatient medical hospital wards to teach trainees Geriatric principles.

Using the AFHS framework we created the 4MB (Table 1) that could be incorporated into the admission history and physical for all older adults. An educational conference reviewed the AFHS 4Ms and its use on wards. A survey was completed to gauge trainees' exposure and attitude to the 4MB. Three geriatric medicine attendings implemented the bundle with their inpatient teams, discussing the bundle for every newly admitted patient 65 years or older. The 4MB was included in each patient presentation and admission note. Semi-structured interviews were conducted at the end of the rotation to gain further insight into the feasibility and acceptability of the 4MB among medical trainees.

25 medical trainees participated in the post conference survey. 24% indicated familiarity with the AFHS 4Ms framework prior to the educational conference and 100% agreed (80% strongly agreed) that the 4MB would be useful on the wards. 8 trainees participated in post-rotation semi-structured interviews; preliminary themes reflect positive attitudes regarding the feasibility and usefulness of the bundle.

The 4MB is a practical tool that is acceptable and feasible for medical trainees and a promising structure to increase delivery of evidence-based Age-Friendly care. Future studies will explore the impact of the 4MB on process and outcome measures related to inpatient Geriatric education and care.

Table 1

4Ms	Bundle
Matters Most	Patient's goals, life-sustaining treatment documentation; Health Care Proxy, Social work needs
Medications	Baseline medication management; Any AGS Beer's list or high-risk medications
Mind	Baseline cognition; Delirium screening with 2-Item Ultra-Brief (UB-2)
Mobility	Baseline mobility and fall risk, Physical/Occupational Therapy needs

A159

C.A.R.E. (Caregiver Resources and Education): A Curriculum for Caregivers of People Living With Dementia

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Background: Yearly, over 11 million family members and friends provide 15.3 *billion* hours of unpaid care to those dementing conditions. Caregiving activities can include help with ADLS, IADLS and chronic disease management. These responsibilities can overwhelm and impact caregiver health. This feasibility study explored how a group visit in the Patient Centered Medical Home (PCMH) setting might improve caregiver training.

Methods: Dakota Geriatrics (GWEP) and the Alzheimer's Association MN-ND Chapter partnered to modify a HRSA curriculum on caregiver training. 8 modules are presented to caregivers through group visits. Each session includes a didactic presentation (pre-recorded video presentation) followed by a discussion with caregivers in the presence of AD specialized facilitators.

Results: Caregivers report that the group sessions were preferable to support groups and they highly valued contemporaneous access to health care experts which underpins the PCMH group visit. Caregivers also appreciated the inclusion of healthcare students who hosted the sessions, indicating the value of inter-generational programming. A feedback survey identifies additional C.A.R.E. benefits related to caregiver burn out, stress reduction and social isolation.

Conclusion: Partnerships between community and clinical services towards group visits can transform the PCMH into Dementia Friendly health care. Future work involves expanding the curriculum to Native American caregivers through Indian Health Service PCMHs.

A160

Enhancing Behavioral Health Competencies: Interprofessional Collaboration between Social Work and Medicine

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Background: This presentation will describe the creation and findings from an interprofessional curriculum in behavioral health developed by social work faculty for medical students. Training in behavioral health is needed more than ever during a time of increased isolation and fear during the COVID pandemic. Older adults with untreated behavioral health concerns are a vulnerable population, which can result in negative effects, including emotional distress, reduced physical health, increased mortality, and suicide (IOM, 2012).

Methods: I created a module for 4th year medical students in mental health and older adults, which is now part of their medical education curriculum. My curriculum development process began with the following activities:

- held key informant interviews with the medical education director, directors of the Psychiatry Clerkship and Geriatric Clerkship to better understand the current offerings across the medical education program

- conducted an archival analysis of video and training materials offered across both Geriatrics and Psychiatry

- reviewed all data/evaluation tools used in the Geriatric Clerkship to determine what is currently being collected and impact of the program.

This was an iterative process where I consulted and received feedback/revisions from MDs to create curriculum that is both rigorous and impactful.

Results: I will present outcomes in: (1) satisfaction; (2) acquired knowledge and skills (post-test); (3) application of knowledge and skills (pre-post competency assessment and comfort around asking about depression); and (4) patient outcomes (frequency of depression screening and number of referrals to social worker). Feedback from the 143 medical students is positive with 95% strongly agreeing or agreeing that this expanded their knowledge and understanding in mental health issues among older adults. At baseline, 17% of medical students were moderately to very comfortable in asking questions on the GDS compared to 42% at post-assessment. After completing the course, almost 25% of medical students made a referral to social work during their rotation.

Conclusions: Healthcare is increasingly complex, and with the increasing number of older adults with behavioral health challenges, it is critical that interprofessional training include components of integrated behavioral and medical health curriculum with a focus on person-centered assessment and planning.

A161

Modification of an Experiential Geriatric Resource Certificate to a Virtual Training Format

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Background: Pre-COVID, we implemented a 40 hour interprofessional Geriatric Resource Certificate (GRC) training which combined online didactics, in-person lectures and experiential trainings at sites that span healthy aging through end of life. With COVID, all in-person training were changed to virtual. To accomplish this we changed our format from a one week training to weekly zoom meetings with lectures from collaborators representing the different types of settings. To supplement lectures we required learners to attend two interprofessional team meetings, two ECHO presentations, a team simulation event, and a Dementia Friends training, all of which were also modified from in-person to virtual experiences.

Methods: All learners were surveyed, including evaluations of each component of the program and evaluations of the value of the program to their professional practice.

Results: We had 26 learners attend the GRC and complete evaluations. Professions include medicine, nursing, nurse practitioner, social work, nursing home support staff, and music therapy. Practice settings included ACO, Hospice, Emergency Department, nursing homes, hospitals, primary care, and Area Agencies on Aging. The GRC occurred entirely during COVID, so we have no data to compare the virtual program with the experiential training. Overall, the online didactics were rated an average of 4.59 on a 5 point Likert scale. The online real-time lectures were rated an average of 4.53 on a 5 point Likert scale. The average score for "the GRC will help me provide care over the continuum" was 4.57. The average for ECHOs was 4.25, for the real team was 4.05, for the simulation was 4.2, and for Dementia Friends was 4.43. One third of learners indicated that they did not think the program would have been more impactful if delivered in-person, 1/3 thought it would have been more impactful and 1/3 thought it would have been less impactful. None of the learners indicated that they would have been able to attend all activities if they had been in-person. All learners indicated they would refer others to the GRC.

Conclusions: Although we believe in experiential learning, there are some advantages to virtual classes. It is easier to accommodate larger groups online and it is easier to schedule events online. Learners can also view recorded lectures on their own time. These advantages help expand the reach of geriatric education.

Funded by HRSA GWEP (U1QPH33073)

A162

Comparison of an In-Person vs Virtual Simulation Education Experience for Fall Risk Assessments and Interprofessional Team Care Planning

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Background: One in four adults over the age of 65 falls every year, making falls one of the most pervasive threats to health and quality of life. Fall risk assessment and fall prevention efforts are optimized using an interprofessional (IP) team approach. We designed a successful in-person fall prevention simulation training. This model was modified to a fully online format necessitated by the COVID-19 pandemic.

Methods: In the in-person model, students prepared for the simulation by completing online didactics, followed by in-person training with a poster session to reinforce online learning and practice fall risk assessment skills and profession-specific huddles to introduce a simulated case of an older adult. Next, they broke into IP teams to discuss the case in small groups and to practice the IP team care planning process. After the simulated case, students used their new assessment and team care planning skills, under supervision, on an actual person at high fall risk. COVID-19 necessitated a virtual training model so the education was modified such that students still completed didactics online, but on simulation day they viewed a pre-recorded virtual fall risk assessment performed by experts. Students were then sent into breakout rooms of IP teams (n=10-12) to assess and care plan virtually, under supervision, with a real person a high fall risk.

Results: We measured student satisfaction with an investigator generated assessment tool and compared the results from the in-person and virtual sim events. Results showed a mean satisfaction score of 4.06 out of 5 for the in-person sim vs 3.9 for the virtual sim ($p=0.8$). Significantly more students at in-person events reported feeling like an active participant ($p=0.004$), able to identify patient problems ($p<0.001$), and valued the huddle ($p=0.01$). Qualitative data showed real patient assessments in both in-person and virtual settings was highly valued.

Discussion: An IP team approach is recommended to optimize fall prevention. Education efforts that teach the ability to assess patients and team virtually are needed. This education model demonstrates an effective way to train students in virtually, although advantages remain for in-person training.

Funded: HRSA GWEP (#U1QHP33073).

A163

Evaluating geriatric education through use of an interactive board game: A case study for interprofessional game development

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Background: As part of a HRSA-sponsored Geriatric Workforce Enhancement Program grant (# U1QHP33073) we developed a 40-hour Geriatric Resource Certificate (GRC) course to train students and practitioners about the spectrum of issues faced by older adults from healthy aging through end of life, with the goal of creating geriatric resource personnel in primary care and other practice settings.

Methods: We assembled a team of practitioners and patients/providers to provide expertise and input into design of an interactive board game serving as a GRC capstone experience.

Results: Main issues: 1) make the game reflect real life. We started players with typical life situations (e.g., income, marital status, chronic illnesses) and made game spaces reflect real life events and choices, 2) Incorporate fate. We made many game spaces involve a choice based on the player's primary goal, 3) Span the geriatric spectrum. We used our interprofessional team's expertise to incorporate common literature-based needs, resources and outcomes, 4) Incorporate knowledge gained in the GRC with general but also specific knowledge spaces (knowledge influenced by GRC learning), 5) make outcomes reflect the prevalence of that outcome in reality, 6) make all life situations have positive and negative aspects, 7) how to "win" the game. We made the successful ending goal-driven by the individual player with curve balls thrown into goal achievement. Players choose their preferred outcome at the start of the game (i.e., health, money, socialization) with 2 chances to change their goal based on events throughout the game. One of the challenging parts of game development was not assigning value judgments to goal choices, while emphasizing the importance of Advance Care Planning (ACP). We ask players if they want to stop to actually complete a Medical Orders for Life Sustaining Treatment (MOLST) form and we impart a substantial deduction at the end of the game if the player is hospitalized with no ACP.

Conclusions: We developed a game that incorporates patient-centered goals that may be hampered by twists of fate to lead the learner through a simulated aging experience. Multiple iterations fine-tuned the final product. Qualitative feedback was positive.

A164 Encore Presentation
Driving and Dementia: An "Emotionally-charged" Issue for People with Dementia and their Healthcare Providers

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Background: The decision to stop driving and the transition to non-driving is emotional and challenging not only for people with dementia (PWD) and their family members, but also for healthcare providers (HCPs). With the growing number of drivers with dementia, HCPs are being increasingly tasked with addressing driving cessation. However, most HCPs lack the knowledge, skills and resources to support PWD and their families in this context. Our objective was to explore HCPs' perspectives on the content they deemed important to include in an e-learning program being developed to educate HCPs about dementia and driving.

Method: In-depth semi-structured interviews were conducted with 22 HCPs (physicians, nurse practitioners and occupational therapists), practicing in six Canadian provinces. Participants were asked to provide feedback on the proposed content of an e-learning program. Data were examined using a thematic analysis approach.

Results: Participants emphasized the "emotionally-charged" nature of driving cessation, which they identified as being extremely challenging for PWD, their families and for HCPs. The trauma and negative impact that driving cessation has on PWD also affects HCPs' emotions and work stress, influencing how they navigate driving cessation with their patients/clients. Further contributing to some HCPs' stress was a lack of knowledge and confidence about determining when drivers were unsafe to drive and how to support them through the transition to non-driving. Protecting the therapeutic relationship was a primary concern for HCPs, which they managed by: 1) employing avoidance and referral practices; and 2) mitigating PWD's and family members' emotional responses via communication strategies (e.g., expressed understanding, prepared scripts, early and on-going discussions about driving).

Conclusion: Study results highlight the importance of addressing the inter-related emotional aspects of driving cessation for both PWD and HCPs in educational programs directed to HCPs.

A165 Encore Presentation
Obtaining Healthcare Provider Feedback on e-Learning for Driving Cessation and Dementia

G. Naglie,[2] E. Stasiulis,[1] A. Byszewski,[3] I. Gélinas,[4] B. Vrkljan,[5] H. Sandhu,[7] J. Brookes,[7] M. J. Rapoport.[6] *1. Baycrest Health Sciences, Toronto, ON, Canada; 2. Medical Services, Baycrest Health Sciences, Toronto, ON, Canada; 3. University of Ottawa Faculty of Medicine, Ottawa, ON, Canada; 4. School of Physical and Occupational Therapy, McGill University, Montreal, QC, Canada; 5. Institute for Research on Aging, McMaster University, Hamilton, ON, Canada; 6. Psychiatry, Sunnybrook Health Sciences Centre, Toronto, ON, Canada; 7. Rotman Research Institute, Toronto, ON, Canada.*

Background: Healthcare providers (HCPs) can play a critical role in facilitating decision-making and supporting people with dementia (PWD) in their transition to non-driving. However, research consistently shows that HCPs lack the knowledge, skills and confidence to effectively support PWD and family carers in the context of driving cessation. As part of our aim to develop an e-learning program to educate multidisciplinary HCPs about driving and dementia we explored HCPs' perspectives on the proposed content and format of our e-learning modules.

Methods: In-depth interviews were conducted with 22 HCPs including six primary care physicians, three geriatricians, three geriatric psychiatrists, six nurse practitioners and four occupational therapists in six Canadian provinces. Participants were asked to provide feedback about their format and content preferences, which included: 1) communicating about driving; 2) addressing the emotional impact; 3) assessing driving fitness and reporting; and 4) supporting quality of life post-cessation. Data were examined using a thematic analysis approach.

Results: Participants reported that all content areas should be included. They emphasized the importance of: including early discussions of driving; addressing the emotional impact on HCPs as well as on PWD; directing content to general practitioners who have less experience and skills, but more contact with PWD; and focusing on challenges faced by PWD and HCPs in rural areas. Asynchronous learning with opportunities for live discussions and case study vignettes were preferred because they offered flexibility and a format to learn about realistic and complex issues encountered in practice.

Conclusions: As participants' responses indicated, driving cessation for PWD is a complex and challenging issue requiring HCPs to be informed and proactive. Obtaining HCPs' perspectives on the development of e-learning modules is critical to ensuring that it will effectively prepare HCPs to support PWD in the driving cessation process.

A166
The impact of the COVID-19 pandemic on medical students' attitudes towards older adults: implications for the future of geriatric medicine

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Background: COVID-19 has caused significant upheaval in medical education. Ageism has profound adverse effects on the healthcare of older people and on the recruitment of geriatricians. It is unclear what effect the pandemic, with its focus on older vulnerable adults, may have had on students' attitudes to this population. We have used mixed methods to explore whether the COVID-19 pandemic has had a positive, negative or no change on medical students' attitudes towards older people.

Methods: 2020 marked the final year of Bristol Medical School's MB16 curriculum, which was replaced with MB21. Whilst MB16 included just 4 weeks, MB21 involves an 18-week attachment in geriatrics. Two groups of students (5th year MB16, 4th year MB21) undergoing these different curricula were invited to participate in an online questionnaire study after their geriatrics attachments, collecting demographic and attitudinal information. We examined descriptive data and undertook multivariable logistic regression analysis to look at predictors of a positive attitude change. 12 students volunteered to participate in qualitative focus groups, of which anonymised transcripts were analysed using a framework approach.

Results: 284 students responded to our survey: 115 MB16 and 169 MB21 (43% and 79% response rate respectively). One third answered that the COVID-19 pandemic had made them feel more positively towards older adults. In univariable analysis the only predictors were curriculum type, student age and survey timing. MB21 students were over twice as likely to report a positive change in attitude towards older people than MB16 students after adjustment for age and timing (OR 2.40, 95%CI 1.24-4.63, p=0.009). The main qualitative themes are that young people felt a duty to protect vulnerable older people during the pandemic. They also spoke of an increased awareness of aging and life for older people, particularly the experience of loneliness during coronavirus lockdowns.

Conclusions: The most notable difference between MB16 and MB21 is an expansion in time dedicated to geriatric medicine during 4th year. Our work joins the growing body of evidence showing that quality undergraduate education in geriatric medicine can positively influence medical students' attitudes towards older adults, even during a global pandemic.

A167 Encore Presentation

Transforming undergraduate education in geriatric medicine: Curriculum design, innovation, and evaluation at Bristol Medical School

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Background: Global population aging is one of the defining challenges of our time. The World Health Organization (WHO) advocates investment in high-quality undergraduate education in geriatric medicine as a means of meeting the future needs of healthcare systems, by equipping 'tomorrow's doctors' with the skills and knowledge to care for older adults with complex health and social care needs.

Methods: The transition between two undergraduate medical curricula meant that Bristol Medical School (BMS) was uniquely positioned to innovate and evaluate undergraduate education in geriatric medicine. This transition marked BMS' departure from a 'traditional' curriculum into case-based learning. The outgoing curriculum included a 4-week unit in geriatrics, whilst the new programme includes an 18-week clerkship titled 'Complex Medicine in Older People' (CMOP).

Results: CMOP is a clinical clerkship with 18 cases at its core, covering the fundamental aspects of geriatric medicine. The core cases and clinical learning are enhanced with four expert lectures, six tutorials and three journal clubs. Reflective practice is modelled and promoted with Balint groups and book club. Consolidative workplace-based assessments and clinical portfolio mirror those used in postgraduate training, preparing students for professional practice. CMOP is iteratively improved in real-time using staff and student feedback.

Conclusions: This marked shift in mode and duration of teaching affords the opportunity to evaluate the impact of differing education in geriatrics, providing an evidence-based model for teaching on aging. Embedded within CMOP is a programme of mixed-methods evaluative research. Short- and long-term student outcomes (attitudes, empathy, and career progression) are compared between BMS' 2 curricula, and longitudinally across the 18 weeks of the CMOP clerkship.

A168

Strategies for COVID-19 Vaccine Education for Workers in Nursing Homes in Ontario, Canada: An Environmental Scan

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Background: Older adults living in nursing homes have borne the brunt of the impact of the COVID-19 pandemic. Vaccination of staff in nursing homes is critical to protect this vulnerable population. However, there has been significant vaccine hesitancy observed amongst healthcare workers globally. We conducted an environmental scan to understand both formal and informal educational interventions that were delivered to staff in nursing homes in Ontario, Canada, with respect to the COVID-19 vaccines.

Methods: We conducted structured interviews (verbal [n=11] and written [n=4]) with Nurse Practitioners (NPs) and management in nursing homes and collected data from relevant articles in a scoping review. Data collection took place between May 10, 2021 and October 13, 2021. Our analysis was guided by a behavioural science framework, and we triangulated findings from the interviews and scoping review.

Results: 14 of the 15 participants reported using one-on-one informal conversations as the primary approach to education for vaccine-hesitant staff. A variety of formal presentations, supplemented with written information, were also common. The facilitators of the education were often peers ("staff champions"), NPs, and Directors of Care. Equity, diversity, and inclusion (e.g. providing education in different languages, tailoring to education level) were sometimes considered in one-on-one conversation but were rarely considered in formal education. The most common barrier to providing education to nursing home staff was time constraints.

Findings from the scoping review also suggested that personalized, non-judgemental conversations with trusted educators supported the increase of vaccine confidence. It is important to have diverse educators (including "staff champions") to build trust among minority populations that are disproportionately vaccine-hesitant.

Conclusion: Since the majority of the education is through one-on-one conversations, a "train the trainer" approach would be helpful to empower educators to have effective conversations. Equity, diversity, and inclusion considerations are important for accessibility and trust, but often overlooked.

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Comprehensive geriatric assessment, frailty, and outcomes in older adults with hepatobiliary & pancreatic cancers.

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BACKGROUND: Heterogeneity exists among older adults with hepatobiliary & pancreatic (HBP) cancers. With minimal prospective clinical trials in this cohort, there is a need to characterize risk factors that may be prospectively studied in trials designed for older adults

with HBP cancers. The objective of this research is to better understand frailty and geriatric outcomes in older adults with HBP cancers using comprehensive geriatric assessment (CGA).

METHODS: Retrospective analysis of older adults (≥65 years) with HBP cancers. Patient, cancer, and CGA data were collected at baseline. Frailty was assessed using 5-item frail scale. Survival status was determined as of November 1, 2021. Time to death was defined from initial consultation to date of death.

RESULTS: 69 patients had HBP cancers (liver 30.4%, bile duct 17.4%, pancreatic 36%). Median age 71 years; median BMI 25.5 kg/m^2. Male (60.9%), Hispanic (56.5%). Stage: I (15.6%), II (21.9%), III (20.3%), and IV (42.2%). Baseline ECOG status: 0 (55.1%), 1 (23.2%), 2 (18.8%), 3 (2.9%). CGA was performed in 73.9%. Median number of comorbid conditions was 3; 10% had >7. Medications: 75% with >7. Falls <6 months: 13.7%. Unintentional weight loss <6 months: 74.5%. ADLs deficits in 24.5% and IADLs deficits in 57.1%. Depression per GDS in 20.8%. Limited social support per MOS in 37%. 64% were pre-frail, while 23% were frail. Compared to robust patients, more died in prefrail and frail categories (55.5% vs 70.5% and 75%, respectively). Median time to death: robust=15 months; prefrail=11 months; frail=7 months. Geriatrics consultation was considered in only 10% of cases.

CONCLUSION: In HBP cancer patients with ECOG 0-1, CGA identified impairments in multiple geriatric domains. Many were prefrail and frail prior to receiving treatment, with an association between worsening frailty and decreased overall survival. Patients with HBP cancers should have a formal geriatric consultation at baseline for prehabilitation and/or palliative support. Future prospective studies should focus on interventions to improve geriatric and survival outcomes.

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Prolonged Use of Muscle Relaxants After Surgery in Older Adults

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Background

Surgeons have made substantial efforts to decrease postoperative opioid prescribing in response to the opioid epidemic and risk of long-term use. There has been a nationwide shift to non-opioid pain medication use including muscle relaxants (MRs) such as cyclobenzaprine. However, many MRs are listed as potentially inappropriate medications for older adults and worse, may be unintentionally continued long-term. This can lead to altered mental status and falls in older adults. Yet little is known about postoperative prescribing of MRs in older adults, nor how often this prescribing leads to prolonged use.

Methods

We conducted a retrospective study, merging data from Medicare Carrier, MedPAR and Outpatient Files with Medicare Part D for 2017-18, using a 5% Medicare sample. We included patients ≥66 years old who underwent 15 of the most common surgical procedures performed in older adults. Any fill for an MR 7 days before or after surgery was considered a discharge prescription. We excluded patients who died within 30 days after discharge or with any prescription for an MR in the prior 3 months. The primary outcome was prolonged use of MRs, defined as a prescription being filled >90 days after surgical discharge.

Results

Of 51,151 eligible patients, 1,718 patients had a new MR prescription after surgery. In our final cohort, mean age was 73 years, 58% were women and 91% were White. The two most common procedures were lumbar spine procedures (48%) and total knee replacements (31%). Among patients with new prescriptions, 13% were still receiving refills for an MR at >90 days after surgery. Those who had prolonged use were more likely to be younger (71.7 vs 72.7 years), women (66% vs 57%), have prolonged use of opioids (60% vs 21%), have a higher Charlson score (2.4 vs 2.0) and have had a longer length of stay (8 vs 5 days), all comparisons (p<0.01).

Conclusions

While a small percentage of older adults fill a prescription for an MR postoperatively, one-eighth of those are still filling a prescription >90 days after surgery. These patients are also more likely to be using opioids, which has the potential to increase risks associated with polypharmacy and adverse drug events. Robust strategies are needed to prevent short-term postoperative use of MR in older adults from leading to prolonged use.

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Outcomes Associated with Using the Identification of Seniors at Risk Score to Determine Geriatric Evaluations of Trauma Patients with Hip Fractures

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Background: Falls contribute to hip fractures in older adults and can cause decline requiring increased levels of care. In 2013, a Level II Trauma center adopted the Identification of Seniors at Risk (ISAR) screening tool for patients older than 60 to capture the need for Geriatric evaluations. The purpose was to understand outcomes of older adults admitted with a hip fracture sustained after falling related to their ISAR score and before and after the implementation of the screening tool.

Methods: This was a retrospective program evaluation. Charts for patients older than 60, admitted for hip fracture to the trauma service during July 2014-June 2016 and January 2017- December 2019 were reviewed. Variables were described using means/standard deviations for continuous variables and counts/percentages for nominal data. Continuous variables that did not follow a normal distribution were described via medians and interquartile ranges. The two groups were compared with Student's t-Tests for continuous variables and Chi-squared tests for nominal variables. To evaluate variables related to each ISAR score the Kruskal-Wallis test was used. The p-value was adjusted as needed to conclude significance using Hochberg's adjustment.

Results: Ages varied between each ISAR score (p=0.0001) and there was a positive correlation with older age and increasing score. Other significant findings related to higher ISAR scores include increased length of stay (LOS) (p=0.012) and presence of hospice consults (p=0.034). No significant difference was observed in ISS, inpatient mortality, ICU LOS, or discharge to a SNF as it relates to each ISAR score. When comparing the pre to post group with Geriatric evaluations, there was an increase in age (p=0.026) and ISS (p=0.001), and no significant differences in LOS, ICU LOS, readmission rates, Hospice consults, or in-hospital mortality. In-hospital mortality and LOS down-trended in the post-group with Geriatric evaluation.

Conclusions: This study demonstrated outcomes for older adult Trauma patients who sustained a hip fracture related to their ISAR score and presence of a Geriatric evaluation. Further research can focus on other injuries, understanding the elements of the Geriatric evaluations, and the compliance to Geriatric recommendations.

A172

Cedars-Sinai Geriatric Fracture Program (GFP) Improves Patient Outcomes

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Background: Our objective was to develop and sustain a program to optimize the care of geriatric fracture patients in a pluralistic hospital setting. The GFP was designed through consensus of interprofessional champions and empirical evidence. Patients ≥65 years old with fractures and managed by the Cedars-Sinai orthopaedic faculty surgeons and participating hospitalist groups were included in the GFP. The program launched as a pilot with one hospitalist group, caring for 153 patients in year one and expanding in years two and three with additional hospitalist groups. A geriatric Nurse Practitioner managed program fidelity and daily care. A total of 740 geriatric fracture patients received care through the GFP. The key outcome measurements for GFP were time-to-surgery, length-of-stay, delirium assessment, follow-up bone health and fall reduction referrals, and readmission rates. Additional protocols were incorporated as the program matured. These included a geriatric pain protocol, an inpatient mobility program, a delirium education and management initiative, and a robust transitional care program.

Methods: Primary data was collected from July 1, 2018 to June 30, 2021 to evaluate the Geriatric Fracture Program key program goals and outcomes. Cost and Vizient length-of-stay index were collected from secondary sources. Data was collected daily in Redcap from electronic medical records for GFP and non-GFP fracture patients (those meeting criteria for the GFP, but not managed by a participating hospitalist group and receiving standard care). Demographic information, preoperative comorbidities, time of admission, diagnosis, additional cardiac diagnostic procedures performed, time to surgery, type of surgery, length of stay, and 30-day readmission rates were recorded. Total hospital charges were recorded for all patients.

Results: We reduced Time-to-Surgery to ≤24 hours while keeping Length-of-Stay to ≤5 days and readmissions stable. Delirium assessment improved to >80% and bone health and falls risk follow-up increased to >30%. Direct inpatient cost savings were on average $5,000 per patient compared to non-GFP patients, allowing for the funding of additional personnel.

Conclusion: The GFP approach has established novel adjuncts to existing hospital personnel for the treatment of geriatric fracture patients and is a key reason for Cedars-Sinai's recognition as an Age-Friendly Health System in 2020.

A173

Comprehensive Geriatric Assessment Outcomes for Older Adults Admitted with Traumatic Injury

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Background

Older adults (OA) with traumatic injury are a growing population that require specialized care to maximize outcomes and reduce complications. OA with traumatic injury experience higher morbidity and mortality compared to younger adults. The comprehensive geriatric assessment (CGA) has been shown to improve patient care outcomes in a variety of settings. This study describes OA admitted with traumatic injury to a Level I trauma center seen by a Geriatric Trauma Consultation Service using the CGA and 5Ms of Geriatrics.

Methods

A retrospective electronic medical record review was conducted from August 2020 to August 2021 in an academic Level I trauma center that serves San Antonio, Texas and surrounding area. Included patients were admitted to a Trauma service with the following: age ≥65 with injurious fall, delirium, dementia or driver of vehicle collision, and patients age ≥75. Baseline CGA was conducted by the Geriatric Trauma Consultation Service. Mobility assessments included Barthel activities of daily living (ADLs), Lawton-Brody instrumental activities of daily living (IADLs), and screenings for falls, incontinence, and vision and hearing impairment. Mini-Nutritional Assessment and AUDIT screening were performed. For Mind, PHQ-2, 3D-CAM and Mini-Cog were performed. Medications were reviewed based on aging physiology and Beers Criteria. For What Matters, prompts from Patient Priorities Care were used and documented. Multicomplexity included FRAIL Questionnaire and Trauma Specific Frailty Index (TSFI). Primary outcomes included descriptions of population and geriatric syndromes. Secondary outcomes included review for completion of CGA components.

Results

270 patients were identified. CGA mean scores included ADL 86.08/100, IADL 6.23/8, FRAIL 1.76/5, TSFI 0.22, and Mini-Cog 3.24/5. Positive screens included fall risk 61.85%, 3D-CAM 13.33%, urinary incontinence 36.3%, hearing impairment 45.19% and vision impairment 30%. Missing data included 10% PHQ2, 41.11% Mini-Cog, 10.74% AUDIT, and 27.78% TSFI.

Conclusions

OA admitted with traumatic injury are largely pre-frail with opportunity to modify geriatric syndromes to optimize trajectory. Utilizing the CGA can identify geriatric syndromes with addition of multicomplexity descriptors to tailor treatment plans. Additional Geriatric Trauma Consultation Service education on assessments within the Mind domain will be helpful for thorough CGA completion.

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Implementation of an automated Frailty Index as part of a Geriatric Co-Management Program

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Background: Geriatric Orthopedic co-management programs are increasingly utilized given their proven efficacy to reduce length of stay and improve outcomes among frail older adults. Our aim was to implement an automated Frailty Index (FI) calculation as part of a pilot, Geriatric co-management program at a single large academic center.

Methods: An Advanced Fellow in Gerontology created a Pilot for co-management between the Divisions of Gerontology and Orthopedic Trauma at Beth Israel Deaconess Medical Center. Patients aged 65 yrs and older, admitted with a hip or femur fracture were eligible for co-management. The Fellow performed a Comprehensive Geriatric Assessment on all patients including medication review, cognitive screening and functional status. An FI calculation was derived using CGA information and documented in the electronic medical record. Data was collected prospectively between 8/16/2021 – 11/17/21. Patients were categorized as Robust (FI < 0.15), Pre-Frail (FI 0.15-0.24), Mildly Frail (FI 0.25-0.34), Moderately Frail (FI 0.35-0.44), Severely Frail (FI 0.45 or above).

Results: 55 patients were co-managed and all underwent surgery. The average age was 82.7 yrs (range 65-102 yrs), and 69.1% were female. The average FI was 0.33 (range 0.02-0.59). FI results were: 20% Robust, 16.4% Pre-Frail, 10.9% Mild, 21.8% Moderate, 31.1% Severe. A total of 5 patients were transferred to Medicine due to in-hospital complications. Of the 5, 1 was Mild, 2 were Moderate and 2 Severely Frail. 1 of these Severely Frail patients expired in hospital. The average LOS of transferred patients was 13 days. The average LOS of the remaining 50 patients discharged from co-managed care was 4.8 days.

Conclusions: Our pilot program demonstrates feasible use of an automated FI as part of Geriatric-Orthopedic co-management. Further evaluation is needed to determine whether the FI measure favorably changes care.

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Age, Co-morbidities and Postoperative Delirium in Older Patients with Hip Fractures

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Background: Postoperative delirium is common in older hip fracture patients. It is associated with increased 30 day mortality, greater risk of functional deterioration and increased length of hospital stay. Age and comorbidities have been shown to increase risk of postoperative delirium in some studies[1]. The aim of this study is to evaluate the association between age, comorbidities and postoperative delirium in older acute hip fracture patients.

Methods: A retrospective, cross-sectional analysis of patients admitted with acute hip fracture between January and December 2019 was carried out. Data was extracted from anonymized electronic patient records. Patients were included if they were 60 and above and had undergone surgery for acute hip fracture. Patients with incomplete data were excluded from analysis. The 4-AT (Alertness, Abbreviated Mental Test-4, Attention and Acute change or fluctuating course) screening tool, which is well validated for delirium, and the Charlson's comorbidity index were used for delirium and comorbidity respectively. SPSS 27 IBM software was used for statistical analysis. Descriptive statistics were carried out and Pearson's correlation coefficient and linear regression were used to determine correlation.

Results: 291 patients were analysed in total - 76 males and 215 females. Mean age was 82.2+/-8.5 years. There was statistically significant positive correlation between age and comorbidity index, age and 4-AT and comorbidity index and 4-AT (r=0.497;p<.001, r=0.222;p<.001 and r=0.222;p<.001 respectively).

Conclusion: Age and comorbidities are positively associated with each other and with postoperative delirium in older patients with acute hip fractures. This information may be used to better risk stratify older patients presenting with acute hip fractures for potential postoperative delirium.

References:

1) Yang, Y., Zhao, X., Dong, T., Yang, Z., Zhang, Q. and Zhang, Y., 2017. Risk factors for postoperative delirium following hip fracture repair in elderly patients: a systematic review and meta-analysis. *Aging clinical and experimental research, 29(2)*, pp.115-126.

A176

Development and Validation of a Light-Touch Frailty Phenotype for Clinical Use

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BACKGROUND: Frailty predicts poor post-kidney transplant (KT) outcomes. The most used Physical Frailty Phenotype (PFP) takes 10-15 minutes to complete in clinical settings, limiting the utility in transplant evaluation, so we developed a light-touch tool for transplantation.

METHODS: The light-touch frailty phenotype was constructed by simplifying each PFP component. In a cohort of 3222 KT candidates with all PFP components measured, we examined area under curve (AUC) and Cohen's kappa agreement of light-touch frailty status vs PFP status. Waitlist mortality risk (competing risks models) was estimated for both phenotypes. Model discrimination was tested using Harrell's C-index.

RESULTS: Frailty prevalence was 27.4% by light-touch phenotype and 23.8% by PFP, with substantial agreement (K=0.69) and discrimination (AUC=0.861). Light-touch frailty and PFP had similar associations with waitlist mortality (subdistribution hazard ratio[SHR]=1.49,95%CI:1.15-1.93,C=659 vs SHR=1.57,95% CI:1.23-2.00,C=660) with comparable discrimination (p=0.46). The light-touch tool was tested at pre-KT evaluation (n=20) and took 5-7 minutes to complete.

CONCLUSIONS: The light-touch tool is valid and efficient to identify frail patients; it predicts waitlist mortality among KT candidates without sacrificing discrimination. Transplant care providers may utilize this tool to assess frailty for candidates when time is limited.

Table 1: Components of the original frailty phenotype and the light-touch frailty phenotype

	Original Frailty Phenotype	Light-Touch Frailty Phenotype
Exhaustion	Self-report of having either feeling occasionally or most of the time in the past week • "Everything I did was an effort" • "I could not get going"	Self-report of having the feeling occasionally or most of the time in the past week • "Everything I did was an effort"
Shrinking	Unintentional weight loss >10 pounds in prior year	Unintentional weight loss in the prior year
Low activity	Kcals/week based on the short version of the Minnesota Leisure Time Activity questionnaire: lowest 20% by sex • Male: <383 kcals/week • Female: <270 kcals/week	Self-report of doing none or only 1 of the 3 activities in the past 2 weeks: • Walking for exercise • Chores (moderately strenuous) • Any other physical activities
Slowness	Walking time/15 feet based on the average of 3 measures: slowest 20% by sex and height *Male:* • height ≤173 cm: walk time ≥7s • height >173 cm: walk time ≥6s *Female:* • height ≤159 cm: walk time ≥7s • height ≤159 cm: walk time ≥6s	Walking time/15 feet based on one measure: slowest 20% by sex and height *Male:* • height ≤173 cm: walk time ≥7s • height >173 cm: walk time ≥6s *Female:* • height ≤159 cm: walk time ≥7s • height ≤159 cm: walk time ≥6s
Weakness	Grip strength based on the average of 3 measures: lowest 20% by sex, BMI *Male:* • BMI ≤24, grip strength ≤29kg • BMI 24.1-26, grip strength ≤30kg • BMI 26.1-28, grip strength ≤30kg • BMI >28, grip strength ≤32kg *Female:* • BMI ≤23, grip strength ≤17kg • BMI 23.1-26, grip strength ≤17.3kg • BMI 26.1-29, grip strength ≤18kg • BMI >29, grip strength ≤21kg	Grip strength based on one measure: lowest 20% by sex, BMI *Male:* • BMI ≤24, grip strength ≤29kg • BMI 24.1-26, grip strength ≤30kg • BMI 26.1-28, grip strength ≤30kg • BMI >28, grip strength ≤32kg *Female:* • BMI ≤23, grip strength ≤17kg • BMI 23.1-26, grip strength ≤17.3kg • BMI 26.1-29, grip strength ≤18kg • BMI >29, grip strength ≤21kg

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Association of ED provider order set usage with potentially inappropriate medications written during and after implementing a medication safety program

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Background: The Enhancing Quality of Prescribing Practices for Older Adults in the Emergency Department (EQUiPPED) project is a medication safety project that has demonstrated efficacy in reducing potentially inappropriate medication (PIM) prescribing through a combination of clinical decision support (education, electronic order sets, and individual prescriber feedback). During a scale-up of EQUIPPED, we aimed to elucidate the degree to which usage of an orderset influenced PIM prescribing behavior. Methods: We isolated two common diagnostic groups (musculoskeletal pain or vertigo) for older adult patients presenting at one academic Emergency Department that resulted in three of the top PIMs at baseline (cyclobenzaprine, diazepam, or meclizine). Using baseline data, we determined the most common ICD10 codes associated with the diagnoses for which PIMs were written for these two groups. These ICD10 codes were then evaluated during the subsequent 12- month implementation and post-implementation periods. Results: Statistical analysis demonstrates that it is unlikely that an orderset alone led to sustained change in prescribing practices in this urban academic emergency department. Prescriptions for both cyclobenzeprine and diazepam both declined significantly during and after the study period (p<0.0001) while meclizine prescriptions for vertigo remained constant (p=0.5848).

Orders for baclofen, a non-PIM alternative offered in the musculoskeletal pain order set as well as order set usage increased significantly post-implementation, suggesting influence of the order set on PIM improvement.

A178 Encore Presentation

Description of a Geriatric Emergency Department Accreditation (GEDA) Pharmacy Practice Model

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Purpose: To achieve the highest accreditation level (level 1) of the new Geriatric Emergency Department Accreditation (GEDA) program, hospitals must incorporate pharmacists to address polypharmacy and high-risk medication use. Many struggle to find a sustainable practice model due to the challenges of pharmacy reimbursement models. This study describes a geriatric pharmacist practice that attained a Level 1 GEDA.

Methods: Upon admission to the 12-bed geriatric emergency department (ED) in a small, community, non-teaching hospital, all patients ≥65 years are seen by a geriatric nurse navigator (GN). Among other assessments, the GN screens for high-risk medication use (per the American Geriatric Society 2019 Beers Criteria) and polypharmacy (≥7 scheduled prescription medications). GNs place a consult for all patients with positive screens to the hospital's two part-time clinical pharmacy specialists designated for this program. The pharmacists, frequently with students, meet with the patient upon discharge home (via home visit or telephone). A review and reconciliation of medications and medication education is completed Recommendations and reconciliation results are communicated to the primary care provider. Patients discharged to skilled nursing facilities are handed off to that facility's pharmacist. This study is a 3-month chart review of patients seen in the geriatric ED with a consult placed to pharmacy. Descriptive statistics were used to describe the novel practice; primary outcomes were number and type of pharmacist interventions made per patient.

Results: During the 3-months evaluated, 451 older adults were seen in the geriatric ED (mean [M] 150/month). The pharmacists were consulted on 267 patients (M 89/month +/- 18) who screened positive for polypharmacy (n=265) and/or high-risk medications (n=171); most screened positive for both. Results are reported in Table 1.

Conclusion: Results demonstrate one replicable practice model for pharmacist integration into a GEDA program for Level 1 accreditation. Further research is needed to determine associated clinical outcomes. Avenues to increase consult completion rates are being pursued.

Table 1: Results

Patient Demographics	Female: 66%	Mean age: 76 +/- 7.4	Mean number of home medications: 14 (+/- 5.7)
Consult Outcomes	Completed by GEDA PharmDs: 148 (55%)	Completed by SNF PharmDs: 36 (14%)	Unable to reach or declined: 83 (31%)
Intervention Descriptions	Interventions Made: 253	Mean per patient: 1.7](+/- 1.3)	Most common types: medication reconcilliation (55%), Deprescribing (21%), Patient education (19%)

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Illness severity and potentially avoidable readmission of Skilled Nursing Facility Patients: do the same criteria apply now as a decade ago?

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Background: Hospitalization of skilled nursing facility (SNF) residents remains a pertinent area of interest. Current financial penalties for rehospitalization of SNF patients are based in part on Ouslander's original 2010 CMS initiative, demonstrating that many SNF rehospitalizations were avoidable. With increasing age and complex illness severity and increasing use of SNFs for subacute rehabilitation/short-term stay, readmission metrics and financial penalties based on 2010 data may be due for reevaluation.

Methods: A retrospective EMR chart review was conducted of annual admissions to a 252-bed SNF from two tertiary care teaching hospitals between 2010 to 2019. Exclusion: admit to SNF for hospice/end of life care. The year 2020 was excluded due to the COVID-19 pandemic. Data abstracted included demographics, LACE score, Charlson Comorbidity Index (CCI) and simplified HOSPITAL score to assess illness severity.

Results: There was an average of 3346 admissions per year, mean age 81.9 years, 62.8% female. 76% of patients were Caucasian, 10.8% AA, 4.4% Asian and 3% Hispanic. From 2014-2019 readmission rates averaged 11.5%/year (range 10.2-12.7%). Data on illness acuity from pre-SNF admission hospital stay will be analyzed for change over time.

Conclusion: Patients admitted to SNF over a ten-year period appear to have progressing complex comorbidity and illness acuity. These trends, along with pressure to reduce hospital length of stay, may explain persistent high readmission rates. The original 2010 study that demonstrated a significant proportion of avoidable readmissions to the hospital used criteria which may not apply to the current population. Illness severity of SNF patients has progressed over the past 10-years and the approach to rehospitalization and financial penalties may need to be reevaluated.

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COVID-19 infection and incident myocarditis: A multi-site population-based propensity score-matched analysis

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Background: COVID-19-infection manifestations range from asymptomatic infection to multi-organ failure and death. Cardiovascular complications from COVID -19 include myocarditis, acute myocardial infarction, heart failure. Population-level data is lacking on the relationship between COVID-19 and cardiovascular complications.

Objectives: To examine the incidence of myocarditis, acute myocardial infarction (AMI), heart failure (HF) after COVID-19 infection.

Methods: We used a retrospective cohort study using de-identified data from 50 health systems across the United States. Cohort groups were created using patients ≥18, who were admitted to hospitals for respiratory illness with COVID in 2020 and respiratory illness without COVID-19 for the years 2020 and 2019. There were 107,699 patients with COVID; 77,499 patients with respiratory illness in 2020, and 112,898 patients with respiratory illness in 2019. The COVID group was matched to each of the respiratory illness groups by propensity score. Patients with prior specific cardiovascular events were excluded for the correspondent outcome analysis. Our outcomes were: myocarditis, AMI, HF.

Results: In the COVID-19 group, 79 patients had new-onset myocarditis compared to 29 patients in the non-COVID-19 control (Pneumonia/flu) group (OR 2.73, CI 95%, 1.78-4.18). In the COVID-19 group, 1512 patients developed HF compared to 2,659 patients in the non-COVID-19 group, (OR 0.49, CI 95%, 0.46-0.52). 1125 patients in COVID-19 group had AMI compared to 1243 patients in non-COVID-19 group (OR 0.87, CI 95 %, 0.80-0.94).

Conclusion: COVID-19 was associated with a high risk of incident myocarditis but unexpectedly lower rates of HF diagnosis, suggesting possible under testing (e.g., 2-D ECHO) and underdiagnosis.

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Longitudinal change in patient-reported cognitive complaints in older adults with gastrointestinal cancers – Results from the Cancer & Aging Resilience (CARE) study

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Background Patient-reported cognitive complaints (CC) are common in older adults with gastrointestinal (GI) cancers. Patient-reported CC are associated with impairment in Geriatric Assessment (GA) domains including reduced instrumental Activities of Daily Living (iADLs) and health-related quality of life (HRQOL). However, longitudinal change in patient-reported CC in older adults with cancer receiving treatment is poorly understood.

Methods We examined early CC change on the Patient-Reported Outcomes Measurement Information System (PROMIS®) Short Form 4a Cognitive Function among adults ≥60 years with GI cancer enrolled in the Cancer & Aging Resilience Evaluation (CARE) Registry who underwent GA at baseline (BL) and follow-up (FU). CC change from BL to FU was classified as stable (t score change +/-5), improved (t score increase ≥5), or declined (t score decrease ≥5). Multinomial logistic regression examined associations of demographics, socioeconomics, and GA domains on CC.

Results Of 218 participants, median (IQR) FU was 3.7 (2.9-4.8) months, mean age was 69.2 ± 7.1, 57.3% were male. The most common cancer was colorectal (30.7%) with most stage III (31.3%) / IV (42.4%). Most remained stable (51.8%) in CC, 20.6% improved, and 27.5% declined. No differences in chemotherapy receipt existed between groups. No BL characteristics were significant for CC decline. Among those with decline, proportion of impaired iADL (48.3 vs 64.4%, p: 0.0103) / ADL (10.0 vs 25.4%, p: <0.0001), physical (30.4 vs 43.9%, p: 0.0417) / mental (19.6 vs 56.9%, p: <0.0001) HRQOL, and fatigue (51.7 vs 71.2%, p: 0.0011) significantly increased from BL to FU. After adjustment, no BL or FU factors were significantly associated with CC change.

Conclusions We found that after about 3.7 months, most GI cancer patients remain stable in CC. Patients who decline in CC seem to experience worsening fatigue, ADL/IADL impairment, and HRQOL. BL GA may not predict early CC; future studies should examine the concomitant effect of therapeutic exposure and long-term CC.

Keywords patient-reported cognitive decline; gastrointestinal cancer; geriatric assessment

A182

Detection of cognitive impairment in the emergency department: an embedded pragmatic, implementation pilot

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Background: Assessment for cognitive impairment (CI), including dementia, is not traditionally performed in the emergency department (ED), yet many older adults are at high risk for CI and detection at this point of contact would increase patient safety and may provide a pathway for improved care delivery and outcomes. We aimed to implement and test the feasibility of a pragmatic intervention to improve detection of CI for older adults in the ED.

Methods: This was an embedded pragmatic, implementation pilot at two academic centers that had partnered EDs and outpatient geriatric evaluation capabilities. We tested the feasibility of referring patients 65+ years old discharged from the ED who were suspected of having undiagnosed cognitive impairment. Cognitive screening included the Confusion Assessment Method (CAM) and patients/family members were asked if they noticed memory or thinking problems in the past year by the older adult. Patients could be referred for further outpatient cognitive evaluation with a positive screen or ED clinician suspicion of undiagnosed CI. Our primary outcome was the rate of referred ED older adults who completed an outpatient cognitive evaluation.

Results: There were a total of 20,868 patients 65+ years old discharged from the 4 EDs during the pilot (3/21-10/21). The CAM was completed for 8,247 patients and 4,294 patients/family members were asked about memory problems. Of the 66 patients that were referred for outpatient cognitive evaluation, 35 had a complete 90-day follow-up and 9 had completed cognitive evaluations. With new diagnoses not being mutually exclusive, patients had diagnoses of dementia (n=4), cognitive impairment (n=3), memory loss (n=8), presumptive diagnosis of Alzheimer's disease (n=2), probably dementia (n=2), and mild cognitive impairment (n=2).

Conclusions: Pragmatic detection of CI within older adults in the ED is feasible, and offers a potential opportunity for referral for formal outpatient cognitive evaluation. However, implementation strategies should be investigated to address high participant attrition rates and the transition from ED to outpatient evaluation.

A183 Encore Presentation

Variation in the Association between Beta Blocker and/or RASI use after Discharge and Outcomes in HFrEF by Age

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Background

Given the increasing age and comorbidity burden of HFrEF patients, there are questions regarding the net risk/benefit of GDMT varies across the age spectrum. This study aimed to use Get With The Guidelines-Heart Failure data and Medicare claims to determine whether the association between selected GDMT and outcomes in HFrEF varies across the age spectrum.

Methods

We identified 48,711 eligible patients from 330 centers admitted with HFrEF between 2008 - 2016 using GWTG-HF and Medicare. We created two cohorts: those prescribed beta blockers (BB) and/or renin-angiotensin system inhibitors (RASI) and those prescribed neither. We used overlap weighting to match the patient populations within age strata (65-74, 75-84 and 85+), and Cox proportional hazard models to determine the association between use at discharge and 30-day and 1-year mortality and readmissions.

Results

The average HFrEF patient in this dataset was 79 (95% CI 72, 85) years old and 41% were female. Eighty percent were white. Ninety-seven percent (47,299) received BB and/or RASI; 3% (n-1,412) received neither. The hazard ratio (HR) for BB and/or RASI vs. no BB or RASI for 1-year mortality or readmission among those aged 65-74 was HR=0.82 (95% CI 0.70-0.95); for those aged 75-84 HR=0.86 (95% CI 0.78-0.95) and for those aged 85+, the HR=0.78 (95% CI 0.71, 0.86). The p-value comparing HR across the age strata was 0.41. Similar results were observed for 30-day outcomes.

Discussion

The association between use of BB and/or RASI at hospital discharge and lower 30-day and 1-year mortality or readmission does not appear to vary across the age spectrum. Absent a contraindication, BB and/or RASI should be prescribed for all patients at discharge regardless of age.

	Unadjusted Hazard Ratio (95% CI) (N=48,711)	Interaction P-Value	Adjusted Hazard Ratio (95% CI) (N=45,201)	Interaction P-Value
1-Year Mortality + Rehospitalization				
BB and/or RASI vs. no BB or RASI, age 65-74	0.67 (0.58, 0.78)	0.50	0.82 (0.70, 0.95)	0.41
BB and/or RASI vs. no BB or RASI, age 75-84	0.74 (0.67, 0.82)		0.86 (0.78, 0.95)	
BB and/or RASI vs. no BB or RASI, age 85+	0.71 (0.64, 0.78)		0.78 (0.71, 0.86)	
30-day Mortality + Rehospitalization				
BB and/or RASI vs. no BB or RASI, age 65-74	0.64 (0.53, 0.77)	0.71	0.80 (0.65, 0.99)	0.65
BB and/or RASI vs. no BB or RASI, age 75-84	0.70 (0.60, 0.83)		0.81 (0.68, 0.96)	
BB and/or RASI vs. no BB or RASI, age 85+	0.65 (0.57, 0.75)		0.73 (0.63, 0.85)	

A184 Encore Presentation

The Use of Beta Blockers and Renin Angiotensin System Inhibitors among Patients with Concurrent HFrEF and Alzheimer's Disease and Related Dementias (ADRD)

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Background

Recent data suggests that patients with concurrent HFrEF and ADRD have higher mortality than HFrEF patients without ADRD. One proposed mechanism for this is a lower rate of GDMT use in the HF+ADRD population. This study aims to determine the change in GDMT use before and after HFrEF hospitalization for patients with HF+ADRD.

Methods

We used 100% Medicare Parts A and B and a random 40% sample of Part D to create a cohort of 397,680 FFS beneficiaries with ≥1 hospitalization for HFrEF from 2012-2018 and defined ADRD with previously validated ICD-9/10 codes. We created 4 exposure groups for evidenced-based beta-blockers (BB) and renin angiotensin system inhibitors (RASI): "continued" (on drug before and after hospitalization); "initiated" (not on before, on after); "discontinued" (on before, not after) and "never started" (not on before or after).

Results

Rates of BB continuation (42% vs.37%,p<0.001) and initiation (24% vs.18%,p<0.001) were higher in HFrEF patients without ADRD. Rates of BB discontinuation (13% vs.10%,p<0.001) and never starting (32% vs.24%,p<0.001) were higher among HF+ADRD patients. Similarly, rates of RASI continuation (33% vs.26%,p<0.001) and initiation (18% vs.15%,p<0.001) were higher among HFrEF patients without ADRD, while discontinuation (15% vs.14%,p<0.001) and never starting (44% vs.35%,p<0.001) were higher among HF+ADRD patients.

Discussion

Rates of BB/RASI continuation and initiation are higher among HFrEF patients without ADRD while rates of BB/RASI discontinuation and never starting are higher among HF+ADRD patients. Additional work is needed to understand why GDMT use is lower in these patients.

	HFrEF without ADRD		HFrEF with ADRD		P-Value
	N	%	N	%	
BB Continued	142,899	41.5	19,563	36.8	<0.001
BB Initiation	83,213	24.1	9,702	18.3	<0.001
BB Discontinued	34,493	10.0	7,020	13.2	<0.001
BB Never Started	83,983	24.4	16,807	31.7	<0.001
RASI Continued	114,048	33.1	13,978	26.3	<0.001
RASI Initation	61,556	17.9	7,950	15.0	<0.001
RASI Discontinued	47,567	13.8	8,041	15.1	<0.001
RASI Never Started	121,417	35.2	23,123	43.6	<0.001

BB=beta blocker; RASI= renin angiotensin system inhibitor which includes ACE inhibitors, ARBs and ARNI's.

A185

Geriatric Analgesia Matters: Microlecture to Improve Education (GAMMIE Project)

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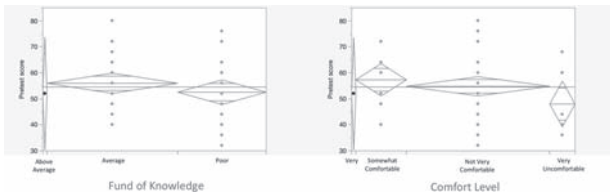
Background: Pain is undertreated in older adults, but few training options regarding geriatric pain exist. As such, integrating age-friendly principles into existing pain curricula is imperative. We are introducing a module into our Acute Pain Service (APS) curriculum focused on acute pain management in older adults. We hypothesize that a condensed learning format (microlecture with infographic) is noninferior to traditional lecture, and can efficiently deliver key content during a rotation with limited lecture time.

Methods: Anesthesiology residents were administered a competency pre-test and two likert-scale self-assessment questions on perceived fund of knowledge (FOK) and comfort level (CL) managing acute pain in older adults. Descriptive statistics were used to characterize the distribution of responses for all outcomes. Relationships between pre-test scores and the following variables were assessed using ANOVA: (1) years in residency, (2) self-reported CL, and (3) self-reported FOK. Resident cohorts will now be randomized to "traditional" or "micro" learning formats, and descriptive statistics used to compare subsequent post-test outcomes between cohorts.

Results: Pre-test and self-assessment results are reported herein. All fifty-five residents in our program were pre-tested; fifty-three completed self-assessment. Pre-test scores (0-100) were low (M= 54.47, SD= 10.65); most residents rated FOK as either average or poor (98.11%) and a majority rated CL as not very comfortable or very uncomfortable (75.47%). We noted a trend toward a lower pre-test score with low self-rating (Fig. 1), although considerable variability in pre-test scores occurred within each CL or FOK score.

Conclusions: Residents are likely to lack comfort or confidence managing acute pain in older adults. Although there were trends for correlation between subjective FOK/CL and pre-test scores, variability in scores indicates that many residents lack insight regarding their aptitude. These conclusions encourage our ongoing curricular intervention.



A186

Relationship Between Serum Albumin and SARC-F In Older Patients with Acute Hip Fracture

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Background

Low serum albumin has been shown to be correlated with sarcopenia in previous studies in older people. Serum albumin is a marker of nutrition and a negative acute phase reactant. SARC-F is a well-validated tool to screen patients for sarcopenia. Both sarcopenia and low serum albumin have been associated with poorer outcomes in older patients. This study was carried out to determine the correlation between serum albumin and SARC-F in older patients with acute hip fracture.

Methods:

A retrospective, cross-sectional analysis of patients with acute hip fractures admitted between January and December 2019 was carried out. Data was extracted from anonymized electronic records. Patients 60 years and above were included and those with incomplete data were excluded from analysis. SPSS 27 IBM software was used for statistical analysis. Pearson's correlation coefficient and linear regression were used to determine correlation.

Results:

175 patients were analyzed in total; 125 females and 50 males. There was an inverse, statistically significant correlation between serum albumin and SARC-F in all patients; both male and female patients (r=-.222; p=.004; r=-.317; p=.023 and r=-.193; p=.03 respectively).

Conclusion:

SARC-F score is inversely associated with serum albumin levels in older patients with acute hip fracture. It would be interesting to see whether nutritional supplementation in patients with SARC-F scores of greater than 4 improves post-operative outcomes in this group of patients.

References

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A187

Visual and hearing impairment and cognitive dysfunction in hip fracture patients

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Introduction:

Visual and hearing impairment in older people and cognitive dysfunction are independent risk factors for falls and are associated with greater risk of hip fracture. The aim of this analysis is to study the prevelance of sensory deficits and cognitive dysfunction and some relevant clinical aspects in hip fracture patients.

Methods:

Prospective analysis of subsequent patients admitted with hip fracture to a UK University Hospital. Patients were assessed, previous clinical notes were reviewed. Data were downloaded on excel sheet and descriptive statistics was used.

Results

116 patients were included, 77 females and 39 males with mean age of 82.5 and 76 years respectively.

Falls(n=106): 72% had 1-3 falls in the 6 months prior to admission, 8% had 4-6 falls and 3% had more than than 10 falls. 17% had no falls.

Indoor Mobility(n=115): 46% was mobile without aids, 23% with a stick, 30% with a frame.

Urinary incontinence(n=114): 30% were urinary incontinent and 70% were continent.

Smoking(n=109):13% were smokers, 25% ex smokeres and 63% were non smokers.

Ethanol(n=108): 25% (27/108) used to drink alcohol, and 24% of them (6/25) were drinking in excess of 21 units/week. The mean alcohol intake for the other 70% (19/27) who drank in moderation was 10.5 u/w.

Cognitive function (n=116): 28% (33/116) had a diagnosis of dementia. 66% (75/114) scored more than 7/10 in the abbreviated minimental test (AMT) on admission. 34% (39/114) scored 7/10 or less indicating cognitive impairment either delerium or dementia. 12% (14/114) scored 0/10 and 45% (51/114)scored 10/10 in the AMT on admission.

Muscle tone(n=109): 19% had high muscle tone indicating extra-pyramidal or pyramidal disease.

Vision (n=116): 5% had diagnosis of glaucoma, 24% had cataract and 5% had age related macular degenration (ARMD).

24% (24/102) had self reported good eye sight, 67% (68/102) had glasses, 6% (6/102) had poor vision, 2% (2/102) were partially sighted and 2% (2/102) were registered blind.

Hearing (n=104): 64% reported good hearing and 3% Impaired hearing. 5% had unilateral hearing aid and 18% bilateral hearing aids.

Conclusion:

Many hip fracture patients have cognitive dysfunction and sensory deficits.

28% had a diagnosis of dementia and on admission 34% scored 7/10 or less in the AMT.

24% had cataract, 5% had glaucoma, and 5% had ARMD. 6% had poor vision and 4% were partially sighted or registered blind.

23 % of patients had hearing aids

A188

Is ASA Grade Associated with Post Operative Delirium In Older Patients with Acute Hip Fracture?

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Background

Postoperative delirium is common in older hip fracture patients and is associated with poorer post-operative outcomes such as increased mortality and prolonged length of hospital stay. The American Society of Anaesthesiologists (ASA) grade has previously been shown to independently predict post-operative delirium in some studies. The aim of this study was to evaluate if ASA is associated with postoperative delirium in older hip fracture patients. (1)

Methods

A retrospective, cross-sectional analysis was carried out on patients admitted with acute hip fractures between January and December 2019 in a single centre Orthopaedic unit. Data was extracted from anonymized electronic patient records. Inclusion criteria were patients with acute hip fractures who were over the age of 60 years and who had surgery for their hip fractures. Patients with incomplete data were excluded from analysis. The 4-AT; a well validated screening tool for delirium was used. SPSS 27 software package was used for statistical analysis. Descriptive statistics were carried out and Pearson's correlation coefficient and linear regression were used to analyse correlation.

Results

304 patients were analysed in total; 81 males and 223 females. Mean age was 82.2 +/-8.5 years. There was statistically significant positive correlation between ASA grade and 4-AT scores in all patients(r=0.225;p<.001).

Conclusion

ASA grade is positively correlated with postoperative delirium in older patients with acute hip fracture. (2)

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A189

Does the Clinical Frailty Scale correlate with American Society Of Anaesthetists Grade in Older Patients with Acute Hip Fracture?

M. Zaman,[2] R. B. Chan,[1] K. A. Pathmanathan,[2] C. Sevilla,[2] M. Hussain,[2] M. Mubin,[2] R. Khan,[2] A. Nandi,[2] B. Mukherjee,[2] N. Obiechina.[2] *1. Department of Elderly Care, University Hospital Derby and Burton NHS Foundation Trust, UK, Burton-upon-trent, United Kingdom; 2. Department of Elderly Care Medicine, University Hospitals Derby and Burton NHS Foundation Trust, UK, Burton on Trent, United Kingdom.*

Background:

Older people are increasingly undergoing surgery, especially following acute hip fractures. The American Society Of Anaesthetists (ASA) grading is used universally to stratify patients based on their pre-operative clinical state. The Rockwood Clinical Frailty Score (CFS) is also increasingly used to stratify acutely ill older patients into prefrail, moderately frail and severely frail. The aim of this study is to determine if there is any correlation between CFS and ASA in older acute hip fracture patients.

Methods:

This was a retrospective, cross-sectional analysis of acute hip fracture patients admitted to a single centre from January to December 2019. Data was extracted from anonymized electronic patient records. Inclusion criteria were patients over 60 with acute hip fractures and exclusion criteria were patients with incomplete or absent data. SPSS 27 IBM software was used for statistical analysis. Descriptive statistics were carried out. Pearson's correlation coefficient and linear regression were used to determine correlation.

Results:

285 patients in total were analyzed – 74 males and 211 females. Mean age was 82.2 (SD 8.5). There was positive, statistically significant CFS correlation between CFS and ASA in all groups, males and females (r=.516;p<.001, r=.467;p;p<.001 and r=.537;p<.001 respectively).

Conclusion:

CFS is positively correlated with ASA in older acute hip fracture patients. Since they assess different aspects of these patients it would be desirable to determine their individual and combined predictive value with regard to post-operative outcomes in these groups of patients.

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A190

Bedside Tests of Muscularity in Older Adults with Diabetes

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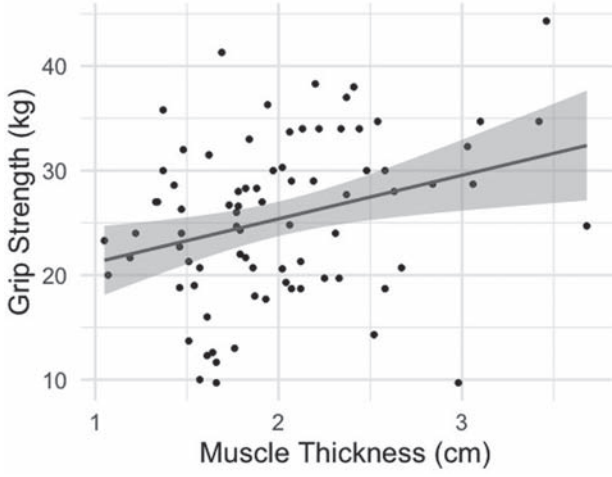
OBJECTIVE: Diabetes and sarcopenia often coexist in older adults, in fact there is a growing recognition of their bidirectional association. Since Dual X-ray Absorptiometry (DXA) measures of muscle mass cannot be performed at the bedside, other measures such as bedside ultrasound (MT, vastus medialis muscle thickness) and bioelectrical impedance analysis (BIA) are often utilized. We examined the association between MT/BIA with measures of strength, performance and frailty in older adults with diabetes.

METHODS: 81 subjects (age >= 65; mean age 80.8±0.6 years, 27 women, 53 men) were recruited sequentially from geriatric medicine clinics. Each subject had lean body mass (LBM, by BIA), grip strength, gait speed, Cardiovascular Health Study index (frailty) and MT measured.

RESULTS: In our final parsimonious models, only MT (as opposed to LBM) showed a strong significant correlation with grip strength (Figure 1; Standardized $\beta = 0.217 \pm 0.078$; p=0.007) and frailty (Standardized $\beta = 0.276 \pm 0.109$; p=0.013). Neither MT or LBM showed a significant association with subject performance (gait speed).

CONCLUSIONS: Unlike BIA, bedside ultrasound measures of muscle thickness (MT) showed strong associations with both grip strength and frailty in the older adults population with diabetes, suggesting that bedside measures of MT might be a more clinically useful modality to assess muscularity in this patient population.



Association between Vastus Medialis thickness (MT, cm) and grip strength (kg)

A191

Clinically important prescribing cascades affecting older adults: a modified Delphi consensus study across professions and countries

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Background: Prescribing cascades are important contributors to polypharmacy and medication-related harm in older adults. There is a need for an explicit tool that helps clinicians to identify them. Led by the iKASCADE Consortium, this study aimed to develop a consensus-based list of clinically important prescribing cascades that affect older adults' health (i.e., where risks of the prescribing cascade usually exceed benefits), to help the detection, prevention, and management of prescribing cascades.

Methods: Three rounds of an online modified Delphi consensus process were conducted with a multidisciplinary panel of clinicians with expertise in geriatric pharmacotherapy (geriatricians, general practitioners, pharmacists, and nurses) from six countries. An inventory of 139 potential prescribing cascades, compiled from literature and clinical experience, was presented to panelists for assessment of clinical importance in Round 1. Factors influencing ratings were also collected. Prescribing cascades highly rated by $\geq$ 70% of panelists after the three rounds were reviewed by the study team to confirm concordance with the definition of clinical importance.

Results: Thirty-one panelists completed all three Delphi rounds. Twelve prescribing cascades were highly rated by ≥ 70% of panelists after the Delphi consensus process. Following study team review, the final tool lists nine clinically important prescribing cascades. Panelists' ratings were influenced by many factors (e.g., how commonly they encountered the cascade, availability of alternatives). The relative importance of these factors in determining clinical importance varied by panelist.

Conclusion: This study revealed that clinicians' decisions about what constitutes a clinically important prescribing cascade are multi-factorial. This short consensus-based list of clinically important prescribing cascades will not only raise awareness about these specific prescribing cascades, but also about the importance of prescribing cascades, more broadly, in clinical practice. This tool will contribute to global efforts to prevent and reduce medication-related harm in older adults.

A192

Machine learning-based functional impairment classification with EHR-based clinical data

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Background: Loss of physical function is a key marker of morbidity, yet is not routinely captured in clinical encounters. We developed and evaluated the accuracy of a machine learning algorithm that leveraged electronic health record (EHR)-based data to provide a targeted and scalable process for identification of functional status as an alternative to traditional screening.

Methods: We identified a cohort of patients with an electronically captured screening measure of function (Older Adults Resources and Services ADL/IADL) assessments between 2018-2020 (N=6451). Patients were classifed using T-distributed Stochastic Neighbor Embedding (t-SNE), an unsupervised machine learning algorithm for clustering visualization, into normal function (NF), mild to moderate functional impairment (MFI), and severe functional impairment (SFI) states. Using 72 EHR clinical variables identified by an expert panel as relevant to functional status prediction, we trained a gradient boosting machine algorithm to distinguish functional status states, and measured prediction accuracies. Data was randomly split into training (75%) and test (25%) sets. The SHapley Additive Explanations (SHAP) feature importance analysis was used to list the EHR features in ranking order of their contribution to the outcome.

Results: Median age was 75.3 years, 62% female, 60% Caucasian. Patients were classified as 56% NF (n=3612), 31% MFI (n=1989), and 13% SFI (n=850). Summary of model performance for identifying functional status state (NF, MFI, and SFI) was AUC 0.86, 0.78, 0.84, respectively. Age, falls, hospitalization, home health use, labs (e.g. albumin), comorbidities (e.g. dementia, heart failure, chronic kidney disease, chronic pain, anemia, and depression), and social determinants of health (e.g. alcohol use) were highly ranked features in predicting functional status states.

Conclusion: A machine learning algorithm using EHR clinical data has potential use in differentiating functional status in the clinical setting. Through further validation and refinement such algorithms can complement traditional screening methods and result in a population-based strategy for identifying patients with poor functional status who need additional resources or who have early and unmet geriatrics and palliative care needs.

A193

Dynamic Mortality Risk Prediction in Older Adults with Serial Gait Speeds Over Time

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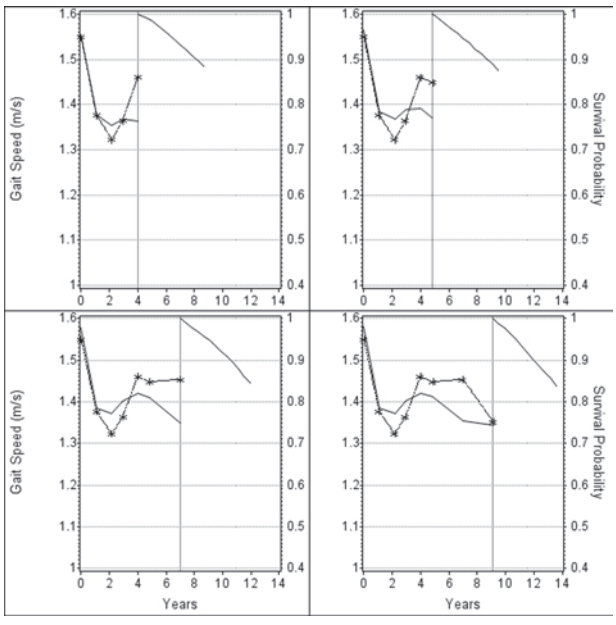
Background: Gait speed predicts mortality risk. A framework for updating a clinician's mortality risk perception with new information is needed. We used joint modeling of longitudinal and survival data for dynamic prediction of mortality risk.

Methods: We used 20m (bi)annual longitudinal gait speed and survival data from the Health ABC Study allowing for fluctuations of gait speed, its trend at prediction point, and baseline age, recent hospitalization, blood pressure, overweight/obese, cancer, arthritis, diabetes and heart disease as covariates.

Results: Participants (N=3029) had mean age 73.6, gait speed 1.33 m/s, and 52% died over 14 years. Each 0.1 m/s in gait speed was associated with 22% and 23% reductions in mortality risk in men and women; and a 0.05 m/s annualized slowing (slope) with 29% increase in men persisting after covariate adjustment (all $p<0.05$). Fluctuations in mortality risk with gait speed was captured. Distant gait speed history contributes little for mortality risk prediction.

Conclusion: The two most recent gait speeds appear sufficient to consider in this initial analysis. More frequent gait speeds over a shorter walk distance and dynamic nature of the covariates need to be considered before definitive conclusions.



A194

Stressful Life Events and Falling in Older Adults

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Background: Incidences of stressful events are expected to increase with age, and may affect health. However, the literature on stressful life events (SLEs) affecting physical health later in life is scarce. Few recent studies showed an association between a history of psychological trauma (abuse or discrimination) and falling among older adults. We aim to assess the relationship of SLEs with falling.

Methods: A total of 6,407 participants from The Irish Longitudinal Study on Ageing (TILDA) were included in the present analysis. A self-administered questionnaire ascertained exposure to lifetime SLEs (yes or no, total number 0 to 8 events). The outcome, falling in the previous 12 months (yes/no), was assessed by self-reporting at baseline (Wave 1) and follow-up (Waves 2 & 3). The covariates were sociodemographic characteristics, comorbidities, depressive symptoms (CES-D), polypharmacy, poor vision, disability, and cognitive function (MMSE). A multivariate generalized estimating equations (GEE) model was used to estimate falling risk at follow-up.

Results: Participants had a mean age of 62.3 years ± 9.1; 55.5% were female. At baseline, the percentage of falls increased by the number of the lifetime SLEs (0 events=16.4; 1 event=20.1; 2 events=22.2; ≥3 events=24.9; p<.0001). In a fully adjusted GEE model, the number of SLEs was significantly associated with an increased risk for falling at follow-up (OR 1.11 [95% CI, 1.06-1.16]; p<.0001).

Conclusions: A higher number of SLEs was associated with a greater risk for falling. SLEs representing lifetime psychological traumatic events are important additional risk factors to be considered in the pathway of falling among older adults.

A195

Abuse and frailty in a national sample of Colombian older adults

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Background: Limited research has explored the relationship between elder abuse and frailty. The objective of this study is to explore the relationship between exposure to recent abuse and frailty.

Methods: We used data are from the SABE (*Salud, Bienestar y Envejecimiento*) Colombia Study, a cross-sectional nationwide population-based survey (2015) including community-dwelling adults ≥60 years. A secondary dataset of 4,474 participant responses were analyzed. Frailty was assessed according to the Frailty Phenotype (weakness, low speed, low physical activity, exhaustion, and weight loss) and categorized as frail (3 or more components) vs. not frail or pre-frail. We performed logistic regression analysis to assess the association between history of abuse (emotional, physical, sexual, financial, or neglect) by the family within the previous three months and frailty, adjusting for socio-demographics, comorbidity, memory loss, depressive symptoms, and functional status.

Results: Prevalence of any abuse was 23.8%, and frailty 17.9%. Types of abuse were associated with higher odds for frailty in two multivariate models: First, as polyvictimization [≥2 types of abuse] (OR=1.42 95% CI 1.08-1.88; p=0.012). Second, as a total number of types of abuse (OR 1.15 95% CI 1.03-1.29; p=0.016).

Conclusion: Total number of types of abuse and polyvictimization were independently associated with frailty among Colombian older adults.

A196

Long-Term Outcomes in Patients Who had Delirium During their Hospital Stay: A Systematic Review and Meta-Analysis

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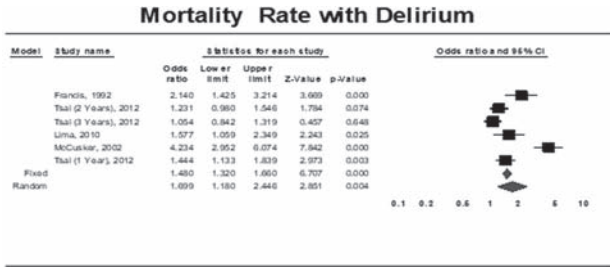
Background: There is a lack of guidelines for clinicians regarding post-hospital care for those discharged with delirium. This systematic review is aimed at identifying the main adverse outcomes that should be focused on for patients that transition from the hospital to home.

Methods: Published articles on long-term outcomes after delirium in the hospital were searched. The electronic databases Ovid MEDLINE, and PubMed were searched using PICO-based inquiries. Articles were included if they were original research in older patients who transitioned home from the hospital. The quality of the selected studies was assessed using the Newcastle-Ottawa Scale (NOS). Meta-analysis was performed on mortality outcome.

Results: A total of 570 articles were identified from the initial literature search. After review, data was extracted from 13 studies. The quality of these studies, as assessed by NOS, was classified as good. Long-term outcomes including dementia, decreased functional status, adverse health outcomes such as emergency room visits, readmission to hospital, admission to skilled nursing facility and long-term care, and increased mortality were more frequent in older adults that experienced delirium in the hospital compared to those who did not. The meta-analysis showed that mortality post-hospital discharge was higher in those with delirium (OR 1.48; confidence interval 1.320 to 1.660)

Conclusion: This systematic review confirms that older adults who have delirium in the hospital have poor long-term outcomes. We hope to use this research to develop interventions in the post-hospitalization period to mitigate these outcomes and drive best practices for health care systems and clinicians as they are providing this care.



A197

Dysphagia in Hospitalized Older Adults with Dementia: A Mixed Methods Study of Care Partners

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Background

Oropharyngeal dysphagia affects up to 86% of hospitalized patients with dementia. Texture-modified food and thickened fluids are the mainstay of dysphagia management in patients with dementia, yet data on whether these diets improve clinical outcomes is lacking. Using a mixed methods approach, this study aimed to evaluate the following: 1) adherence to dysphagia diets 2) caregiver knowledge and understanding of dysphagia diets and 3) the decision-making process behind choosing a dysphagia or non-dysphagia diet.

Methods

Semi-structured phone interviews with caregivers of recently hospitalized older adults with dementia and dysphagia occurred between 7/26/21-8/13/21. Participants were identified via chart review. Interviews included assessments of: caregiver's knowledge

about the dysphagia diet prescribed and feeding instructions; patients' adherence to the diet following hospital discharge; and information provided by the hospital to inform the caregiver's chosen diet.

Results

Of the 24 caregivers interviewed, mean age and time since becoming a caregiver were 63.5 (SD 14.9) and 68.1 months (SD 64.4), respectively. With regard to diets and compliance: 54% of patients were on thickened liquids, 58% were on pureed foods, and only 33% of caregivers reported diet compliance. Themes for non-compliance included: poor communication with healthcare providers, patient refusal, and preference for quality of life. With regard to caregiver knowledge about outcome data for dysphagia diets: 33% believed that dysphagia diets decrease the risk of pneumonia; 46% thought that dysphagia diets prolong life; and 33% believed that dysphagia diets promote a more comfortable or enjoyable existence. Themes for caregiver diet choice included: patient safety, prolongation of life, patient compliance, lack of awareness of alternative choices, and quality of life.

Conclusions

Given the lack of outcome data to support a clinical benefit from dysphagia diets and the possible impact on quality of life for patients with dementia and dysphagia, the prescription of these diets in this population should involve an informed, evidence-based, shared decision-making process.

A198

Framing Long COVID as Frailty Syndrome: Applying lessons learned from gero-science to improve outcomes

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Background: Long COVID — persistence of COVID-19 disease >1 month after COVID-19 diagnosis — includes myriad symptoms and signs with protean manifestations across all systems and organs. The pathophysiology and management of Long COVID are still evolving, with a growing body of evidence suggesting multiple pathogenic factors: inflammation, thrombosis, viral persistence, and autoimmunity with mimicry. We have noted that many patients fail to return to their baseline functioning after COVID diagnosis and tend to have chronic symptoms which fail to recognized and treated. We wish to encourage clinicians to screen patients who have been diagnosed with covid for these symptoms as it is evident that many of these symptoms remain undiagnosed.

Methods- We present evidence from extant literature showing that key elements of frailty syndrome (easy exhaustion, slow walk, weight loss, reduced physical activity and reduced muscle strength) are common in Long COVID patient populations. We have also obtained data from post recovery covid clinics looking at some of the clinical presentations of long covid and specific interventions used to manage these symptoms.

Results- This overlap in potentially modifiable factors between Frailty Syndrome and Long COVID offer myriad opportunities to borrow well-tested and evidence-based evaluation interventions/management approaches from the geriatric literature. Indeed framing Long COVID as an accelerated version of Frailty Syndrome will open new avenues for diagnostics, therapeutics and research aimed at improving the quality of life and preserving the independence of the growing population of COVID-19 survivors living with the physically and psychologically disabling symptoms of Long COVID. Our goal in this comprehensive review of the extant literature is to expand on the common areas of overlap, discuss potential mechanisms, offer evaluation approaches and discuss potential interventions based on the rich frailty literature from gerontology

A199

Influenza Infection as a Potential Risk for Frailty, a Prospective Cohort Study.

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Background: Older adults commonly suffer from influenza which can potentially lead to death or disability. One possible sequela from infection involves frailty with functional decline. It is not clear if PCR diagnosed influenza is associated with longer term frailty or another sequela. Our aim was to determine the relationship between influenza infection and future frailty using the frailty phenotype and other biological markers. As a secondary aim, we sought to determine the relationship between influenza vaccination and the development of frailty.

Methods: This was a prospective cohort study from October 2019 to November 2020. Primary outcome was phenotypical development of frailty measured between July 2020 and November 2020, defined as frail if meeting at least 3 of 5 criteria (strength, gait speed, weight loss, low energy, and low physical performance) and pre-frail if meeting only 2 criteria. PCR diagnosed influenza infection was identified between October 2019 and April 2020. We used self-reported influenza vaccination as our secondary predictor. We tested the association of influenza infection and vaccination with frailty status (non-frail, pre-frail, and frail) using nominal logistic regression models adjusting for age, sex, socioeconomic status, Charlson comorbidity index (CCI) and previous self-rated frailty.

Results: We had 1135 patients included for analysis. The average age overall was 68.2 years (SD 9.2) with 41% men. Overall, we found 81 patients with PCR confirmed influenza (7.1%). Frailty was associated with CCI with OR 1.64 (95% CI 1.40-1.92) compared to non-frail. Frailty was not associated with influenza with an OR of 0.49 (95% CI 0.17-1.46) for frail and OR of 0.68 (95%CI 0.31-1.48) for pre-frail compared to non-frail patients. However, those with influenza vaccination were more likely to be frail with an OR of 1.82 (95% CI 1.16-2.87).

Conclusion: In this prospective cohort study, we did not find a relationship between influenza infection and frailty. It appears that patients with frailty were more likely to be vaccinated which is in accordance with clinical recommendations as well as clinical opportunity for patients requiring medical care. Future longitudinal work will need to continue with the cohort.

A200

Prediction value of the LACE index to identify older adults at high risk for all-cause mortality in South Korea: a nationwide population-based study

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Background

As an aging society progresses, medical expenses for the older adults are also increasing. It is necessary to identify and manage the high-risk group of elderly patients in the transitional stage in advance. The LACE index is simple and easy to calculate, and is routinely collected by all hospitals. We aimed to validate the LACE index to predict all-cause mortality in older adults and also analyzed the LACE index outcome of all-cause mortality depending on the disease and age of the participants.

Methods

We used the National Health Insurance Service (NHIS) cohort, a nationwide claims database of Koreans. We enrolled 7,491 patients who were hospitalized at least once between 2003 and 2004, aged ≥65 years as of the year of discharge, and subsequently followed-up until 2015. We estimated the LACE index using the NHI database. The Cox proportional hazards model was used to estimate the hazard ratio (HR) for all-cause mortality. Furthermore, we investigated all-cause

mortality according to age and underlying disease when the LACE index was ≥10 and <10, respectively.

Results

In populations over 65 years of age, patients with LACE index ≥10 had significantly higher risks of all-cause mortality than in those with LACE index <10. (HR, 1.44; 95% confidence interval, 1.35–1.54). On comparing patients aged 65–74 years with those aged ≥75 years, the HR of all-cause mortality in both the groups was found to be higher in patients with LACE index ≥10 than in those with LACE index <10 in almost all the diseases.

Conclusion

This is the first study to validate the predictive power of the LACE index to identify older adults at high risk for all-cause mortality using nationwide cohort data. Our findings have policy implications for selecting or managing patients who need post-discharge management

A201

Designing an Integrated Care for Older People (ICOPE) program in Mexico

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Background: There is a relatively low quality of care for older adults in Mexico. This contributes to a deterioration in their functional capacity. We are adapting the Integrated Care for Older People (ICOPE) program from the World Health Organization to improve older adults' quality of care in Community Healthcare (CH) programs. The purpose of this project is to describe the ICOPE program designed using the Theory of Change (ToC) model and present the results of our initial feedback process with multiple categories of stakeholders to evaluate acceptability.

Methods: We engaged in an iterative ToC development process by conducting workshops with stakeholders, including representatives from CH programs, a geriatric clinic, the National Institute of Geriatrics, and the National Autonomous University of Mexico. During the workshops, we presented a draft of the ICOPE program and the ToC model. We asked participants to provide feedback on the feasibility and acceptability of the model and if it would be applicable in their local healthcare environment. Feedback from the workshop's participants was used to generate the final model.

Results: A total of 91 stakeholders participated in four ToC workshops. Based on their feedback, the final consensus model included ten preconditions to ensure meaningful outcomes. Critical elements include needed resources (available healthcare workers and assessment tools), ability to identify at-risk individuals (competency of healthcare workers and acceptability to patients), available treatments (related to person-centered care and referral systems), and evaluation of results (outcomes of the personalized care plan and ICOPE dimensions). The stakeholders agreed the program impact should be to 1) Prevent, reverse or delay the loss of intrinsic capacity in older adult patients, 2) Improve the quality of life of older adult patients and 3) Raise disability-free life expectancy

Conclusions: Our proposed program and ToC model received broad support from CH stakeholders and national organizations. Our next step is to implement the actual program in our CH centers. We hope our program will be generalizable and allow us to impact the health and quality of life across a broad spectrum of older adults in Mexico

A202 Encore Presentation

A Phenomenological Study of Caregivers of Persons Living with Dementia and their Interactions with Health and Community-based Services and Providers

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Background: More than 16 million unpaid caregivers provide an estimated 18.6 billion hours of care to Persons Living with Dementia (PLWD). Unpaid caregivers frequently feel underprepared and without adequate training, support, or access to services and resources to care for the PLWD. Health and community-based services and providers are critical to support the PLWD and caregiver in the home, but little is known about interactions between caregivers of PLWD and important health and community-based services and providers. The objective is to increase understanding of how unpaid caregivers of PLWD interact with health and community-based services and providers.

Methods: This secondary data analysis was conducted using qualitative data from one-on-one semi-structured interviews with unpaid caregivers of PLWD (N = 25). This study used a phenomenological approach, which seeks to describe common meaning for individuals in their lived experience of a phenomenon. We developed clusters of meaning and organized significant statements and quotes into themes and sub-themes to present the essence of the phenomenon and participants' common experiences.

Results: Participants' shared experience was in their need for additional guidance, information, and support from health and community-based services and providers. This need was described by participants at 4 levels: individual, care team, organization, and political and economic environment. Participants were active in proposing potential solutions to challenges in their communities, including improving provider training in dementia, increasing awareness of importance of caregivers of PLWD, opportunities to provide resources and referrals upon dementia diagnosis, and a central clearinghouse for information and resources for PLWD and caregivers.

Conclusions: Findings of this study suggest increased involvement of caregivers of PLWD as community stakeholders for improving care and services. This study has implications for policy and future research to address challenges for caregivers of PLWD across multiple aspects of healthcare and service delivery.

A203

Improving healthcare outcomes by improving funding to community living centers in Eastern Kansas VA healthcare system

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Background:

Funds for patient care at the veteran affairs(VA) is allocated through Veterans Equitable Resource Allocations(VERA) model which is designed based on capitated funding at network level. It consists of 14 patient care price groups categorized based on clinical complexity and resource utilization. Funding to Community living centers(CLC) is based on the cumulative information provided by the CLC's Residents Assessment Coordinator(RAC) through utilization of Minimum Data Set(MDS) for assessment of Resource Utilization Group(RUG) score. By the end of FY 2022, our goal is to increase the percentage of veterans allocated to appropriate VERA price groups to 95% by increasing the documentation of RUG scores in admitted veterans.

Methods:

Prospective study of accurate and timely RUG completion and therefore accurate VERA Price Group assignments within a VA CLC. Training developed and provided to RACs and nursing to raise awareness on the frequency and timeliness for MDS completion and to accurately record RUG scores. Process built to regularly monitor and audit RUG score completion on veterans admitted after educational intervention. FY2021 data will be compared to FY2022 second quarter(January-March) data to assess the result of interventions to achieve our goal of 99% RUG completion at both facilities.

Results:

We collected data on veterans who stayed at Topeka and Leavenworth CLCs in FY2021. Data was collected on documented RUG scores, VERA price group assigned to each patient, cost analysis, adjusted VERA price group based on length of stay and RUG score. For the first 3 quarters in FY2021,91% of the care for veterans was appropriately funded. It was also noteworthy to find that 4% of admitted veterans had no documented RUG score which resulted in significantly reduced funding. By improving our techniques of recording patient data, we want to observe the change in percentage of residents funded under VERA Price Groups(8,10,10a).

Conclusions:

An identified opportunity to improve funding to CLCs by improving timely and accurate MDS completion was addressed. If able to improve RUG completion, this could increase funding by approximately $40,000 per Veteran annually. It would also improve accuracy of VERA Price Group Classification and therefore increase overall funding allocation for subsequent fiscal years.

A204

End-of-life care and outcomes for decedents with dementia by race/ethnicity in a Medicare Advantage plan

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Background: Prior studies suggest that decedents with dementia enrolled in Medicare Advantage (MA) have less costly and burdensome care compared to decedents in fee-for-service Medicare. Whether end-of-life care for MA decedents with dementia varies by race/ethnicity is unknown. The purpose of this descriptive analysis is to compare end-of-life care and place of death for decedents with dementia across race/ethnicity groups from a large integrated MA plan.

Methods: Decedents who were 65 years and older with at least one dementia code from 2018-2019 were included in the cohort (n=13,870). Socio-demographics, life care planning, end-of-life care and place of death were obtained from electronic health records and state and national death indices. Due to the small sample, decedents who reported multiple or other race/ethnicity or had missing data were excluded (n=185) from the analysis.

Results: The cohort included 7% Asians (n=981), 13% Blacks/African Americans (n=1739), 21% Hispanics/Latinos (n=2914), and 58% Whites (n=8051). Dementia was diagnosed very late, approximately two years prior to death, and did not vary by race/ethnicity. Whites had the highest completion of an advance directive (60%) whereas rates for the other race/ethnic groups were lower (44%-51%). Similarly, receipt of hospice or home palliative care was highest in Whites (76%) compared to 63%-72% for the other groups. Asians, Blacks/African Americans, and Hispanics/Latinos were more likely to be enrolled in home palliative care vs. Whites (32% vs. 26%). Median days on hospice was longest for Whites (43, interquartile range: 10-204) and ranged from 30-34 days for the other groups. Death at home was highest for Hispanics/Latinos (46%) followed by Blacks/African Americans (45%), Asians (39%) and Whites (35%); Whites were more likely to die in nursing homes (25%) compared to other groups (15%).

Conclusions: While White decedents were more likely to have an advance directive and received hospice compared to Asians, Blacks/African Americans, and Hispanics/Latinos, they were also more likely to die in a nursing facility versus home compared to the other race/ethnic groups. Factors such as family resources, preferences, systemic bias, and cultural norms may influence hospice utilization and place of death.

A205

Patterns of Chronic Opioid and BZD use in Older Primary Care Patients

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Background: Opioids and benzodiazepines (BZDs) can lead to adverse events for older adults, especially when co-prescribed. We sought to characterize real-world prescribing patterns of opioids and BZDs for older adults.

Methods: We conducted a retrospective evaluation of electronic health data from 15 primary care practices in the UNC Physicians Network. Patients age 65 or older who presented to clinic in 2019-20 were included (n=25,141). Chronic opioid and BZD users were identified based on ≥4 prescription orders in the year prior, with ≥1 order in the last 90 or 180 days, respectively. We compared demographic characteristics between all older adults and chronic opioid and BZD users to identify disparities in prescribing by race and sex. We used logistic regression to evaluate factors associated with opioid and BZD co-prescribing, including age, sex, race, Medicaid use, and falls history.

Results: Among older adults seen in primary care, we identified 833 (3.3%) chronic opioid and 959 chronic BZD users (3.8%). Compared to all older adults, chronic opioid users were less likely to be Black (12.7% vs. 14.3%) or Other non-white race (1.4% vs. 4.3%), but more likely to be women (66.8% vs. 61.3%). A similar trend was observed for BZDs, with lower rates of prescribing among Black (5.4% vs. 14.3%) and Other non-white race (2.2% vs. 4.3%) older adults and higher rates among women (73.6% vs. 61.3%). Co-prescribing was observed among 15% of opioid users and 13% of BZD users, despite an increased likelihood of prior falls (opioid users: OR=1.51 [1.01-2.26]; BZD users: OR=2.45 [1.62-3.70]). Among opioid users, Black older adults had a lower likelihood of being co-prescribed BZDs (OR=0.40 [0.19, 0.85]). Among BZD users, Medicaid beneficiaries were more likely to be co-prescribed opioids (OR=2.25 [1.33, 3.80]).

Conclusions: We observed notable disparities in the prescribing of opioids and BZDs by sex and race in older adults. Co-prescribing was not uncommon, despite an increased likelihood of historical falls. Future studies should explore whether such disparities are driven by biases related to differing perceived risks for misuse across groups.

A206

Deprescribing Opioids and Benzodiazepines: Perspectives of Older Adults

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Background: Older adults are prescribed opioids and benzodiazepines (BZDs) despite the associated risk for adverse events. We sought to characterize older adults' attitudes towards deprescribing opioids and BZDs among chronic users of these medications.

Methods: We conducted semi-structured interviews with adults aged 65+ seen in primary care clinics in North Carolina and identified as chronic users of opioids and/or BZDs. Respondents were asked to discuss their experiences with using opioids or BZDs and potential barriers or facilitators to deprescribing these medications. Interviews were coded by two members of the study team and reviewed by a third to identify overarching themes. Eleven interviews were analyzed.

Results: Respondents were mostly female (n=9/11), white (n=10/11), and less than 75 years old (n=6/11). Older adults believed opioids to be helpful for pain and BZDs to be helpful for anxiety and sleep, while acknowledging the risks for dependence and falls. Several respondents were not able to identify which medications were opioids or BZDs. Facilitators and barriers to deprescribing were similar for opioids and BZDs. Facilitators included slow tapering, use of alternate therapies, and detailed instructions with a clear monitoring plan. Respondents also noted that trust in their primary care provider and persistence in discussing deprescribing would increase their willingness to deprescribe. Barriers to deprescribing included concerns about adequate symptom management and a lack of motivation if symptoms were well-controlled.

Conclusions: Several respondents were not able to identify opioids or BZDs based on drug names, suggesting a need for improved public health messaging to identify high-risk medications. Older adults recognized the potential risks of opioids and BZDs, but there may be low motivation to deprescribe these medications for fear of worsening symptoms. An established patient-provider relationship, implementation of a slow, detailed tapering plan, and persistent follow-up may help to facilitate deprescribing.

A207

Diagnosing Dementia: A qualitative study of rural and urban physicians

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Background: In the United States, early diagnosis of dementia has been associated with improved management of medical comorbidities and improved quality of life. Despite this, dementia is often underdiagnosed. This may be influenced by the availability of resources (e.g., imaging or consultants) to assist primary care physicians in diagnosis. To explore the role of resource availability in underdiagnosis and identify other potential barriers, we sought to understand physician attitudes and approaches towards diagnosing dementia in rural and urban settings.

Methods: We conducted semi-structured qualitative interviews of family medicine physicians practicing in rural and urban clinic settings in Michigan from 2017-2018. Interviews were recorded, transcribed and coded inductively by two independent researchers. Codes were grouped into related categories to form themes. Thematic analysis was conducted to compare and contrast attitudes and approaches to diagnosing dementia among rural and urban physicians.

Results: A total of 24 physicians participated (12 from rural clinics, 12 from urban clinics). Themes common to both populations included: 1) Inconsistent approaches to diagnosing dementia, 2) Challenges with recognizing and evaluating early dementia, and 3) Limited time and resources for making a diagnosis. Thematic differences between the two populations were 1) Hopelessness about dementia and 2) Patient and family agency. Urban physicians often reported limited utility in diagnosing dementia; were less likely to recommend interventions; and avoided using the term "dementia." In contrast, rural physician viewed diagnosis of dementia as an opportunity to implement interventions to maintain quality of life and safety.

Conclusions: Physicians in both clinical settings find diagnosing dementia challenging. While we expected rural physicians to report reduced access to healthcare resources as a barrier to diagnosis, physicians practicing in urban environments also cite this as a significant challenge. Availability of resources is likely playing a role in underdiagnosis of dementia, however, physician attitudes towards the utility of diagnosing dementia may be playing a larger role.

A208 Encore Presentation

Frequency and Implications of Multiple Manifestations of Serious Illness in Older Adults

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Background: Serious illness is a condition with high risk of mortality that negatively impacts function or quality of life, or excessively strains caregivers. In older adults, serious illness predominantly comprises three overlapping categories: dementia, functional impairment, and other advanced medical conditions. We estimate the frequency and co-occurrence of three categories of serious illness in older adults and describe differences in health services use and caregiving hours by category.

Methods: Using 2016 data from the nationally-representative Health and Retirement Study (HRS), we selected those with 12 months of linked fee-for-service Medicare claims pre- and post-interview. Dementia status was determined by a survey-based algorithm, functional impairment by self-report of help with ≥1 activity of daily living, and advanced medical condition by claims-based ICD10 codes.

Results: We included 4503 adults ≥65 years. Approximately 27% were seriously ill (9% dementia, 13% functional impairment, 16% advanced medical condition). Approximately 70% of persons with dementia (PWD) and 65% with functional impairment had another category of serious illness while only 31% with an advanced medical condition did. In the post-interview year, functional impairment and advanced medical condition in combination increased prevalence of hospitalization compared to either alone (52% combined, 32% functional impairment, 30% advanced condition), while combining dementia with another serious illness category did not meaningfully change hospitalization (39% alone, 33% w/functional impairment, 39% w/advanced condition). PWD and those with functional impairment reported more than twice the caregiving hours per month (113 and 130 hours, respectively) than those with advanced medical condition (51 hours).

Conclusions: Older adults with serious illness due to dementia or functional impairment are more likely than those with advanced medical condition to have another category of serious illness and have higher caregiving needs. Caregiving policies and interventions for older adults with serious illness may need to be tailored by category of serious illness.

A209

Fragmentation of Care in the Last Year of Life: Does Dementia Status Matter?

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Background. Fragmentation of care is common at the end of life. Among older adults with serious illness, those with dementia have unique patterns of health care utilization. We sought to understand differences in fragmentation of care by dementia status among seriously ill older adults in the last year of life.

Methods. We included adults ≥65 years in the National Health and Aging Trends Study who died and had ≥12 months of linked 2011-2017 Medicare fee-for-service claims prior to death. We categorized older adults as having serious illness due to dementia (hereafter dementia), non-dementia serious illness or neither. We report mean number of hospitalizations, ambulatory visits, and proportion of hospice use across the three groups. To estimate outpatient care fragmentation, we calculated the Bice-Boxerman continuity of care (COC) index. To estimate acute care fragmentation, we divided the number of hospitals and emergency departments visited by the total number of visits. We built a multivariable quantile regression model for each measure of fragmentation.

Results. Of 1793 older adults, 42% had dementia, 53% non-dementia serious illness and 5% neither. Older adults with non-dementia serious illness had the most hospitalizations (2.3 vs 1.9 dementia vs 0.9 neither) and ambulatory visits (10.2 vs 7.5 dementia vs 6.2 neither), while those with dementia had the most hospice use (58% vs 48% non-dementia serious illness vs 21% neither). In adjusted models, compared to older adults with dementia, those with non-dementia serious illness had more fragmented care across all quantiles of COC (range 0.016-0.110). There was no significant difference by COC between older adults with dementia and those with no serious illness. There was no significant difference in acute care fragmentation.

Conclusion. In the last year of life, fragmentation of care among seriously ill older adults differs by dementia status and measure used to estimate fragmentation. Older adults with dementia may have different care coordination needs than older adults with non-dementia serious illness at the end of life.

A210

Co-occurring Serious Illness Diagnoses and Health Care Utilization at the End of Life

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Introduction: End-of-life care differs by serious illness diagnosis. Cancer and dementia are serious illnesses that have been associated with less intense end-of-life health care use. It is not known how health care use varies in the presence of more than one serious illness diagnosis.

Methods: In this death follow-back study, we included adults age ≥65 years from the Rochester Epidemiology Project 7-County data set who died between July 1, 2017 and June 30, 2018. We limited our study to those met criteria for serious illness based on previously published methods by Kelley et al. We examine the proportion of emergency department (ED), hospitalization, and intensive care unit (ICU) stays in the last 6 months and 30 days of life. We used Poisson regression to determine the incidence rate ratio for ED visit, hospitalization and ICU stay in the last 6 months and 30 days of life by number of serious illness diagnoses and, for cancer and dementia specifically, when an additional serious illness diagnosis was present.

Results: We included 1,455 older adults who died and had serious illness, of whom 39% met criteria for >1 serious illness diagnosis. In the last 6 months and 30 days of life respectively, the proportion of seriously ill older adults with an ED visit was 35% and 10%, hospitalization 56% and 27% and ICU stay 29% and 18%. In the last 6 months and 30 days of life respectively, the rate of hospitalization was 1.70 (95% CI 1.41-2.06) times and 1.57 (95% CI 1.30-1.89) times higher for older adults with 2 vs. 1 serious illness diagnosis and 2.1 (95% CI 2.15-2.77) times and 2.06 (95% CI 1.70-2.49) times the rate of hospitalization for older adults with >3 vs. 1 serious illness diagnosis. Rates of ED visits were not significantly different for those with 2 vs. 1 serious illness diagnosis, but rates of ICU stay increased with increasing numbers of serious illness diagnoses. For both cancer and dementia, rates of hospitalization and ICU stay were lower for the condition alone and increased when an additional serious illness diagnosis was present.

Conclusion: Having more than one serious illness increases the risk of health care utilization at the end of life. Disease-specific interventions for seriously ill older adults are likely to include those with other serious illness diagnoses.

A211

Association of Vulnerability and Markers of Frailty with Post-Discharge Health Care Utilization

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Background

There is high prevalence of vulnerability among patients admitted with Acute Coronary Syndrome (ACS) and Acute Decompensated Heart Failure (ADHF). Increased vulnerability has been shown to correlate with higher health care utilization preceding the index hospitalization; however, the association of vulnerability and frailty with post-discharge health care utilization remains a knowledge gap.

Methods

Participants hospitalized with ACS and/or ADHF were enrolled in a prospective longitudinal cohort study performed at an academic medical center from 2011 to 2015. Baseline measurements included the Vulnerable Elders Survey (VES-13) with a sub-set assessed for frailty criteria (exhaustion, shrinkage). The primary outcome of interest was 90-day post-discharge health care utilization. Secondary outcome was the proportion of days a patient spent at home alive within the first 90 days.

Results

Of 806 patients the mean age was 65 years (IQR 45, 80), 45% were female, and 17% were African American. Median VES-13 score was 3 (IQR 1, 7). 26% and 70% of individuals reported shrinkage and exhaustion, respectively. Outcomes in the first 90 days included: home (43%), ER visit (8.6%), SNF (4.5%), hospitalization (35%), or death (8.7%). Increased VES-13 was associated with higher odds of utilizing any health care or dying versus being at home alive in the first 90 days post-discharge (OR 1.427 [95% CI: 1.199, 1.699]). Increase in VES-13 was associated with higher odds of not being at home or dying vs being at home alive in first 90 days (OR 1.300 [95% CI: 1.152, 1.466]). Shrinking and exhaustion did not show a statistically significant association with health care utilization.

Conclusion

Degree of vulnerability is significantly associated with post-discharge health care utilization with high rates of readmission. To ameliorate functional decline, future work should explore new care delivery models to potentially maintain or improve levels of function at home and decrease healthcare utilization.

A212

Total Health Care Costs among Elder Abuse Victims in Comparison to Other Older Adults

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Background: Elder abuse is common and has serious health consequences. Though existing research suggests that abuse victims have different patterns of health care utilization, little is known about the health care costs for these victims before and after abuse identification. Our goal was to describe health care costs for known elder abuse victims compared with non-victims.

Methods: We used Medicare insurance claims to examine total health care costs (including hospitalizations, rehabilitation / skilled nursing facility (SNF), emergency department and other outpatient facility, physician services, prescription drugs, home health care, and durable medical equipment) among a cohort of 139 elder abuse victims 12 months before and 12 months after identification of elder abuse. We compared these costs to those incurred by control subjects matched on age, sex, race, and residential zip code.

Results: Elder abuse victims incurred significantly higher mean total cost than controls in the years before and after abuse identification ($31,330 vs. $25,085, p=0.01) and the year after ($17,444 vs. $12,731, p<0.01). Mean total cost in the year before abuse identification was higher but did not reach statistical significance ($13,886 vs. $12,353, p=0.45). Largest cost differences between elder abuse victims and controls were for inpatient (hospitalization and SNF) costs, which were significantly higher for victims in the years before and after ($13,967 vs. $10,008), the year before ($6,171 vs. $5,322), and the year after ($7,795 vs. $4,687) abuse identification. Among abuse victims, costs in all categories were higher during the year after vs. the year before abuse identification.

Conclusion: This work demonstrates that elder abuse victims incur higher health care costs than other older adults in the years surrounding abuse identification, particularly related to inpatient services and during the year after abuse identification. Further characterization of these cost and utilization differences may identify opportunities for cost savings and improving health care for these vulnerable older adults.

A213

COVID - Another Blow to LTSS Nursing Workforce Challenges

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Background:

Long-term services and supports (LTSS) settings have long experienced licensed nurse (LN) and certified nursing assistant (CNA) staffing challenges: shortages, turnover, lack of qualified applicants, and low wages. The COVID-19 pandemic exacerbated these challenges, resulting in further staffing shortages. A goal of our Geriatric Workforce Enhancement Program is to provide LTSS settings in our state with staff training and support. The purpose of this project was to better understand current and anticipated LN and CNA staffing concerns.

Methods:

In partnership with state LTSS organizations, we developed an anonymous online 34-item questionnaire to assess COVID-related LTSS staffing challenges as perceived by administrators from: Assisted Living (ALF), Intermediate Care (ICF), and Skilled Nursing (SNF) facilities; Home Health (HH), Hospice (H), and Personal Care (PCA) agencies. Non-parametric statistical analyses were performed in R.

Results:

106 questionnaires (55% AL, 13% HH, 10% H, 3% ICF, 12% SNF, 6% PCA) were completed. Significantly more open full- and part-time positions were reported for CNAs (mean=3.5 AL, 10.4 ICF, 5.9 SNF, 10.0 PCA) than LNs (mean=0.3 AL, 1.6 ICF, 2.6 SNF, 0.0 PCA) in most settings ($p \leq 0.05$ Mann-Whitney U), but not HH (mean=2.1 CNA, 1.3 LN) or H (mean=2.7 CNA, 2.3 LN). Respondents predicted significantly more open positions post-vaccine mandate for CNAs (mean=4.1 AL, 9.9 SNF, 17.0 PCA) than LNs (mean=0.2 AL, 3.7 SNF, 0.0 PCA) in most settings ($p \leq 0.05$ Mann-Whitney U), but not HH (mean=3.3 CNA, 2.7 LN) or H (mean=2.4 CNA, 1.9 LN). Top barriers to reaching ideal staffing ratios included wages, candidate pool, competition, and turnover. There were no differences in predicted CNA resignations post-vaccine mandate (mean=11.7 HH, 30.0 H, 36.7 ICF, 24.4 SNF, 16.3 PCA) compared to LNs (mean=16.0 HH, 27.0 H, 33.3 ICF, 22.9 SNF, 60.0 PCA) in all settings except AL (mean=33.4 CNA, 11.5 LN) (p=0.00 Mann-Whitney U).

Conclusions:

LTSS settings are facing severe nursing staffing shortages that our results predict will increase post COVID-19 vaccine mandate, particularly for LNs. Multi-faceted, multi-level approaches are needed to integrate COVID policies and processes into training and provide emotional and financial support to retain and build the workforce in LTSS settings.

A214

Provider Perspectives on De-intensifying Chronic Disease Medications in Veterans Affairs Nursing Home Residents Near End-of-Life

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Background: Nursing home (NH) residents with limited life expectancy or advanced dementia (LLE/AD) who are intensely treated for lipid, blood pressure (BP), or diabetes control may benefit from de-intensification of medications for these conditions, given lower potential to live long enough to benefit and higher risk of adverse effects. Little is known about the deprescribing process in the NH setting. This study sought to identify key barriers and facilitators to de-intensifying chronic disease medications, from the perspective of providers at Veterans Affairs (VA) NHs.

Methods: Semi-structured telephone interviews (n=13) were conducted with physicians, nurse practitioners (NP), pharmacists, and registered nurses at VA NHs about experiences with deprescribing statin, BP, and diabetes medications in residents with LLE/AD. Two independent coders used thematic content analysis to identify key themes regarding perceived barriers and facilitators.

Results: Just over half (8/13) of providers were white, non-Hispanic; 10/13 female; 9/13 had specialty training in geriatrics; 6/13 were NPs. Key barriers to deprescribing chronic disease medications were: 1) patient clinical factors suggesting continued benefits of current treatment (e.g., recent cardiovascular event, symptoms of uncontrolled condition); 2) conflicting care with other providers who pursue intense

treatment; and 3) perceived resistance to deprescribing among family caregivers. Key facilitators were: 1) obvious clinical signs indicating patient is near end-of-life and would benefit from deprescribing; 2) provider having a general philosophy of care to reduce polypharmacy and intense chronic disease treatment near end-of-life; and 3) family caregivers' involvement in care decisions and acceptance of changing goals near end-of-life.

Conclusions: Patient clinical factors, agreement among multiple providers, and caregiver involvement were reported by providers as key factors in the de-intensification process for chronic disease medications. These results suggest opportunities to improve prescribing quality in end-of-life care through efforts to foster collaboration among providers of the same patient and encouraging communication and education for caregivers of patients with LLE/AD.

A215

Association between Level of Health Information Sharing and Discharge Destination Among Medicare Beneficiaries with Alzheimer's Disease

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Background

Health information exchanges (HIE), systems designed to electronically transmit health information between settings of care, are proposed as a solution to poor outcomes seen in fragmented readmissions (FR). We examined if there was an association between HIE presence or shared electronic health records (EHR) and discharge destination among older adults with Alzheimer's disease (AD) experiencing FR.

Methods

This was an analysis of Medicare beneficiaries with AD and inpatient admissions in 2018 for MI, CHF, COPD, pneumonia, dehydration, syncope, UTI, or behavioral issues and a 30-day FR for any reason. The primary outcome was discharge destination following the FR. The primary exposure categorized the level of information shared between the admission and readmission hospitals: a FR in the same healthcare system as the index hospital with a shared EHR, a FR in which both hospitals participate in HIE, or a FR in which no information was shared (reference). Logistic regression models were fit to examine this association, adjusted for age, sex, race, frailty score (1), number of chronic conditions, reason for readmission, readmission ICU stay, hospital size, ownership, urban/rural status, teaching status, hospital type (general medical/surgical v other), and region.

Results

65,168 beneficiaries met inclusion criteria. 82.9% were white; 11.1% were Black; 55.0% were female; and mean age was 80.9 ± 8.5 years old. Greater information sharing was associated with less rehabilitation facility placement, less leaving against medical advice, and more hospice discharges.

Conclusions

Information sharing in FR was associated with lower odds of discharge to skilled nursing and higher odds of discharge to hospice, which may represent transmission of advance directives or goals of care. This analysis was limited to any information sharing and not the rate or method of use but opens opportunities for more in-depth study.

References

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Level of Information Shared (Ref: no information shared)	Home	SNF	Home with Home Health	Hospice	Deceased	AMA	Other
HIE Present (OR, 95% CI)	1.12 (1.01, 1.27)**	0.83 (0.75, 0.93)**	0.99 (0.87, 1.11)	1.20 (0.97, 1.47)	1.19 (0.94, 1.50)	0.52 (0.27, 1.03)	1.09 (0.88, 1.34)
Shared EHR (OR, 95% CI)	1.08 (0.95, 1.23)	0.82 (0.72, 0.92)**	0.93 (0.80, 1.07)	1.80 (1.45, 2.21)**	1.10 (0.84, 1.43)	0.38 (0.16, 0.93)**	1.00 (0.79, 1.27)

****Significant at p<0.05.**

A216

Higher THC:CBD ratio associated with more side effects among middle-aged and older adults with chronic pain: Preliminary findings from an ecological momentary assessment (EMA) study

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Background: A wide range of medical marijuana (MM) products are available in the United States as an alternative treatment for chronic pain, but there is limited research on whether MM product characteristics such as THC:CBD ratio are associated with side effects. Ecological momentary assessment (EMA) provides a valuable tool to investigate such relationships in vivo.

Methods: We analyzed data from 25 adults with chronic pain (Mean age=57.1±10.3, 52% male) prior to and following initiation of MM treatment. Data analyzed included demographic variables from the baseline survey and approximately 4 weeks of EMA data (1 week pre- and up to 3 weeks post-MM treatment). Participants completed up to 4 random assessments per day on the MM product they used prior to the assessment regarding its THC:CBD ratio (1="CBD only", 2="more CBD than THC", 3="1:1", 4="more THC than CBD", and 5="THC only"), dosage (1= "less than 2mgs", 2="2-5mgs", 3="5-10mgs", 4="more than 10mgs"), mode of consumption (vaping, smoking, oral, and other), and indicated how "high" they were feeling (0-100 visual analogue) and whether they were experiencing any side effects (i.e., sleepiness, confusion, disoriented, balance problems, blurred vision, dizziness, other) at the moment.

Results: Multilevel modeling of EMA data (981 post-MM assessments) indicated that higher THC to CBD ratio was associated with a higher total count of side effects reported in real-time (b=0.05, $p<.05$), as well as feeling more "high" (b=0.16, $p<.01$), and feeling sleepy (odds ratio=1.45, 95%CIs=[1.14-1.83], $p<.01$), after controlling for demographics (age, gender, race). Dose or mode of consumption was not associated with the total count or a specific type of side effect.

Conclusions: For middle-aged and older adults with chronic pain, consuming MM products with CBD may help mitigate the side effects.

A217

Association Between White Matter Hyperintensity Burden And Motor Symptoms Severity In Parkinson's Disease: The Role Of Lesion Laterality

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Background: Motor dysfunction in Parkinson's disease (PD) initially is asymmetrical due to unbalanced dopaminergic loss in basal ganglia hemispheres. White matter lesions may contribute to worsened motor dysfunction in PD. However, to the best of our knowledge, no study to date has evaluated whether and how motor symptoms are associated with the laterality of WMH burden. This study aimed to investigate the association between brain hemisphere WMH burden and motor symptoms severity in patients with PD. **Methods:** A sample of 123 older adults with PD from the Ontario Neurodegenerative Research Initiative (ONDRI) was included. A 3T-MRI system was used to calculate WMH volumes. The percentage of right and left

WMH in frontal, temporal, parietal, occipital lobes, and in basal ganglia+thalamus was calculated. Unified Parkinson Disease Rating Scale – Part III (UPDRS) was used to assess bradykinesia, rigidity, and tremor in right and left sides separately. Multivariate linear regression analysis adjusted for age, sex, disease duration, and levodopa equivalent daily dose (LEDD) was performed to investigate associations between WMH burden in each brain area and hemisphere and symptom severity in each body side. Statistical significance was set at $p \leq .05$. Data analysis was carried out using the IBM SPSS 25.0 software (SPSS Inc.).

Results: Participants were predominantly men (78%; mean age 68.40 years), Hoehn & Yahr stage of 2 (±0.39) points, disease duration of 4.5 (±1.5) years, LEDD of 183.93 ± 101.62 mg. UPDRS-III of the right side was 7.44 ± 4.94 points and the left side was 8.24 ± 5.19 points. 42.85% of participants presented greater motor symptoms severity in the right side and 51.42% in the left side compared to the contralateral side. Increased left WMH burden in frontal, parietal, and occipital lobes were associated with worse symptom severity in the right side. Unexpectedly, increased WMH burden in the right basal ganglia+thalamus hemisphere was associated with less severe motor symptoms on the left side.

Conclusion: Increased WMH burden in left-brain lobes was associated with worse motor symptoms in the right side of the body in PD. Future longitudinal studies should investigate whether the spreading of WMH burden affects the expected symmetry of motor symptoms severity over time in PD.

A218

Estimating medication adherence for early identification of unrecognized cognitive impairment in older Veterans

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Background: Dementia is a geriatric syndrome in which acquired cognitive deficits interfere with independence in daily activity. Most dementia is neurodegenerative, progressively worsening over time. Although difficulties with medication management are common in patients with clinically recognized dementia, the purpose of this study is to determine if differences in medication adherence in Veterans without documented dementia or cognitive impairment (DCI) can identify those who later will be clinically recognized with DCI.

Methods: This retrospective cohort analysis of national Veterans Affairs (VA) data included Veterans aged ≥65 years; without a baseline DCI diagnosis or past or current prescription for DCI medications; ≥1 annual VA primary care visit; and receiving an ongoing VA prescription for any of the 4 most commonly dispensed medications during a 3-year adherence assessment period—lisinopril, metoprolol, omeprazole, or simvastatin. Adherence was estimated separately for each medication using proportion of days covered (PDC). A PDC of ≥0.8 was classified as good adherence. Participants were followed until the date of incident DCI diagnosis (ICD diagnostic codes), completion of 10-year follow-up, or death, whichever occurred first. For each of the above 4 medications, we calculated percent of individuals in the <0.8 and ≥0.8 PDC adherence categories with incident DCI, then performed Cox proportional hazards survival analysis (HR and 95% confidence intervals) comparing patients with PDC <0.8 vs ≥0.8 (reference group) for time to first DCI diagnosis.

Results: See table

	Total Number of Patients, N (%)		Patients With Incident DCI, N (%)		Mean Time to Incident DCI Diagnosis, Years (SD)		Unadjusted HR (95% CI)
	PDC <0.8	PDC ≥0.8	PDC <0.8	PDC ≥0.8	PDC <0.8	PDC ≥0.8	
Lisinopril	46,734 (15.8)	249,058 (84.2)	8,425 (18.0)	37,991 (15.4)	4.8 (2.8)	5.1 (2.7)	1.22 (1.20-1.25)
Metoprolol BID	10,886 (18.7)	47,272 (81.3)	1,859 (17.1)	6,745 (14.3)	4.8 (2.7)	5.1 (2.7)	1.24 (1.18-1.31)
Omeprazole	52,784 (20.5)	204,188 (79.5)	9,295 (17.6)	31,076 (15.2)	4.9 (2.8)	5.0 (2.8)	1.18 (1.15-1.20)
Simvastatin	86,569 (17.5)	409,183 (82.5)	14,866 (17.2)	60,544 (14.8)	4.9 (2.8)	5.0 (2.8)	1.16 (1.14-1.19)

Conclusions: Among Veterans without clinically recognized DCI, lower baseline medication adherence was associated with an increased risk for future clinically recognized DCI, with less time to diagnosis. In health systems, automatically generated measures of medication adherence may help identify older adults at risk of DCI who may benefit from cognitive evaluation. Further study is needed to determine if these findings translate to differences in clinical outcomes.

A219

Loneliness, Isolation, and Support: The Social Experiences of Persons with Dementia and Caregivers

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Background: Persons with dementia (PWD) and their caregivers have known risks for loneliness and social isolation. An in-depth understanding of these lived social experiences can inform interventions to improve quality of life through addressing social needs.

Methods: We recruited PWD (n=9), active caregivers, (n=16), and bereaved caregivers (n=15) through an academic memory clinic. Participants were purposively sampled to maximize heterogeneity of dementia types, severity, and life experience. Semi-structured, in-depth interviews were conducted over phone or in person to solicit information on challenges related to their social lives. Interviews were audio-recorded, transcribed, and de-identified, and an interdisciplinary team analyzed interviews thematically.

Results: The sample of PWD was on average 75 years (Range: 67-86), 33% female, and 78% had a primary diagnosis of Alzheimers Dementia; the caregiver sample was on average 67 years (Range: 40-87), 67% female, and 75% White. An overarching shared theme identified by PWD and caregivers was the gradual, sometimes insidious, loss of social connections with disease progression which impacted well-being and the ability to mobilize support. Contributing factors included: 1) discomfort among previously established social network members leading to avoidance, 2) progressive cognitive deficits (memory, verbal skills, executive function) impacting social engagement, and 3) a gradual loss of independence and behavioral changes creating barriers to previously enjoyable social activities. Overlying this shared experience was profound loneliness caregivers endured from a loss or change in their prior meaningful relationship with their care recipient. In contrast, some participants coped through enhanced meaning, family support, and external support services, particularly at the end of life.

Discussion: Isolation and loneliness are a shared experience and source of suffering among PWD and caregivers throughout the disease trajectory, including bereavement. Interventions to enhance social connectedness should be individualized and adapt along the disease trajectory to address disease-related stigma, individual cognitive deficits, the need for safety, and caregiver loneliness.

A220

Expression of Behavioral and Psychological Symptoms of Dementia with and without Concomitant Delirium

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Background: Overlapping symptoms between delirium and behavioral and psychological symptoms of dementia (BPSD) often makes diagnosis of delirium superimposed on dementia (DSD) complex. This study aimed to examine differences in BPSD expression in PLWD with and without DSD at start of home healthcare (HHC) to help elucidate differences in expression.

Methods: A cross-sectional analysis of baseline data from 107 PLWD (age 65+) enrolled into a semi-pragmatic, randomized controlled trial was performed. Baseline data were collected ≤3 days

of HHC admission. BPSD was measured by the Neuropsychiatric Inventory Questionnaire and delirium a modified 3-Mintue Diagnostic Interview for Confusion Assessment Method. Descriptive statistics and χ^2 or Fisher's exact tests were performed as appropriate to compare BPSD between groups.

Results: Of the 107 PLWD (mean age: 83 years; 61% female; 62% White; 14% Hispanic/Latino),19.6% had DSD; 93.5% had 1 BPSD; 79.4% had 3 BPSD. Of the 12 BPSD assessed, 10 were more prevalent in the DSD group: agitation, hallucinations, appetite changes, and delusions were >10% more prevalent; motor disturbance and nighttime behaviors were >20% more prevalent; motor disturbance was statistically significantly more prevalent (p=0.043). See Table 1.

Conclusions: Motor disturbance is statistically significantly more prevalent in DSD upon HHC admission; thus, if observed in PLWD, a follow-up DSD assessment may be warranted. Another 5 BPSD were >10%-20% more prevalent in DSD, though not statistically significant, the magnitude of the difference still suggests clinical importance.

Table 1. BPSD by DSD Status

NPI-Q domain	DSD+ (n=21): n (%) [rank]	DSD- (n=86): n (%) [rank]	% difference [rank]	p-value
Delusions	9 (42.9) [10]	26 (30.2) [9]	+12.7 [6]	0.269
Hallucinations	10 (47.6) [8]	28 (32.6) [8]	+15.0 [4]	0.196
Agitation/Aggression	15 (71.4) [1]	47 (54.7) [3]	+16.7 [3]	0.163
Depression/Dysphoria	10 (47.6) [8]	42 (48.8) [6]	-1.2 [12]	0.920
Anxiety	12 (57.1) [4]	51 (59.3) [1]	-2.2 [11]	0.857
Elation/Euphoria	3 (14.3) [12]	10 (11.6) [12]	+2.7 [10]	0.716
Apathy/Indifference	12 (57.1) [4]	43 (50.0) [5]	+7.1 [7]	0.557
Disinhibition	7 (33.3) [11]	25 (29.1) [10]	+4.2 [9]	0.702
Irritability/Lability	13 (61.9) [3]	49 (57.0) [2]	+4.9 [8]	0.682
Motor Disturbance	11 (52.4) [6]	25 (29.1) [10]	+23.3 [1]	0.043
Nighttime Behaviors	15 (71.4) [1]	44 (51.2) [4]	+20.2 [2]	0.094
Appetite/Eating	11 (52.4) [6]	34 (39.5) [7]	+12.9 [5]	0.285

[Rank]=From the most to the least prevalent, or from the largest to the smallest percentage difference

A221

Community-based interventions for mental health in older adults: A systematic review and meta-analysis of randomized clinical trials

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Background: Older adults face several mental health issues which need to be addressed. Current guidelines recommend pharmacological and/or physiological interventions for those diagnosed with depression and anxiety. However, little is known about the efficacy of other interventions in the treatment of these diseases in community-dwelling older adults. Therefore, the aim of this study is to assess the effectiveness of community-based interventions for decreasing depression and anxiety symptoms in older adults.

Methods: MEDLINE, EMBASE, Cochrane Database, and CINAHL were searched, from inception to August 13, 2020, for randomized controlled trials assessing nonpharmacological/nonpsychological interventions (NPIs) carried out on community-dwelling older adults (>60 y), who only attended primary care centers. Primary outcomes were the impact of NPIs on depression and anxiety. We used random-effects model to estimate standardized mean difference (SMD) and 95% confidence intervals (95%CI). Subgroup analysis was done based on the length of interventions.

Results: Twelve trials with 979 older adults were included. The mean age was 74.6 years and 70% of participants were female. Mean intervention length was 3 months and mean follow-up was 6 months. Interventions included were tai chi, yoga, or multicomponent programs. For the depression outcome, there was a reduction in depression symptoms when comparing the intervention group to the control group at the end of intervention (SMD: -0.20; 95% CI: -0.38,-0.03, n=979, I^2 =35%). This improvement was not sustained at longest reported follow-up. Subgroup analysis found that interventions longer than 12 weeks significantly reduced depression compared with those less than 12 weeks (SMD: -0.22; 95%CI: -0.40,-0.25, n=537, I^2 =14%). For anxiety, only one study compared the intervention to usual care and reported no differences.

Conclusions: Moderate quality of evidence suggests that community-based NPIs for community-dwelling older adults represent an important way to provide social support and community participation that could potentially reduce depression. No significant findings were found in the anxiety group. Further research is needed to further evaluate NPI's impact on depression and anxiety.

A222

Delirium in Hospitalized Older Adults Before and During COVID Era

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Background:

Acute brain dysfunction is highly prevalent in critically ill patients with COVID-19. Limited literature is available on the prevalence and incidence of delirium in older patients during COVID. In addition to the illness, the isolation and lack of family visitation has been of great concern. A modified 4AT tool is used by bedside nurses to assess delirium every shift in patients age 70 or older. Positive screens were increased in the COVID era for both those with and without COVID.

Methods

Retrospective cohort study of de-identified data from delirium screening (4AT) dataset of all admissions ages >= 70 discharged from a tertiary acute care hospital. Comparisons were made of delirium rates between 2018-2019 and 2020-2021. Within the COVID surge of July-August 2020, delirium rates were compared in COVID vs non-COVID units of the hospital. Incident delirium is defined by having a first positive delirium screen 48 hours after admission. Present on admission (POA) delirium is defined by having a positive screen in the first 48 hours. Chi Square statistics calculated.

Results

See Table

Conclusions.

Delirium, measured by a positive 4AT screen, increased significantly during 2020-2021 for both present on admission and incident delirium, as well as percentage of positive assessments. During the July-August surge period, 4AT positive rates tended to increase across all measures; however, only the percentage of total positive assessments reached statistical significance comparing the COVID units vs non-COVID units indicating longer duration of delirium in the COVID population. Thus in older patients without COVID during a surge period, the severity of illness and isolation may have contributed to greater numbers of all older adults having delirium than before the COVID era.

Results

Time Period	Total pts>=70	Total % 4AT positive	% POA delirium	% Incident Delirium	% 4AT Positive Assessments
2018-2019	33715	21.06%	16.40%	5.76%	12.60%
2020-2021	24941	24.1%*	18.98%*	6.38%*	15.21%*
July-Aug 2020 non COVID units	1854	26.38%	20.39%	7.12%	17.03%
July-Aug 2020 COVID units	408	29.17%	21.08%	8.58%	20.98%*

*** denotes statistical significance (p<0.00001)**

A223

Concordance between self- and collateral-reported memory loss in mild cognitive impairment due to Alzheimer's versus cerebrovascular disease

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Background: The importance of informant history in the diagnosis of mild cognitive impairment (MCI) has been emphasized. Yet, there is limited literature looking into the agreement of self- and informant-reported memory loss in MCI due to Alzheimer's disease (AD) versus cerebrovascular disease (CVD). We investigated the hypothesis that rates of concordance and discordance differ based on MCI etiology.

Methods: Retrospective clinical data was gathered from the National Alzheimer's Coordinating Center dataset. First visits with a clinical diagnosis of MCI with a primary etiology of AD without CVD (AD MCI) or CVD without AD (CVD MCI) were included for analysis. Self- and informant-based report of memory loss were gleaned from the questions "does the subject report a decline in memory (relative to previously attained abilities?)" and "does the co-participant report a decline in subject's memory (relative to previously attained abilities?)." We excluded participants with missing self-reported or co-participant information on cognitive decline. Statistical analysis was performed using Chi-squared tests.

Results: A total of 1917 AD MCI and 213 CVD MCI visits from unique participants were included in the study. Compared to CVD MCI, AD MCI had a higher incidence of visits where both participant and informant noted memory loss (67.8% vs. 54.0%, $p<0.0001$). Compared to AD MCI, CVD MCI featured more disagreement between participant and informant, both in cases where the participant denied memory loss (17.8% vs. 12.0%, $p = 0.0137$) and where the informant denied memory loss (21.6% vs. 11.4%, $p < 0.0001$). Incidence of both participant and informant denying memory loss were similar between AD MCI and CVD MCI (8.9% vs. 6.6%, $p = 0.2580$).

Conclusion: Self- and collateral-based report of memory loss are more discordant in CVD MCI versus AD MCI. This reinforces the importance of eliciting a history from both patients and reliable informants, especially in patients with vascular risk factors and comorbidities.

A224

The Impact of Cortical Oxygenation During Sleep-Disordered Breathing on Cognition: Preliminary Results from Simultaneous Near-Infrared Spectroscopy and Polysomnography

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Background:

Untreated sleep-disordered breathing (SDB) has been reported as a common risk factor for dementia. However, the association between current SDB parameters and cognition is not well-known. Near-infrared spectroscopy (NIRS) can measure oxygenation levels in the frontal cortex during SDB. We aim to examine if the coherence of oxyhemoglobin (oxy-Hb) and SpO_2, defined as the percentage of time that cortical oxygenation level drops in concordance with peripheral oxygenation level during a desaturation event, may represent less protection against systemic hypoxia during SDB and be associated with poorer cognition in older adults.

Methods:

Participants were 14 community-dwelling older adults without dementia (7 women) with a mean(±SD) age of 70(±7) years. We performed a comprehensive neuropsychological evaluation, including the Wechsler Memory Scale, Rey Auditory Verbal Learning Test, Trail Making Test, Boston Naming Test, Stroop, Controlled Oral Word Association Test (COWAT), and Judgment of Line Orientation. Simultaneous polysomnography and NIRS were recorded overnight. Mean percent drops in oxy-Hb and SpO_2 from baseline during desaturation events were calculated. We assessed the impact of mean oxy-Hb drop, mean SpO_2 drop, and the coherence of oxy-Hb and SpO_2 on scaled neuropsychological assessment scores using linear regression, adjusting for age, gender, and/or education following backward elimination of variables.

Results:

Higher mean percent drop of oxy-Hb during a desaturation event was associated with a poorer score on the Stroop color test when adjusted for gender (ß=-0.847, p=0.001) and the COWAT when adjusted for age (ß=-0.633, p=0.003). Higher coherence was associated with a poorer score on Stroop color (ß=-0.548, p=0.042) and trended negatively with score on Stroop word (ß=-0.476, p=0.085).

Conclusions:

Higher coherence of oxy-Hb and SpO_2 during SDB desaturation events may predict slower cognitive processing in older adults.

A225

Beliefs, Behaviours and Medication Management: A Cross-Sectional Survey of Adults with Parkinson's Disease

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Background: Adults with Parkinson's Disease are often faced with complex medication regimens and physical limitations affecting their ability to self-manage medications. Limited information is available on how older Ontarians with Parkinson's Disease manage their medications in their homes. The purpose of this study was to explore medication management capacity, beliefs and behaviours related to medication taking, and knowledge of adherence aids or technologies in this population.

Methods: A cross-sectional survey, informed by the Theory of Planned Behavior, was developed. It comprised of 36 items, divided into: demographics; medication information; beliefs about medication intake; other's impact on medication intake; experience managing medications; system of organizing medications; and effect of the COVID-19 pandemic on access to medications, and health care providers.

Adults aged 65 and older living in Ontario and diagnosed with Parkinson's Disease were recruited. Participants completed the survey independently online through Qualtrics or over the phone with the research team. A sample size of 11 was calculated using Cochran's Formula for Sample Size.

Results: Twelve participants completed the survey, of which 58% were females, with an average age of 75 years (range 65-89). Most participants lived independently with their spouse or partner (92%). Participants described their health as below average (25%), average (33%), above average (33%), or excellent (8%). On average participants took 9.2 medications (range 4-15), of which 3.8 were oral (range 1-6), 0.9 were non-oral (range 0-3), 1.2 were over the counter (range 0-3) and 3.3 were natural health products (range 0-6). Participants felt that their health depended on their medications (92%) and would never not fill medications because they are not covered by their insurance (92%). Eleven participants had systems to help take their medications, including visual reminders (N=9), someone remining them (N=2) phone alarms (N=6) or diaries (N=1). Two participants changed how often they visited their pharmacy or how their medications were provided because of the COVID-19 pandemic.

Conclusion: Patients with Parkinson's disease use many medications, believe they must take their medications to stay well, and have strategies for managing medications. Further research is needed to identify the effectiveness of their management strategies

A226

Acceptability of Atypical Antipsychotics in Treating Parkinson's Disease Psychosis: A Systematic Literature Review

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1. Anlitiks Inc, Dover, MA; 2. University of South Carolina College of Pharmacy, Columbia, SC; 3. ACADIA Pharmaceuticals Inc, San Diego, CA.

Background: Pimavanserin is the only FDA-approved therapy for hallucinations and delusions associated with Parkinson's disease psychosis (PDP). However, other atypical antipsychotics (AAPs) are also commonly used off-label to treat PDP. While previously published systematic literature reviews (SLRs) of AAPs in PDP assessed comparative efficacy and safety outcomes, this SLR evaluated the most current evidence of AAP treatment outcomes including efficacy, acceptability, safety, and health-related quality of life (HRQoL).

Methods: We searched MEDLINE, EMBASE, Cochrane, and other databases following PRISMA guidelines using PICOS criteria for Population-PDP patients with/without dementia; Intervention-AAPs; Comparators-pimavanserin and off-label AAPs (e.g., quetiapine, olanzapine); Outcomes-efficacy (e.g., Scale for Assessment of Positive Symptoms for Parkinson's Disease Psychosis [SAPS-PD], Neuropsychiatric Inventory [NPI]), Scales for Outcomes in PD-Sleep [SCOPA-S], safety (e.g., falls, somnolence), and acceptability (e.g., discontinuations); Studies- randomized controlled trials (RCTs) and open-label trials (OLTs). Data was extracted through Anlitiks SLR platform in RapidAnalyzer™ and synthesized qualitatively. Risk of bias was assessed using the Cochrane Risk of Bias Assessment Tool.

Results: Of 1,754 screened articles, 17 unique studies (5 each-pimavanserin and quetiapine, 3 each-olanzapine and clozapine, 2-ziprasidone and 1-melperone) were included (1,301 patients; mean age 70.9 [range 67-77]). Nine were RCTs and 8 were OLTs. Olanzapine, quetiapine, and ziprasidone demonstrated symptom improvements on the NPI and demonstrated low tolerability and safety outcomes. Pimavanserin consistently demonstrated improvements on SAPS-PD, NPI, and SCOPA-S along with favorable safety outcomes. Across all trials, falls were the most frequently reported safety event. Of the 5 domains assessed (selection, reporting, attrition, performance, other), risk of bias related to the "selection" domain was high.

Conclusions: These results support pimavanserin's proven positive benefit/risk profile in PDP, while the evidence on other AAPs is inconsistent. A quantitative network meta-analysis is needed to compare AAP-associated treatment outcomes.

A227

Impact of COVID-19 on the Capacity to Self-Manage Health and Chronic Conditions

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1. Northwestern University Feinberg School of Medicine, Chicago, IL; 2. University of Sydney, Sydney, NSW, Australia; 3. Hospital of the University of Pennsylvania, Philadelphia, PA.

Background: At the outbreak of the pandemic in Chicago, there were disruptions in daily life, communication and delivery of healthcare services. Our objective was to investigate mental well-being, lifestyle behaviors, self-management capacity and healthcare utilization during the early months of the COVID-19 pandemic among older adults with one or multiple chronic conditions.

Methods: Telephone interviews were conducted as part of the ongoing COVID-19 & Chronic Conditions (C3) study between March and May 2020. Participants were recruited from local academic and safety net clinics and participated in existing research studies pre-pandemic. Self-report items assessed perceived stress due to coronavirus, self-management capacity and healthcare utilization. Validated measures assessed well-being, alcohol consumption, physical activity and self-efficacy.

Results: The average age of participants (N=565) was 62.4, most were female (61.4%), and over half (n=310) were non-White or Latinx. One in five (20.7%) participants were stressed about the coronavirus most or all the time. Almost a quarter (22.3%) engaged in hazardous drinking and 79.7% reported insufficient physical activity. Nearly one in four participants (23.7%) avoided seeking medical care due to worry about COVID-19. In multivariable analyses, women reported more stress than men. Greater COVID-19 related stress and low health activation were associated with less physical activity, lower self-efficacy, greater difficulty managing health/medications and more avoidance of medical care.

Conclusion: Consequences of COVID-19 on the mental well-being, lifestyle and ability of adults with chronic conditions to manage health were apparent in the initial months of the pandemic. As the C3 study is ongoing, it will be possible to examine pre- and post-pandemic factors over time to understand the influence of the pandemic on the overall health trajectories of older adults.

A228

How do caregivers support older adults with comorbid physical and mental health conditions? A qualitative study.

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General Internal Medicine and Geriatrics, Northwestern University Feinberg School of Medicine, Chicago, IL.

Background: Many older adults receive assistance from caregivers to manage multiple chronic conditions. Psychological disorders are common among patients with multimorbidity, but limited research has examined the extent to which caregivers support the self-management of mental health conditions among older adults. We sought to describe the psychological conditions older adults were managing, and how caregivers support older adults in self-managing these conditions.

Methods: Semi-structured qualitative interviews were conducted with 25 caregivers of older adults contending with multimorbidity. Two coders used content and constant comparative analysis to analyze transcripts.

Results: The mean age of caregivers was 61 years; the majority were female (68%) and identified as Black (52%) or White (40%). Caregivers were predominantly spouses (n=10) or children (n=11). Older adults were on average 73 years old, managing 5 chronic conditions. Half the caregivers (n=13) reported providing care for a patient with a psychological disorder including depression, anxiety, bipolar, PTSD, substance use, eating disorders, and cognitive impairment. Caregivers reported supporting patients with their psychological conditions by: 1) encouraging patients to follow up with health professionals about mental health concerns, 2) monitoring prescription medication or alcohol use, 3) encouraging patients to follow through with self-management behaviors, 4) providing emotional support, and 5) concealing personal distress. Some caregivers prioritized managing the patient's mental health conditions over the other chronic conditions. When caregivers perceived the patient's mental health was undertreated or when they faced resistance from the senior upon providing self-management assistance, validation from clinicians alleviated caregiver burden.

Conclusions: Providing support for mental health conditions is common for caregivers of adults with multimorbidity. Caregivers appreciated being included in clinical encounters and decision-making. A collaborative process of aligning self-management priorities of caregivers and clinicians, with emphasis on improving psychological functioning, may help reduce caregiver burden and improve functioning of older adults with multimorbidity.

A229

Bridging the Gap: Improving access for underrepresented minorities in a specialty cognitive care program

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Ethnic minorities are historically underrepresented in referrals to cognitive specialty clinics, though they have higher rates of cognitive impairment. We evaluated the numbers of Hispanic individuals with cognitive complaints seen in a new cognitive evaluation and management program, University of Utah's Aging Brain Care (ABC) Program, where both the dementia specialist and family support social worker speak Spanish. In addition to advanced diagnostic and imaging services, the program involves patients and their care partners in health education, family support, and ongoing management. We sought to attain minority representation in ABC comparable to the community-based primary care clinics.

Patients aged 65 and older seen in the ABC Program from July 1, 2020- July 1, 2021, reported self-identified race and ethnicity. We compared data from ABC with data collected at the University of Utah's general neurology, neurology cognitive disorders, geriatrics primary care, and community-based primary care clinics using the shared University of Utah Health (UUH) Enterprise-wide Data Warehouse.

Patients self-classified as Hispanic were more likely to access the ABC program (14%) than other specialty clinics at the same academic health institution (Table 1).

Factors that may have contributed to the over two-fold increased percentage of Hispanic individuals age 65+ in the ABC program compared to other specialty clinics may include languages spoken by staff and providers as well as types of services offered. Increased collaboration of the ABC program with community-based clinics will help improve referrals for Hispanic and other ethnic and racial minorities to increase access to underserved populations.

Patients 65 and older seen at UUH clinics 2020-21

Clinic	#Pts seen total	#Pts white, non-Hispanic	#Pts Hispanic	%Pts Hispanic
Community	19064	15346	1928	10.1
Geriatrics ABC	211	184	18	8.5
Geriatrics non-ABC	1624	1465	57	3.5
Cognitive Neurology	359	334	11	3.1
General Neurology	4452	4061	160	3.6

A230

Asian American and Pacific Islanders' Attitudes on Alzheimer's Disease and Related Dementias

Z. S. Tan,[1] S. Kremen,[1] J. H. Joo,[2] N. Garg,[1] E. Spivack,[1] N. Sicotte.[1] *1. Neurology, Cedars-Sinai Medical Center, Los Angeles, CA; 2. Johns Hopkins Medicine, Baltimore, MD.*

Background. Asian American and Pacific Islanders (AAPI) are the fastest growing minority population in the United States. While 14% of older AAPIs have been reported to experience memory loss and confusion, the prevalence and incidence of Alzheimer's disease and related dementias (ADRD) in the AAPI population are not well understood. Moreover, little is known about AAPI attitudes on memory loss and confidence in managing ADRD.

Methods. We administered an 8-item survey on attitudes and beliefs regarding memory loss and ADRD to attendees of a virtual conference on brain health. Responses were on a 5-point Likert scale with range of 1=strongly disagree to 5=strongly agree. We analyzed responses (agree/strongly agree vs. disagree/strongly disagree) of AAPI participants and non-AAPI attendees using chi-square test.

Results. Fifty-four participants completed the survey, with majority of respondents aged 65 years or older (56%) and women (72%). AAPI participants (N=37) self-identified to be Chinese, Filipino, Indian, Japanese, Korean, Vietnamese, Native Hawaiian or other Pacific Islander. Non-AAPI respondents (N=14) self-identified to be White, Black or African American, American Indian or Alaska Native. We found that compared to non-AAPI, AAPI individuals were less confident in navigating the healthcare system for persons with ADRD (p=0.049). AAPI respondents were also less confident in finding community resources for ADRD, though this did not reach statistical significance (p=0.073). We found no significant differences between AAPI and non-AAPI participants' attitudes and beliefs on the normality of memory loss with age, understanding of ADRD as a medical condition, or interest in participating in and understanding of clinical trials for ADRD.

Conclusion. Asian Americans and Pacific Islanders (AAPI) have less confidence in navigating the complex healthcare system for patients with Alzheimer's disease and related dementias (ADRD). More research is needed to better characterize the differences in prevalence, presentation, challenges, and outcomes of ADRD in the AAPI population.

PRESIDENTIAL POSTER SESSION B

Thursday, May 12
5:00 pm – 6:00 pm

B1 Resident Presentation

Disturbed sleep in the elderly: where a careful history can improve outcomes

M. Ali Khan,[1] S. S. Shan-Bala.[2] *1. Internal Medicine, Inova, Falls Church, VA; 2. Geriatric Medicine, Inova, Falls Church, VA.*

Sleep apnea causes repeated episodes of brief arousal of which the patient often is not aware and may promote extended awakenings from sleep. The patient may report insomnia but more commonly notes excessive daytime sleepiness. Sleep apnea is a common comorbidity in hospitalized adults, particularly amongst those with cardiac illness and stroke. Despite its prevalence, it is frequently missed in hospitalized patients with insomnia. As a result, these patients are often inappropriately medicated, leading to polypharmacy and other adverse outcomes. Here we present a case of a hospitalized geriatric patient with insomnia who was on various medications to treat this problem, but careful history taking resulted in the recognition of diagnosed sleep apnea, the institution of continuous positive airway pressure, and positive outcomes.

A 77 year old male with an extensive cardiac history including TAVR for aortic stenosis (2018), Coronary artery disease, Congestive heart failure, Atrial fibrillation, hypertension, Dementia was hospitalized after a fall and found to have acute T3 vertebral body fracture and extensive bilateral rib fractures. During the hospitalization patient had complaints of insomnia. He was started on Melatonin 6 mg for sleep regulation, olanzapine 5mg to further improve sleep and prevent sun downing, and eventually mirtazapine 7.5 mg given concerns of poor sleep and daytime somnolence. Despite these multiple medications, he continued to have poor sleep. Medical history was carefully reviewed with the patient's spouse, where it was identified that the patient had a standing diagnosis of Obstructive Sleep Apnea and was on continuous positive airway pressure (CPAP) at home. Patient was started on CPAP which improved sleep and daytime somnolence. Mirtazapine and Olanzapine were subsequently discontinued.

Although sleep apnea is a common comorbidity in hospitalized geriatric patients, it is missed resulting in inappropriate medication use. Obtaining the history of sleep apnea and continuing the use of CPAP in the hospital improves sleep and avoiding medication use to improve insomnia. This improves survival and functional recovery in Geriatric patients especially with cardiac illness and stroke.

B2

Another Dark Side of the Dementia Epidemic: When Caregivers are Abused

R. Altafi,[2] k. blackstone,[1] E. L. Cobbs.[1] *1. Washington DC VA Medical Center, Washington, DC; 2. Department of Geriatrics, The George Washington University Hospital, Washington, DC.*

Background: As the population ages, the overall burden of dementia is increasing. More than a third of family caregivers for people with dementia report experiencing psychological or physical abuse by their loved one. Health care providers may be called on as "first responders" to identify, report, and act on reports of abuse of a caregiver.

Case: An 80 year old Veteran and his wife participated in a dementia assessment telephone visit. The patient articulated anger that his wife "is telling friends and family" that he "has Alzheimer's Disease" while he believes his memory is "perfect." Their debate escalated, the patient yelled, and his wife became silent. The interview continued once the patient calmed and his spouse confirmed her presence and safety. The patient denied any intentions of hurting his wife, others or himself. He denied feeling depressed and reported adequate sleep. His wife asked to speak with the physician alone, and she tearfully whispered that she felt unsafe, "He hits me, sometimes on my head or neck." She pleaded, "Please do not call the cops, I can take it." She explained that his children did not believe her assertions about his physical violence.

Discussion: While protocols to assess and report abuse, neglect and exploitation of the older person are well-established in ambulatory care, home care and hospital settings, health care providers less routinely assess for or address caregiver abuse by the older patient with cognitive impairment. Like other geriatric syndromes, a comprehensive, multidisciplinary geriatric assessment may identify multifactorial causes for and person-centered treatment opportunities to resolve or lessen physically, verbally, and emotionally abusive behavior toward caregivers. The most common intrinsic causes (denial, depression, delusions, disinhibition) may overlap and be complicated by extrinsic stressors (financial, family-related, caregiver health concerns). Knowledge of and ready access to community resources and reporting requirements can provide immediate and long-term safety and wellness for both patient and caregiver.

Conclusion: Dementia-related caregiver abuse is likely to increase in prevalence. Providers should be alert to the possibility and find ways to routinely assess for and treat using a multidisciplinary approach. Adult Protective Services is one valuable partner to promote caregiver safety.

B3

Pica as a Problematic Presenting Pathology of Primary Progressive Aphasia

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Background:

The prevalence of frontotemporal dementia (FTD) has been estimated to be between 15-22 per 100,000 individuals, with estimates of primary progressive aphasia (PPA) accounting for 20-40% of FTD cases. With PPA, behavioral disturbances manifest frequently. Pica, the ingestion of non-food items, has been discussed in Alzheimer's Disease but has not been specifically reported in regards to PPA. We present a patient case of primary progressive aphasia exhibiting symptoms of pica and hyperorality.

Case Presentation:

A 75 year old African-American female with FTD (PPA subtype) presented to a tertiary care center regarding concerns of foreign body ingestion. The patient had been placing plastic nonfood items in her mouth, and marbles were found in her stool. Memory care staff reported inability to care for the patient if these behaviors continued. Imaging studies were negative for additional non-food items in the patient's gastrointestinal tract.

Geriatric medicine consultation was obtained for hyperorality. Prior treatment with olanzapine for 2 months was ineffective. Workup for iron deficiency anemia, zinc deficiency, and thiamine deficiency was negative. MRI of the brain could not be completed due to the patient's inability to tolerate the exam. Olanzapine was discontinued and the patient was placed on fluvoxamine 50 milligrams daily and trazodone 150 milligrams nightly. After approximately 5 days on pharmacotherapy and redirection from staff, pica and hyperorality symptoms improved. The patient will follow with geriatric medicine as an outpatient for pica behavior.

Discussion:

Coprophagia, considered a form of pica, has been treated with antipsychotic medications in neurodegenerative dementias with some success. Nabilone can exert some positive effects on dementia-based behavioral disturbances and warrants more research. Research suggests that trazodone is the most effective drug for hyperorality in FTD, although reductions of this behavior have also been observed with citalopram, rivastigmine, and paroxetine. Combination therapy of trazodone and SSRIs has shown promise for treating disinhibited behaviors such as pica and hyperorality in FTD.

Conclusions:

While behavioral disturbances are frequently described in cases of PPA, the particular symptom of pica is not well discussed in the literature. In this case, we present this unique symptom of PPA and an option for management.

B4 Resident Presentation

Early diagnosis of amiodarone-induced thyrotoxicosis in an elderly male

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Background: Amiodarone is an effective anti-arrhythmic medication that can cause type I or II amiodarone-induced thyrotoxicosis (AIT), occurring in 2-12% of patients. We aim to emphasize the non-specific presentation of hyperthyroidism in an elderly patient.

Case presentation: We present a 70-year-old Caucasian male with dilated cardiomyopathy and paroxysmal atrial fibrillation who presented with bilateral leg weakness for four days. He described the sensation as a "heaviness" to both legs which were exacerbated by weight-bearing. Prior to this, he was walking three miles per day. Associated symptoms included weight loss of 15 lbs and poor appetite. He was compliant with his medications including amiodarone, which he had been taking for two years. Physical examination showed an anxious-appearing male with a bilateral hand tremor. Laboratory studies revealed TSH <0.005 uIU/mL, free T4 >24.9 ug/dL, T3 uptake >56%, and free thyroxine index >13.9. TPO antibodies and TSI were normal. Cardiology recommended discontinuing amiodarone and the patient was sent to electrophysiology for cardiac ablation. After a few months, he returned to his daily walks and playing with his grandchildren. Endocrinology later reported that the patient was euthyroid but TSI was now elevated at 146%. The patient will continue serial thyroid function testing as well as routine cardiac monitoring.

Discussion: Amiodarone-induced thyrotoxicosis is life-threatening in the elderly. According to O'Sullivan et al, patients with severe left ventricular dysfunction are associated with increased mortality in AIT. Our patient differs in that his ejection fraction is at 20% but did not suffer cardiac complications. Additionally, his symptoms resolved after discontinuing amiodarone correlating with the self-limiting type II, however, his elevated TSI suggests an underlying latent thyroid disease, correlating with type I. This is supported by recent studies displaying mixed features of both types of AIT. Furthermore, AIT was likely diagnosed early enough in this patient that he did not require thionamide, steroids, or thyroidectomy in the most severe forms.

Weakness and decreased activity seen in elderly patients are often misinterpreted as being related to aging. Thyrotoxicosis should be considered in patients on amiodarone with compatible symptoms and early diagnosis is crucial.

B5

Dyskinesia Caused by Concurrent Quetiapine & Cocaine Use

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BACKGROUND: Dyskinesias, in particular tardive dyskinesia, are classically associated with long-standing use of first-generation antipsychotics in up to 10-25% of older adults. They are an uncommon complication of second-generation antipsychotics such as quetiapine. Cocaine use has been associated with several different types of dyskinesia. We present a case of concurrent short-term quetiapine and cocaine use precipitating new onset buccolingual dyskinesia in an older adult.

CASE: A 64-year-old woman with history of HTN, longstanding cocaine use, and early-onset dementia presented to the ED for 3 days of worsening behaviors at home, including paranoia and wandering outside of her house. Her son was concerned she had been using cocaine when leaving the house, and had tried to stop her from obtaining recreational drugs on several occasions. She had three hospitalizations in the past two months for similar presentations and had recently been started on quetiapine 25mg BID. On exam, she was alert and oriented x4, her MMSE was 15/30, and, for the first time, she was noted to have abnormal involuntary movements of her jaw and mouth consistent with buccolingual dyskinesia. Her urine drug screen was positive for cocaine. Her symptoms resolved within 48 hours of quetiapine discontinuation and cocaine abstinence.

DISCUSSION: Our case demonstrates unique challenges with concurrent management of neuropsychiatric symptoms (NPS) of dementia and substance use disorder. While quetiapine and cocaine have independently been associated with dyskinesias, we suspect our patient's symptoms were caused by their combined changes to dopamine metabolism and signaling. She had no previous dyskinesias despite over 40 years of cocaine use, and her exposure to quetiapine was shorter than is typically seen in tardive dyskinesia. Careful elucidation of comorbid substance use disorder is necessary prior to treatment of dementia with antipsychotics to prevent harm from polypharmacy.

B6

Single-Center Multi-Hospital Experience with Prostate Artery Embolization for Treatment of Moderate to Severe Lower Urinary Tract Symptoms of Benign Prostatic Hyerplasia

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Background: Prostate artery embolization (PAE) represents an alternative therapy for moderate to severe lower urinary tract symptoms (LUTS) secondary to benign prostatic hyperplasia (BPH). Other minimally invasive therapies require a transurethral route of administration and may be limited by prostate gland size. PAE is performed using a transradial or transfemoral endovascular technique. Early reports suggest it may even represent a safe and effective alternative to complicated medical therapy for patients (Brown et al. 2018).

Methods: A single-center multi-hospital IRB-approved retrospective review of patients was performed of patients who underwent PAE over a 3-year period. Electronic medical records were reviewed for technical success (defined as unilateral or bilateral PAE), indications, symptoms, and clinical success (defined as improvement in quantitative scales or removal of indwelling catheter). Where available, International Prostate Severity Score (IPSS), International Prostate Severity Score Quality of Life (IPSS-QOL), and Sexual Health Inventory for Men (SHIM) scores were reported prior to and following PAE.

Results: 40 PAE's were performed on 38 patients. Mean age was 71.5 years. Technical success was 90.0%. 28.9% had concurrent prostate cancer. 71.1% had hematuria. 44.7% had an indwelling Foley or suprapubic catheter. Of those patients, 76.5% underwent successful removal of Foley or suprapubic catheter at follow-up. Mean Pre-PAE IPSS was 22.1. Mean Pre-PAE IPSS-QOL was 5.4. Mean Pre-PAE SHIM was 8.4. Mean Post-PAE IPSS was 6.9. Mean Post-PAE IPSS-QOL was 1.3. Mean Post-PAE SHIM was 10.1.

Conclusions: PAE represents a safe and effective alternative to transurethral minimally invasive procedures for moderate to severe LUTS secondary to BPH. Clinical success is high. PAE can be performed in patients with multimorbidities which may preclude surgery and it may be especially effective in the setting of hematuria. It does not appear to have a significant impact of sexual health.

B7

The Impact of Becoming an Age-Friendly Health System on Rural Patients' Advanced Care Planning Documentation

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Background: Wyoming has approximately three geriatricians in the entire state and was the last state to acquire an IHI designated Age-Friendly Health System. Through a team-based approach, a small geriatric outpatient clinic applied the 4Ms and reached this status for Ivinson Medical Group in Laramie, Wyoming. An unanticipated outcome, given that studies have shown older adults living in rural communities are less likely to complete advance care planning (ACP) documentation, was a dramatic increase in ACP documents filed.

Methods: This is a descriptive case study of the implementation of the 4Ms in a rural geriatric outpatient setting. Through the encouragement of The University of Wyoming GWEP, Ivinson Medical Group started its journey of becoming Wyoming's first Age-Friendly Health System. The geriatric team working towards this designation consisted of a physician, pharmacist, nurse, social worker, medical assistant and patient care technician. After being educated on the importance of the 4Ms, various members of the team developed a workflow and began implementation of the 4Ms on 2-4 patients per day in standard clinic visits. The 4Ms were also applied to annual wellness visits. At the end of three months, data was extracted on the number of ACP documents uploaded by running a report through the electronic health record.

Results: Three months of data was collected for the IHI Age-Friendly application, including 4Ms documentation on 39 patients in the first month, 24 patients in the second, and 17 patients in the third. While patient numbers decreased during these three months, numbers of ACP documentations increased significantly from months prior to the 4Ms implementation. In the three months prior to implementing the 4Ms, the team uploaded an average of 8 ACP documents per month to patients' health records. During the three months of 4Ms implementation the average more than doubled to 16.6 ACP documents uploaded per month.

Conclusions: IHI Age-Friendly Health Systems guides improved care of older adults in several ways. One way is to align What Matters to older adults with their care plans, including ACP discussions and documentation. Through the journey of becoming an Age-Friendly Health System in a rural underserved state, this small team was able to double their record of ACP documentation.

B8

Perioperative Risk Assessment of a Long-term Care Resident with a Rare Genetic Cerebrovascular Disease

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Background

Cerebral Autosomal Dominant Arteriopathy with Sub-cortical Infarcts and Leukoencephalopathy (CADASIL) is a rare genetic cerebral small vessel disease that results in recurrent ischemic strokes causing progressive cognitive impairment and physical disability. Given the high risk of stroke with CADASIL, determining perioperative stroke risk can be challenging.

Case

This is a 64-year-old female with CADASIL who lives in a long-term care facility. CADASIL was suspected due to migraines, recurrent strokes over 20 years, family history, and progressive cognitive impairment. Her diagnosis was confirmed with family genetic testing. She presents with progressive gait impairment from advanced osteoarthritis of the left knee. Orthopedic surgery offered a total knee replacement. Neurology performed a preoperative assessment. MRI Brain noted a subacute right frontal lacunar infarct and extensive T2 hyperintensities in cerebral white matter. CT head showed extensive bilateral white matter disease. CTA showed intracranial atherosclerotic disease. Neurology recommended surgery on aspirin if pursued. Her primary team at the long-term care center discussed risks, benefits, and alternatives with the patient and her health care proxy. She opted to forgo surgery.

Discussion

CADASIL is an autosomal dominant genetic disorder caused by a mutation of the NOTCH3 gene, which causes thickening of cerebral small arteries. About 85% of CADASIL patients have recurrent strokes beginning in the third decade of life but can occur as late as the eighth decade. Other clinical features are migraine with aura, mood disturbance, and vascular dementia. A typical MRI Brain shows large bilateral and symmetrical white matter hyperintensities on T2 weighted sequences. A definitive diagnosis can be made with genetic testing.

In the preoperative assessment of a patient with CADASIL, it is vital to evaluate their perioperative stroke risk. There are professional guidelines for pre-surgical cardiac evaluation of older adults, which include cardiac assessment and risk stratification. It is important to quantify the risk of perioperative stroke to have a robust informed consent conversation.

Conclusion

Current preoperative assessment guidelines do not routinely include cerebrovascular assessment. In patients with CADASIL, it is essential to perform an evaluation and discussion with the patient about the perioperative risk of stroke.

B9 Resident Presentation

The Intersection of HIV & Geriatrics

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Background: After introduction of life saving medications to combat the HIV epidemic, patients with HIV are aging and joining the geriatric population. This case highlights the importance of patient-centered care and use of the multidisciplinary team to improve quality of life and reduce hospital admissions for the geriatric population living with HIV.

Case: A 72-year-old African-American male veteran with a past medical history of HIV, heart failure with reduced ejection fracture (HFrEF), hypertension, hyperlipidemia, and type 2 diabetes mellitus, is seen for initial evaluation in the geriatric clinic. Until transfer to the geriatric team, he was followed by the infectious disease clinic for HIV management since diagnosis in 1998. His HIV remains well controlled on HAART with an undetectable viral load for several years.

The veteran was hospitalized numerous times in the last 5 years related to HFrEF, culminating at 18 hospitalizations in 2020-2021. He was referred to geriatric clinic for continued primary care. His new geriatric team involved the veteran and his son in shared decision making to develop a goal of reducing the veteran's frequent hospitalizations. The veteran found the main barrier to care was his schedule. He is active outside his home during the day, which causes him to forget medications, and previously caused disenrollment in home telehealth monitoring for HFrEF due to nonadherence with submission of morning blood pressure and weight readings.

He agreed to dietician consult to improve his diet. He was issued a scale and blood pressure cuff to monitor for weight gain or blood pressure changes. The veteran met with a transitional coach to work on strategies to improve adherence to medications which included setting an alarm for medication reminders. He now has biweekly phone check-ins with the geriatric team to reinforce lifestyle management, and check for warning signs of decompensation. Appointments are scheduled in the afternoon and all providers alerted to his preference for afternoon appointments.

Conclusion: Developing shared goals, focusing on quality of life, and adapting treatment strategies to fit the patient's lifestyle is essential when providing care for geriatric patients living with HIV and multiple co-morbidities. This approach can improve outcomes and reduce hospital admissions.

B10

Neurosyphilis Diagnosis by Treatment

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Background: Encephalopathy is a common condition requiring hospital admission. Causes are often multifactorial and include infection, metabolic derangements, hypoxia, toxin exposure, and trauma among others.

Case Description: This patient is a 64 year old man with a five year history of confusion and hallucinations. He had a history of HIV with intermittent antiretroviral adherence since 1985. CSF studies in 2019 were consistent with AIDS dementia, and he had occlusion of his L ICA with cerebral atrophy and ischemic changes on MRI. He was diagnosed outpatient with Vascular dementia with behavioral disturbance and HIV encephalopathy. He started Seroquel and was titrated to 150mg/day. Valproic acid was added and increased to 3gm/day. His behaviors remained unmanageable at home, and he was admitted to the hospital with encephalopathy. He was treated for Klebsiella PNA bacteremia and did not improve. Mental status fluctuated between aggression and somnolence for multiple weeks. He was treated ten years ago for Syphilis with one dose of Penicillin G. A follow up Syphilis AB in 2020 was reactive with a weakly positive RPR. Valproic Acid level was 115 with Ammonia 45. Encephalopathy was treated as multifactorial due to tertiary neurosyphilis, AIDS dementia, and Valproic acid toxicity. He was given a "diagnosis by treatment response" 14 day course of IV Penicillin G. VPA was discontinued. He continued oral antiretroviral medications. The patient's mental status improved. On discharge he was alert and was conversational.

Conclusions: This case demonstrates a multifactorial encephalopathy in a patient with underlying dementia. This patient's encephalopathy was worsened by Valproic Acid which was used to treat his aggressive behaviors. Valproic acid induced encephalopathy can occur in people with normal VPA levels with underlying dementia. Neurosyphilis incidence has decreased due to widespread availability of treatment but still occurs and is characterized by behavioral changes as seen in this patient. Tertiary neurosyphilis manifests in 5-10% of patients infected with Syphilis who have received no treatment or

inadequate treatment. Prognosis with prolonged encephalopathy is poor. Fortunately, his delirium cleared, and he was able to transition to a nursing facility where he could visit and recognize his family, engage with staff, and sing his favorite songs before dying a few months after discharge.

B11

Use of Best- and Worst-Case Prognostic Calculations

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Background: Clinical decision-making in older adults can be a complex challenge. Physicians must consider overall risk versus benefit in the context of a number of domains. Most evidence basis is in terms of the domain of mortality; this does not always translate directly to clinical decisions. We present a case of a functionally impaired older adult with a new diagnosis in which ePrognosis[1] was used to guide decision making in order to demonstrate how improved use of hypothetical prognostic calculations can help teams make the right decisions for patients.

Case: A 79-year-old male (Mr. L) with complicated Type 2 DM with retinopathy, hemorrhagic CVA, and vascular dementia presented to primary care with his son, who was his full-time caregiver. Mr. L had been diagnosed with locally advanced skin cancer and had lesions identified as concerning potential metastases in the context of weight loss and functional decline.

Methods: In order to clearly evaluate and communicate the potential benefits and limitation of further workup and treatment, multiple hypothetical ePrognosis calculations were done before the visit including "best-case" and "worst-case" estimates.

Results: The patient had a "best-case" life expectancy in years of <5 per the Schonberg Index and 2.9 per the Lee Index. His "best-case" risk of one-year mortality according to the Gagne Index was 46.8%. These numbers were thought to overestimate true "best case" prognosis. His "worst-case" life expectancy per PPPS was 44-60 days. After taking a history and physical for any necessary changes, soliciting the patient's and caregivers' perspective, and obtaining permission, these results were presented to the patient and his caregiver. We discussed the implication of these numbers for treatment options and provided appropriate supportive listening. The family and team elected together to pursue hospice management. The patient passed peacefully in his home a month later.

Discussion: Hypothetical use of "best-case" and "worst-case" prognosis calculations helped the medical team and family to choose the right path of care for a patient together and allowed a caregiver to better understand limitations of treatment options and align with the team. This case demonstrates a powerful potential application for existing and new prognostic tools in the context of providers well trained in communication skills and in evaluating the non-mortality domains of a given medical decision.

1. https://eprognosis.ucsf.edu/index.php

B12 Encore Presentation

Impact Hand of Hygiene Assistance and Room Occupancy Changes in Persistence of Multidrug-Resistant Organisms in Nursing Homes

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Background

Transmission of multidrug -resistant organisms (MDRO) is a major cause of morbidity and mortality in nursing homes (NH). We investigated MDRO persistence in patient rooms during occupancy changes. We assessed: 1/ prevalence of patient colonization and room contamination; 2/ MDRO persistence in rooms after patient discharge; and 3/ whether hand hygiene habits predict MDRO colonization or contamination.

Methods

Prospective cohort study in one NH over 34 weeks. Successive patients in nine private rooms were enrolled in triweekly collection of nares, groin, and hand samples. Five surfaces were sampled triweekly, regardless of patient enrollment. Relative risk (RR) for patient colonization and room contamination was calculated based on need for hand hygiene assistance.

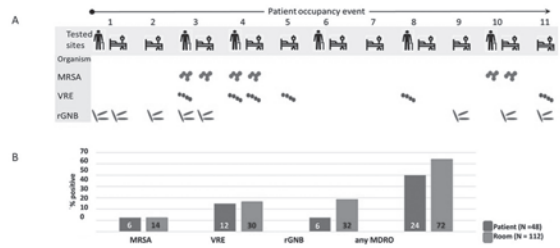
Results

During the study 112 new patient admissions occurred, with 48 patients enrolled and 4670 swab collected. Twenty-four patients (50%) were colonized at least once. Rooms were contaminated at least once in 72 of 112 admission events (64%). MDRO persisted in the room or were found in the next patient in 21 of 73 cases (29%). Assistance with hand hygiene was required 40 of 209 times (19%), and predicted patient colonization (27.5% vs. 12.4% not needing assistance (RR 2.2, 95% CI 1.16-4.18) and room contamination (37.5% vs. 18.9%, RR 1.97, 95% CI 1.18-3.27).

Conclusions

MDROs often persist during room occupancy changes. Patients requiring hand hygiene assistance experience a higher MDRO burden, suggesting functional dependence predicts MDRO colonization. These findings call for more rigorous environmental cleaning protocols in the NH setting and increased access and aid for patient hand hygiene.

Figure. Example of microbiological findings during successive changes of room occupancy for one of the nine study rooms (A), and number and percentage of patients and rooms positive for MDRO at least once during the patient stay (B).



B13 Resident Presentation

To PEG or not to PEG: A patient centered approach in hospitalized geriatric patients.

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A percutaneous endoscopic gastrostomy (PEG) tube is placed to provide nutrients, fluids, and medications in patients with dysphagia and risk of aspiration. PEG tube is a comfortable and efficient method for long-term feeding. However, there is a higher risk for agitation, requiring physical and chemical restraints, and no strong evidenced based benefits with regards to survival, nutritional outcome, or aspiration prevention. It is important to assess burden and benefit prior to placement of PEG tubes and must align with advanced care plans. Here we present two cases, where the decision of PEG placement was personalized.

Case 1:A 85 year old bed bound female with sacral pressure wounds, advanced vascular dementia, chronic dysphagia was hospitalized for difficulty swallowing. The family initially decided to continue to feed with risk of aspiration. However, patient was not accepting feeds sufficiently to meet her nutritional and hydration needs due to persistent hypoactive delirium. Geriatrics recommended to avoid PEG tube placement in the setting of advanced dementia, and FAST 7c to transition patient, hospice and pleasure feeds. Family decided to decline hospice and have PEG placed based on respecting patient's wishes.

Case 2: A 70 year old female independent, ambulatory, with hypertension was hospitalized for acute toxic encephalopathy, diagnosed with severe sepsis, seizures, HSV encephalitis needing intubation. When extubated was found to have severe dysphagia and was recommended to mechanically altered diet. Due to persistent

hypoactive delirium, patient continued to accept feeds poorly and did not meet nutritional and hydration needs. Geriatrics recommended hospice and pleasure feeds. Spouse based on patient's wishes made the decision to continue feed by mouth with acknowledged risk of aspiration, failure to thrive, and not have PEG placed. He declined hospice.

Conclusion: Although PEG feeding tubes are a reasonable option, there is overwhelming evidence that the burden of placement outweigh the benefits. It is important to ensure that the decision whether to place a PEG tube, is made in direct alignment with advanced directive or previously voiced wishes of the patient.

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B14

Hospital-Acquired Third Degree Burn in a Geriatric Patient with Acute Limb Ischemia

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Introduction: Iatrogenic burn wounds are rare and those acquired from the use of heating pads usually occur perioperatively[1]. Heating pads have been shown to improve pain and anxiety in patients undergoing operative procedures but the therapeutic use of heat still carries the risk of burns[2]. Age-related changes in physiology and comorbid conditions like neuropathy and peripheral vascular disease along with acute or chronic mental status changes can lead to worse burn wound outcomes in geriatric patients[3].

Case Description: A 96-year-old female with past medical history of hypertension, atrial fibrillation on apixaban, a lung mass, and chronic anemia was brought to the hospital for 1 month of fatigue and dizziness. She was admitted to the intensive care unit with altered mental status. During her hospitalization, she developed acute limb ischemia secondary to hematoma after femoral central line removal. A day later, patient complained of bilateral lower extremity pain that was relieved with acetaminophen. Nursing staff placed a heating pad around the left leg for comfort. Patient was checked on 4 hours after application and staff noted burn wounds. The wound care service was consulted and reported two full thickness burns to the left lower extremity with a popliteal wound measuring 15cm x 14cm and lower shin wound measuring 23cm x 6.5cm. The wounds were managed with silver sulfadiazine.

Discussion: While there are studies that report on the benefits of heating pads, there is little literature on a protocol of use and monitoring of heating pads or incidence of hospital-acquired burns. This case may offer an opportunity to discuss guidance in preventing injury while maximizing the benefits of use of heating pads in geriatric patients.

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B15

'FILL THY CUPRUM' – A Rare Case of Copper Deficiency causing Functional Decline

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Introduction

Copper deficiency is a rare disease that is often misdiagnosed. Hypocupremia can present with a wide variety of neurological and hematological clinical features. We herein present a case of falls and functional decline in a geriatric patient, caused by copper deficiency.

Case Overview

Geriatrics was consulted for a 65 y/o female with a past medical history of Type 2 Diabetes Mellitus improved with gastric bypass surgery 10 years ago, hypertension and DVT, who presented to the ED with recurrent falls, gait instability and generalized weakness. Patient noted to be declining over the past year, with difficulty ambulating, even with a walker, and inability to drive due to numbness and tingling in her feet. Blood work revealed macrocytic anemia, leukopenia and a hypo-proliferative marrow. MRI brain and spine showed mild increased T2 signaling at the posterior column. Per discussion with our hematology colleagues, we decided to test her copper levels. Cerulosplamsin levels were 14mg/dl, serum copper was 54mcg/dl and 24hr urine copper <5mcg. Patient was started IV copper repletion of 2 mg daily x 5 days. Improvement in function and no further falls were noted at her 6 week follow up.

Discussion

Hypocupremia can present with neurological sequalae such as myelopathy, peripheral and optic neuropathy, and characteristic hematological effects of anemia and neutropenia. The most common cause of copper deficiency is a remote gastrointestinal surgery. On average, patients are diagnosed with copper deficiency around 1.1 years after their first symptoms are reported to a physician. Low levels of serum copper, serum ceruloplasmin and 24hr urine copper levels are consistent with the diagnosis. MRI can show high T2 signaling intensities in the posterior column, mimicking B12 deficiency. Copper deficiency can be treated with either oral copper supplementation or intravenous copper.

Conclusion

Copper deficiency is often misdiagnosed. This case report illustrates the clinical features, diagnosis and management of hypocupremia. Copper deficiency should be considered in all patients with a history of gastric surgery, presenting with falls, functional decline, neurological symptoms and/or cytopenia.

B16

COVID-19 Morbidity in Irish Nursing Home Residents

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Background

COVID-19 has had a disproportionate impact on nursing home residents with significantly higher mortality rates compared to the general population. Less attention however has been paid to COVID-19 induced morbidity in this cohort.

Our study aims to examine how nursing home (NH) residents who survived a COVID-19 infection, have been affected in terms of their cognitive, mood and functional outcomes as compared to residents that did not contract the virus.

Method

We performed an observational retrospective cohort study of the records of 452 residents in NHs affected by COVID-19 in Ireland from February 2020 to February 2021. We extracted data from the scheduled monthly assessments of the Barthel Index (BI), the Mini Mental State Examination (MMSE) and the Geriatric Depression Scale (GDS) performed on residents of these NHs. We compared data from residents who had contracted COVID-19 (cases) to those that

had not (controls); at 6, 3 and 1 month prior to a positive COVID-19 PCR test, to ensure comparability of control group, and again at 1, 3 and 6 months after the infection using a Students-T test for normally distributed data.

Results

We noted a significant deterioration in MMSE, BI and GDS scores in residents who had contracted COVID-19 as outlined in the table. While there was recovery in BI and GDS in the months following the index infection, the MMSE score in COVID-19 affected residents remained significantly adversely affected at 6 months.

Conclusion

Our study demonstrates the significant impact of COVID-19 infection on the physical, functional, cognitive and mental health of nursing home residents. The patient cohort displayed significant resilience in recovering from the physical and psychological consequences of the disease. The failure of cognitive function to improve over the period of observation may represent the development of 'Long COVID' in these patients. The development of this condition in nursing home residents has been poorly studied, is likely under reported and requires further exploration.

Results

	n		Mean Barthel Index (BI)			Mean Mini-Mental State Exam (MMSE)			Mean Geriatric Depression Scale (GDS)		
	Cases	Controls	Cases	Controls	P value	Cases	Controls	P Value	Cases	Controls	P Value
-6 months	179	273	12.9	13.2	NS	18.3	18.5	NS	5.2	6.1	NS
-3 months	179	273	12.8	12.8	NS	18.4	19.1	NS	5.7	5.8	NS
-1 month	179	273	12.7	12.9	NS	18.1	18.8	NS	5.8	5.8	NS
COVID PCR positive	179	273	12.7	12.8	NS	17.9	18.1	NS	5.7	5.6	NS
+1 month	179	272	8.7	12.1	<0.05	11.3	17.2	<0.05	11.5	8.1	<0.05
+3 months	175	272	9.2	11.9	<0.05	12.5	16.9	<0.05	10.3	7.8	<0.05
+6 months	171	269	10.5	11.6	NS	11.1	17.5	<0.05	8.9	7.7	NS

NS = Not significant

B17

Ethical implications of supervision for older adults with dementia: a case

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Background:

Around 70 percent of individuals with dementia live at home. This can present challenges with fall risk, home and medication safety, and wandering.[1] Medical professionals may recommend 24-hour supervision as functional status changes. Provider ethical responsibility surrounding these recommendations remains unclear.

Case:

An 82 year old woman presented to neurology for evaluation; her memory had been worsening over six years. She had home care for 12 hours per day. Mini-Mental State Exam score was 1/30 and she was limited in activities of daily living (ADLs) and instrumental ADLs. Imaging revealed hippocanthal atrophy. She was diagnosed with severe, nonspecific dementia with a recommendation for 24-hour care. Follow-up evaluation revealed support remained the same and 24 hour care was again recommended. Four months later, the patient was found down by her caregiver upon arrival in the morning. Hospital imaging showed C3/C4 complete spinal cord injury. After discussion with family, she was palliatively extubated.

Conclusion:

Providers often recommend 24-hour care for patient safety, but there is not always clarity regarding ethical obligations when these recommendations are not met. This case highlights potential dangers of lack of supervision. It demonstrates the need for discussion of provider responsibility around supervision recommendations, balancing the principles of patient/family autonomy with safety. Questions remain about the role of early involvement of social work or adult protective services. It is unclear whether this action would have changed the patient's outcome, and their involvement could have affected the patient's ability to remain at home. Such discussions may help providers reassess their role in promoting safety for patients with dementia who live at home, and develop recommendations to address similar situations in the future.

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B18

Delayed Hip Fracture Diagnosis in Dementia

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Background Hip fractures are common in older adults and are associated with significant morbidity and mortality. Early surgery is prudent. Delays in diagnosis are seen in delayed presentation and in patients who are confused, dependent or subject to falls[1].

Case 91 y/o male with PMH of frequent falls and dementia, presented with altered mental status (AMS). His caregiver describes a stepwise functional decline that acutely worsened. In the last month, he developed increased muscular rigidity and contractures. On exam, he was lethargic, not following commands, had contracted extremities with increased rigidity with attempted range of motion. Labs showed sodium 150, Creatinine 1.57 (baseline 1.07). CT head was normal. He was admitted for metabolic encephalopathy due to hypernatremia and AKI. Despite improvement in sodium, his AMS remained. Geriatrics was consulted hospital day (HD) 4 for assistance with goals of care. Further collateral revealed he was ambulating 2 weeks prior to admission, and had a minor fall in the last month, resulting in L hip pain. On exam he had pain with extension of lower extremities. Hip X-rays performed HD5 revealed left hip fracture. He underwent surgery HD6 and was discharged home HD8 with home therapy.

Discussion This case illustrates challenges of diagnosing hip fractures in older adults with dementia. Morbidities include delayed diagnosis of a hip fracture; a near miss, as the treatment team considered discharging the patient on hospice prior to the diagnosis; and suffering prolonged, undertreated pain. The patient's AMS, advanced dementia, frequent falls, ADL dependence and his delayed presentation contributed to delays in diagnosis. Additionally, the admitting resident did not receive sign out about the fall and hip pain from the ED and was unable to reach the caregiver, which led to anchoring bias. This caused the primary team to focus on the hypernatremia and AKI, and less on a broad differential for the patient's AMS, decreased po intake and inability to ambulate.

Conclusion Hip fracture should be considered until proven otherwise in older adults who present with hip pain after a fall, even if remote, especially in patients with confusion, frequent falls and dependence, which increase the risk of delayed fracture diagnosis.

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B19

Diet DKA: euglycemic Diabetic Ketoacidosis (eDKA) caused by SGLT2 inhibitors in an elderly male

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SGLT2 inhibitors (SGLT2i) have become a mainstay of therapy for type 2 diabetics with chronic kidney and cardiovascular disease (CVD). The FDA has approved its use in patients with CVD and heart failure, regardless of diabetes (DM) diagnosis. In this era of DM management in an aging population, it is important to be aware of side effects that may disproportionately affect frail older patients. eDKA is a rare, but serious side effect of SGLT2i which we seek to highlight.

A 90-year-old man with a history of type 2 DM, CVD and chronic kidney disease (CKD) presented from a nursing home with a

1-week history of confusion and acute kidney injury (AKI). He started empagliflozin 10 days before symptom onset. In the ED, his labs showed an AKI, glucose of 161, metabolic acidosis with anion gap of 24, lactate of 5 and β-hydroxybutyrate of 3. Scans showed nodular opacities and an atrophic pancreas. He was admitted with aspiration pneumonia and AKI on CKD. Endocrinology was consulted for DM management. eDKA was diagnosed on retrospective analysis of admission data. Given worsening metabolic acidosis, an insulin drip was started and he was transferred to the intensive care unit (ICU). ICU course was complicated by hyperactive delirium. He completed a course of ceftriaxone for his aspiration pneumonia and was weaned from insulin drip after anion gap closure. He was ultimatley discharged and transitioned to hospice care. He died one week later.

Euglycemia in DKA from SGLT2i use results from glycosuria caused by inhibition of the glucose/sodium cotransporter in the proximal tubule. DKA can be caused by relative insulinopenia from diminished pancreas stimulation with fasting, or changes in insulin dose. This can occur with reduced glucose levels when starting the drug. This causes up-regulation of stress hormones like catecholamines, corticosterone and glucagon, which increases lipolysis and free fatty acid delivery to the liver, resulting in keto-acidosis. This same pathway occurs in states of metabolic stress such as acute illness, surgery or infection. The American Diabetes Association recommends that a comprehensive geriatric assessment should be done on all older adults before initiation of SGLT2i. Stratified analyses of trials of this drug have demonstrated great cardiovascular and renal benefits in the elderly, but must be weighed with its risks. In highlighting this side effect, we hope to improve awareness and outcomes in older adults.

B20 Resident Presentation

Heyde Syndrome: Life-threatening Gastrointestinal Bleeding and Aortic Stenosis

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Background

Heyde syndrome (HS) is a clinical triad of intestinal angiodysplasia (IA), aortic stenosis (AS), and anemia. In this report, we present a case of severe anemia and a history of AS, who presented with recurrent GI bleeding.

Case Presentation

An 84-year-old female presented with black tarry stool and fatigue. Past medical history includes anemia, atrial fibrillation, and CABG. Examination revealed irregular rhythm and ejection systolic murmur.

Laboratory tests showed a hemoglobin level of 5.6 g/dl and a platelet count of 307 x 109/L. Iron studies showed serum iron 87 mcg/dL, TIBC 580 mcg/dL, ferritin 8 ng/mL, and transferrin 414 mg/dl. Fecal occult blood was positive. Peripheral blood smear showed microcytic hypochromic anemia, consistent with iron deficiency anemia. A Trans-thoracic echocardiogram showed severe aortic stenosis. Initial imaging, endoscopy and colonoscopy were unremarkable. The von Willebrand factor (vWF) antigen test was not done. The patient declined aortic valve replacement. Medical management was pursued.

The patient had recurrent episodes of lower GI bleeding and severe anemia complicated by an acute exacerbation of heart failure. Repeat colonoscopy showed multiple angiodysplasia that were clipped. The patient was counselled and evaluated for a transcatheter aortic valve replacement (TAVR) procedure. Mitral valve balloon valvuloplasty was planned to improve inflow to the aortic valve followed by TAVR if successful.

Discussion

HS should be suspected in patients older than 65 years with a combination of aortic valve stenosis and GI bleeding. Both conditions are seen in older individuals and believed to be due to age-related degenerative changes. Intestinal angiodysplasia is often asymptomatic making the prevalence higher than what's reflected in the current literature.

The primary mechanism of coagulopathy is the deficiency of von Willebrand factor (vWF) which interferes with hemostasis. The high shear stress across the calcified aortic valve causes proteolysis of vWF multimers resulting in acquired coagulopathy.

Management of Heyde syndrome requires a multispecialty approach to improve patient outcomes. Aortic valve replacement (AVR) is the first-line therapy.

Conclusion

HS is often underdiagnosed due to a lack of disease awareness. Clinicians should suspect HS in any patients who present with aortic valve stenosis and gastrointestinal bleeding. Timely diagnosis reduces morbidity and mortality.

B21

The Paradoxical Effect of Donepezil in a Patient with Dementia

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Background: Donepezil, an acetylcholinesterase inhibitor, is used widely to manage Alzheimer's disease. Common side effects include gastrointestinal disturbances, fatigue, insomnia, bradycardia, muscle cramps, seizure, and anorexia. Few literatures exist on neuropsychologic adverse effect with donepezil use. We describe a patient with mixed dementia (Alzheimer's disease and vascular dementia) whose behavioral symptoms improved when donepezil was discontinued.

Results: A 94-year-old Caucasian male presented to the ED after falling at a memory care assisted living facility. He had no injuries but looked very deconditioned. After 24 hours on observation, he was discharged to a skilled nursing facility. He is dependent on ADLs except feeding, and he ambulates in a wheelchair. His history includes hypertension, CAD, GERD, stable pituitary adenoma, depression, and advanced dementia (FAST 7a) with behavioral disturbance (he intermittently vocalizes biblical figures). On day 28 of stay, his vocalizations became loud, frequent, and less redirectable. No focal neurologic deficits present, but his feet were tender to palpation (PAIN-AD scale of 5 (breathing 0, vocalization 2, facial expression 1, body language 1, consolability 1). CAM was positive for delirium. Laboratory tests were unremarkable except for mild anemia. We scheduled Tylenol and initiated delirium precautions. Five days later, PAIN-AD scale was reduced to 2 (presence of vocalization). No changes on medications (vitamins D and B12, aspirin, finasteride, melatonin, mirtazapine, senna, MiraLAX, simvastatin, and donepezil 5mg) in 8 months. After addressing physical pain and excluding reversible causes of his behavioral symptoms, we discussed with the patient's family about existing reports of neurotoxicity, with limited clinical benefit beyond 12 to 24 weeks of donepezil use.

Two weeks after stopping donepezil, vocalizations were noticeably reduced. At 2 months follow-up, he was more attentive and calm. He has transitioned to long-term skilled care.

Conclusions: Subtle behavioral disturbance in older adults can herald medication adverse effects. While we cannot attribute donepezil conclusively as the cause of his symptoms, the clinical improvement with discontinuation lends support to possible paradoxical (neurotoxicity) effect of donepezil. In residents with no cognitive function improvement or worsening behavioral symptoms, chronic donepezil use should be reappraised.

B22 Resident Presentation

Easy bruising not so easily diagnosed

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Case

A 67-year-old man with coronary artery disease, type 2 diabetes mellitus, hypertension, chronic kidney disease, and monoclonal gammopathy of undetermined significance presented with recent onset bilateral great toe ulcerations accompanied by decreased sensation in his feet. He had no preceding trauma. He also had new bruising at his insulin injection sites and spontaneous, self-resolving nose bleeds over the preceding month. He reported adherence to his dual antiplatelet therapy (DAPT) with no previous easy bleeding or bruising. His vitals were stable, but labs showed a hemoglobin of 10.9 g/dL, lower than baseline of 15 g/dL. His prothrombin time (PT) was normal at 12.4 seconds, but his partial thromboplastin time (aPTT) was elevated at 144 seconds. A mixing study did not correct, the factor VIII level was low, and a factor VIII inhibitor was elevated. Ultimately, his toe ulcerations were diagnosed as diabetic ulcers requiring amputation. His acquired factor VIII inhibitor was treated with porcine-derived recombinant factor VIII and rituximab.

Discussion

Acquired factor VIII inhibitor, also called acquired hemophilia A, is rare, occurring in 1-4 million people per year, with an increasing incidence with age. The presentation is usually with mucosal or soft tissue bleeding as opposed to hemarthroses seen in the congenital form. The presentation can often be variable in severity, thus confounding the diagnosis. While easy bruising and bleeding is at times chalked up to age-related changes to skin integrity and capillary leak, it is important to pay attention to acute changes in patient symptoms and unexplained lab abnormalities in the elderly. Furthermore, many elderly patients are on DAPT or anticoagulation for underlying stroke, coronary artery disease, or arrhythmias which may confuse evaluation for new bruising and bleeding. This patient's report of easy bruising and bleeding was a change from prior and more severe than would be expected for being on DAPT. His isolated elevated aPTT prompted his team to assess further for an underlying coagulopathy. He had no family history of a coagulopathy, which is common with acquired inhibitors. This can commonly delay diagnosis of acquired hemophilia A. Careful attention is needed to coagulation studies when patients report new onset bleeding or bruising so as not to miss this impactful diagnosis.

B23

When Less is More: A Case of Diligent Care Obviating the Need for Advanced Testing and Hospitalization

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Background: Excessive testing is extremely common in the US, with an estimated $760 – 935 billion wasted in healthcare costs, 8 – 13% of this due to overtreatment or low-value care (i.e., duplicate tests). We present a case where an older adult patient was correctly diagnosed by a geriatrics team diligently gathering data and conversing with specialists, thereby avoiding unnecessary tests and interventions.

Case Presentation: A 79yr old woman in long-term care with past medical history significant for a hiatal hernia presented with cough, shortness of breath and rhinorrhea. Evaluation was notable for mild hypoxia (88 – 90% on RA) and tachypnea (26). Physical exam revealed rhonchi which cleared with coughing. She had mild leukocytosis, testing was negative for COVID-19, Influenza A and B, and RSV. Chest x-ray (CXR) showed complete opacification of the left hemithorax concerning for a mucous plug and/or infection. She was started on inhalers/antibiotics. Her nursing home team obtained a second CXR (similar to the first), then compared the CXR with a prior abdominal CT. In discussion with the reading radiologist, the CT revealed a loop of air-filled bowel in the left thorax. They concluded that the likely etiology of respiratory compromise and opacification seen on CXR was bowel herniation into the thorax via her hiatal hernia, causing compression of the left lung. Thoracic surgery was consulted, and did not recommend surgery of the hiatal hernia. Antibiotics were discontinued and the patient was managed conservatively in the nursing home.

Discussion: This case details a situation where complete lung opacity on CXR did not match the clinical situation and required further investigation. The nursing home team uncovered the etiology through looking at old imaging and conferring with a radiologist. These methods allowed for proper triage of this problem, including informed discussion with her family. The patient successfully avoided a hospitalization, which would have been a natural impulse upon seeing the lung opacity on CXR. Incentives for this type of diligent, resource-mindful care are largely missing in the US healthcare system, resulting in unnecessary or duplicated testing and treatment. Despite these barriers, practitioners for older adults should be mindful that diligence and tailoring service to each patient can potentially avoid excessive testing and unnecessary interventions.

B24 Student Presentation

An Unusual Case of Varicella Zoster Virus Encephalitis in an Older Adult

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Introduction: Herpes encephalitis is a rare disease that occurs due to infection or reactivation of a latent human herpes virus. Its pathogenesis has not been completely determined, but it has been shown that herpes simplex virus-1 (HSV-1) is the most common infectious cause of sporadic encephalitis worldwide.[1] Therefore, the varicella zoster virus (VZV) accounts for few cases that cause encephalitis, making it a rare diagnosis. VZV cases that lead to encephalitis occur in about 1 out of every 33,000-50,000 people, and it is an especially uncommon diagnosis in the older adult population.[2]

Case Presentation: A 98 year old female with history of hypertension and atrial fibrillation presented to an outpatient dermatology office with a vesicular rash on the left side of her neck, occiput, and ipsilateral shoulder. Due to suspicion of VZV infection, she was prescribed valaciclovir. Two days later she presented to the emergency department with symptoms of altered mental status, hallucinations, and agitation. She was admitted for concerns of viral encephalitis. With neurology consultation, she had a brain MRI which showed senescent changes. She also underwent lumbar puncture; CSF panel was positive for VZV polymerase chain reaction. VZV encephalitis was diagnosed and with infectious diseases consultation she was treated with a 21-day course of intravenous acyclovir. Patient ultimately transitioned back to her home in the community.

Discussion: The combination of new vesicular rash and encephalopathy raised suspicion for VZV encephalitis. The quick diagnosis allowed for rapid treatment with acyclovir. Even though the patient's mental status initially improved with treatment, the patient ultimately had a decline in cognitive and functional status requiring 24-hour care in the community. This case illustrates the importance of considering VZV encephalitis as a diagnosis, recognizing potential long-term cognitive and functional outcomes, and identifying needs for additional community supports.

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B25 Resident Presentation

Ageism Leading to Diagnostic Delay of Guillain-Barré Syndrome

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Background: We present an older adult who experienced a delayed diagnosis of progressive polyneuropathy suspected to be Guillain-Barre Syndrome (GBS) due to ageist assumptions. There are a limited number of studies devoted to investigating polyneuropathies such as GBS in older adults. Underdiagnosis of these conditions in older adults can contribute to disease progression and hospital-related complications, a thorough physical exam can help ensure a timely diagnosis.

Case: An 83-year-old male with a history of pulmonary sarcoidosis, usual interstitial pneumonitis (UIP), and mild dementia presented with two weeks of progressive shortness of breath. Chest imaging was consistent with a possible sarcoidosis-UIP flare, and he was started on steroids and empiric antibiotics. Symptoms progressed to dysarthria and a stroke workup was non-revealing. Geriatrics was consulted for possible steroid-induced delirium. A comprehensive geriatric assessment and exam revealed acute progressive symmetric ascending paralysis with hyporeflexia and truncal instability. The patient required intubation for respiratory failure and he was transferred to the ICU. A lumbar puncture showed albuminocytologic dissociation consistent with the diagnosis of GBS. Treatment with intravenous immunoglobulin was initiated with remarkable clinical improvement and he was able to be extubated.

Discussion: Our case demonstrates an older adult with significant comorbidities whose weakness was misattributed to deconditioning in the setting of advanced age. The Geriatrics team, however, discovered progressive neurologic symptoms in an individual who was highly functional at baseline through a detailed history and physical examination. Studies have shown that multiple comorbidities in older adults may be confounders that delay and obscure diagnostic accuracy. These findings emphasize the importance of recognizing and minimizing ageism in our daily practice.

Conclusion: This case illustrates how ageism can lead to a diagnostic delay in older adults. Developing awareness about the impact of ageism on patient outcomes can help prevent unnecessary medical interventions, complications, and prolonged hospitalizations.

B26

An Unlikely Mimic of Stroke

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Introduction:

Valacyclovir is a prodrug that is converted to its active form, acyclovir, in the intestines and liver. It is excreted primarily through the urine. Therefore, older adult patients with impaired renal function can develop supratherapeutic levels of the medication, increasing their risk for side effects.

Case Description:

A 79-year-old male with history of end stage renal disease (ESRD) on peritoneal dialysis and stroke presented to an outside hospital with dysarthria, left arm sensory loss, and confusion. The day prior to presentation, he was diagnosed with herpes zoster on the upper abdomen and took two doses of his prescribed valacyclovir 1000 mg three times daily. Due to concern for stroke, the patient was transferred to a tertiary care hospital. Brain imaging did not show any acute hemorrhage or infarcts. Creatinine clearance (CrCl) was 7 mL/min on admission. Given negative stroke workup, the patient was diagnosed with valacyclovir neurotoxicity and the medication was stopped. Peritoneal dialysis was continued. His dysarthria, sensory loss, and delirium resolved over the next week. At primary care follow-up, he was back to baseline except for mild post-herpetic neuralgia.

Discussion:

This case reveals the importance of renally dosing medication in the geriatric population. As patients age, their absorption, distribution, metabolism, and elimination of medications changes. CrCl is the most important measure for determining dosage of renally excreted medications, as serum creatinine can vary widely in older adults. For patients with normal renal function (CrCL >50), valacyclovir for herpes zoster should be dosed 1 gram three times daily. In patients with CrCL <10, as in this patient, the dosing is 500 mg every 48 hours. When not renally dosed, patients can experience adverse effects. Neurotoxicity is rare but usually occurs within 24-72 hours of valacyclovir initiation. Typical symptoms include confusion, ataxia, myoclonus, motor loss, hallucinations, and seizure. Case reports have found patients with underlying kidney disease are at highest risk for neurotoxicity. The mainstay of treatment is medication discontinuation and supportive care. Even for patients without ESRD, hemodialysis may be necessary in severe cases.

Conclusion:

Older adults are at increased risk of chronic kidney disease and delirium. Creatinine clearance should be carefully considered when prescribing renally excreted medications to avoid adverse effects.

B27

Daily routine as a potential intervention for improved medication adherence

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Background: More than half of older adults do not take their medications as prescribed, placing them at risk for complications and hospitalization from poorly controlled chronic conditions. Busyness (density of activities) and routine (patterns of organizing time) make up the structure of daily life and are two understudied factors that likely impact medication-taking behaviors. We examined the association between daily routine and busyness with medication adherence and hypothesized that greater daily routine would be related to better medication adherence among older adults who report busy lives.

Methods: We used data from an ongoing cohort study of older adults in Chicago (n=405). Daily routine and busyness were measured using the Environmental Demands Questionnaire. Medication adherence was assessed using the ASK-12; higher scores indicate poorer adherence. We conducted multivariable models to assess the effect of daily routine and busyness on medication adherence; the final model included an interaction term between daily routine and busyness. All models included age, gender, race, income, health literacy, number of prescription medicines and cognitive ability as covariates. We reported least squares means (LSM) and 95% confidence intervals (CI).

Results: Participants were on average 71 years old, the majority were female (71.8%), and self-identified as White (56.7%) or Black (37.9%); 42% were taking 5 or more medications. ASK-12 scores were worse for individuals reporting low (LSM 22.4, 95% CI: 21.2, 23.6) and moderate (LSM 22.4; 95% CI: 21.1, 23.8) daily routine versus those with high daily routine (LSM 20.9; 95% CI: 19.5, 22.2). ASK-12 scores were also worse for individuals reporting moderate (LSM 21.9; 95% CI: 20.7, 23.2) and high (LSM 23.6; 95% CI: 22.2, 24.9) busyness versus those reporting low busyness (LSM 20.5; 95% CI: 19.3, 21.8). We observed a significant interaction term between busyness and routine for the ASK-12 (p=0.04); among highly busy individuals, those with high daily routine reported better medication adherence than those with low routine.

Conclusion: Daily routine is an under-recognized, modifiable factor that could be the target of interventions aimed at improving medication adherence among older adults, particularly among individuals with busy lives.

B28

Building a Free Specialist Care System for Homebound Holocaust Survivors in Israel.

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Background: Compared with the general older adult population, Holocaust survivors (HS) are disproportionately affected by mental illness, including post-traumatic stress disorder, and geriatric syndromes such as osteoporosis. While access to primary care is partially available to homebound patients through the public healthcare system in Israel, specialized care is often expensive or unavailable. Many HS lost the majority of their family during the holocaust and subsequently have less social support, are socially isolated and lack access to specialty care. HS are an understudied population with unique needs, as they age, the opportunity to study and to provide care for this generation is nearing an end.

"Lemaanam" is a non-profit organization in Israel, created by doctors in the midst of the COVID19 pandemic, with the goal of providing homebound HS free access to specialty care. A case series is presented to demonstrate the ability to recruit a cadre of volunteer physicians to provide access to specialty care for HS.

Methods: This case series uses data from the 435 HS who contacted Lemaanam Between November 2020 and June 2021.

Results: 435 HS approached Lemmanam requesting help accessing specialty care. Their average age was 87. Lemmanam provided 107 home visits, 83 clinic visits and 58 televisits in a variety of different medical and surgical specialties. Additionally 59 HS received assistance with making appointments within the public healthcare system or were helped by providing transportation or volunteers to accompany them. Activity has increased in recent months and more than 850 specialists now volunteer to provide free medical care. Most volunteers were recruited via social media physician groups. Funding for Lemmanam relies solely on donations.

Conclusion: Lemmanam is successfully providing specialty care to homebound HS by creating a network of physicians and surgeons willing to provide free care to those who endured one of history's worst horrors and survived.

B29

Incapacitating Insulin Associated Edema M Kyritsi MD, TS Dharmarajan MD, AGSF Div. of Geriatrics, Montefiore Medical Center (Wakefield), Bronx, NY

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Background

Insulin edema is a rare complication of insulin therapy, can involve lower extremities or rarely be generalized. True incidence of insulin edema is unknown, perhaps ~3.0%. Insulin edema is typical with initiation of insulin or intensifying therapy. We describe a dramatic case of glargine related edema.

Case

72 year old community female with uncontrolled T2Diabetes (T2D), hypertension and nontoxic goiter presented at geriatric clinic with 8-year-history of uncontrolled T2D, A1c>14. Oral antidiabetic medications failed; patient was skeptical about starting insulin. Uncontrolled diabetes correlated with unintentional weight loss of 100 lbs over 8 years. A week after being introduced to glargine, she noted pedal edema. Amlodipine was discontinued; thiazide 12.5 mg was added, plus advice to restrict sodium. Over 2 weeks, the edema expanded to her legs and thighs. In 6 weeks, she gained 25 lbs. Edema was non-pitting and painful; her lower limbs felt heavy. She used compression stockings to move. Lower extremity Doppler and abdomen / pelvis ultrasound were non-diagnostic. Thiazide was replaced by furosemide. While on glargine for 2 months, she gained 35 lbs. She was now switched from glargine to detemir; 3 months later, she lost 28 lbs and edema disappeared.

Discussion

Multiple mechanisms explain insulin edema. Insulin reduces renal sodium and increases albumin excretion. Its anabolic action increases vascular permeability; lower plasma glucose levels decrease plasma osmolality. Underweight females are at high risk, and those with poor cardiac, hepatic or renal reserves. Our patient's BMI was 17.9 before initiating insulin. Her T2D diagnosis 8 years ago correlated with weight loss of 100 lbs, from an insulin-deficient catabolic state which predisposed to edema on initiating insulin. Glycemic control reduces plasma osmolality with intracellular water retention and edema. Stopping insulin in our patient would disrupt glycemic control. Insulin edema is a benign complication of insulin therapy, underrecognized, underreported. Better understanding relieves anxiety in patients, many reluctant to accept insulin to start with. (Figures in poster).

Key Points

Insulin edema, a rare complication of insulin therapy occurs with long standing insulin deficiency

It is a diagnosis of exclusion and can be massive

Short-term diuretics and salt restriction help; altering the form of insulin is a final option.

B30

Tolerability of buprenorphine for cancer-related pain in a frail older adult

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Background: Cancer-related pain can be difficult to manage for frail older adults who do not tolerate traditional full agonist opioids. A number of barriers limit the use of opioid pain medications in this population including side effects such as sedation and hypotension, as well as potential drug interactions and differences in pharmacokinetics. Given these limitations, it is important for geriatrics and palliative medicine clinicians to be familiar with alternative medication options. One medication that should be considered due to its lower side effect profile is buprenorphine. While buprenorphine has long been used in the United States for treatment of substance use disorders and chronic pain, the literature is lacking for how buprenorphine can be used for cancer-related pain in older adults.

Methods: Ms. H, an 85 year-old patient with known high-grade papillary serous ovarian carcinoma, was referred to Palliative Care for management of cancer-related abdominal pain in the context of ongoing weight loss, dizziness, known orthostatic hypotension, and renal impairment. When we first met Ms. H, she shared her activity was limited due to her pain and needing to take oral hydromorphone 4mg 4-6 times per day, an average of about 80 morphine milligram equivalents, in order to obtain significant relief. The patient worried that her pain regimen was contributing to lightheadedness, which had previously caused a fall, and increased confusion. Given her renal dysfunction, constant pain, and the side effects of hydromorphone, Ms. H was started on a buprenorphine 20 mcg/hr patch. Despite persistent moderate to severe pain on her oral hydromorphone regimen, we started conservatively given concern for fall risk and renal impairment. While on the buprenorphine patch, the patient continued her hydromorphone 4mg by mouth as needed for breakthrough pain.

Results: At one month follow up, Ms. H reported significant improvement of her pain as she was only using hydromorphone up to twice a day as needed for breakthrough pain and she was much more active during the day. She also noted her previous symptoms of confusion and lightheadedness improved with the opioid rotation.

Conclusion: Given its higher tolerability profile with lower risk for adverse effects, buprenorphine can be an effective therapy for cancer-related pain management in frail older adults who do not tolerate traditional full agonist opioids.

B31 Resident Presentation

A rare case of *Clostridium Perfringens* prostatic abscess.

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Acute bacterial prostatitis (ABP) is an infection of the prostate gland, with a prevalence of 33% among individuals more than 80 years old. Risks factors for ABP include urinary tract infections (UTI), benign prostatic hypertrophy (BPH), immunodepression, and prostate procedures. We report a case of an elderly with C*lostridium Perfrigens* ABP complicated by a prostatic abscess.

An 82-year-old male with a past medical history significant for diabetes, recurrent UTI treated with nitrofurantoin, BPH with self-catheterization, and a recent diagnosis of prostate cancer, presents with 5 days of worsening urinary retention, dysuria, urgency, lower abdominal pain, and fevers. Clinically, he was septic; he had leukocytosis with bandemia, urinalysis with pyuria, and lactic acidosis. Follow-up urine culture was negative, blood cultures were positive for *C. perfringens*, and CT of the abdomen and pelvis showed prostatitis with a prostatic abscess. He underwent cystoscopy with debridement and prostate abscess drainage, followed by 3 weeks of antibiotics.

ABP can progress rapidly to urosepsis. Patients commonly present with acute onset of irritative or obstructive voiding symptoms, and rarely with suprapubic, rectal, or perineal pain. ABP diagnosis is based on history and physical examination. Urinalysis and urine culture should be obtained to support the clinical diagnosis and guide antibiotic therapy. Despite 50% of ABP cases being caused by *Escherichia coli* infection, up to 35% of urine cultures in patients with ABP can be negative. Interestingly, this patient had *C. Perfringes* bacteremia, an uncommon pathogen accounting for less than 1% of all bloodstream infections. In addition, there have been few reports in the literature of *C. Perfringens* UTI. Imaging studies should be done if there is suspicion of ABP complications, such as prostatic abscess. This patient had multiple risk factors for complicated ABP, including age more than 65, diabetes, fever, BPH, and transurethral catheterization. About 10% of cases can progress to chronic prostatitis and are at risk of developing chronic pelvic pain syndrome, thus, early ABP recognition and treatment are important to avoid worse outcomes.

B32

Failure to Thrive, or Failure to Diagnose? A Case of Progressive Functional Decline

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Case: A 71 year old male with a history of type 2 diabetes, deep venous thrombosis, and pelvic fracture presented to clinic with acute on chronic functional decline and 30 pound weight loss. He was a functionally independent man two years prior, but had a stepwise functional decline after hospitalizations for sepsis, DKA, and delirium. He now needed assistance with ADLs and IADLs, including feeding and walking. On exam he was withdrawn and had mutism, rigidity, immobility, and staring. He was admitted to the hospital and MRI Brain showed diffuse cerebral atrophy and chronic microvascular ischemic changes. Full body CT found no malignancy. BMP, TSH, and B12 were normal and infectious work up was negative. He continued to exhibit staring, mutism, rigidity, posturing, refusal to eat, and negativism consistent with a diagnosis of catatonia.

Discussion: Catatonia is a neuropsychiatric syndrome marked by motor, behavioral and autonomic abnormalities. The most common form is akinetic catatonia, marked by immobility, mutism, negativism, staring, and rigidity. It occurs in up to 10% of patients with acute psychiatric illnesses and can be associated with underlying medical conditions like dementia. Catatonia is underdiagnosed in older adults and those with dementia and there is a greater risk of complications in this group if left untreated. Treatment includes benzodiazepines, preferably lorazepam. Approximately 30% of patients do not respond to lorazepam, and adjuvant therapy with memantine, zolpidem, or electroconvulsive therapy is needed. If left untreated, catatonia is associated with significant morbidity and mortality. Catatonia is highly treatable in the early stages, but is more refractory in longstanding disease. Clinicians should have a high level of suspicion in the elderly when there are atypical features of mental illness or functional decline.

Case Conclusion: This patient was given an oral lorazepam challenge and responded after initial dose by saying his full name, becoming more interactive, and reading his menu. Unfortunately scheduled IV lorazepam challenge was too sedating, and he began refusing oral lorazepam doses. He did not show clinical response to memantine. ECT was discussed given refractory catatonia, but this was not pursued given a clinical status change due to infection. Goals of care discussions with family are ongoing given his poor response and guarded prognosis.

B33

Diagnostic Fall: A Case of Idiopathic Normal Pressure Hydrocephalus

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Introduction: Normal pressure hydrocephalus (NPH) is a rare condition in which individuals develop pathologically enlarged ventricles, clinically manifested by the triad of cognitive impairment, stereotypic gait abnormalities, and urinary incontinence. It is most common in older adults and often missed or misdiagnosed. This case study illustrates the presentation and treatment considerations of NPH in an older adult.

Case: An 80-year-old Russian-speaking male with uncontrolled diabetes, previous embolic stroke, atrial fibrillation on apixaban, coronary artery disease with stenting, hypertension, and prostate cancer status post prostatectomy was evaluated in the Emergency Department (ED) following a series of falls at home. The patient had noted weakness and gait instability of insidious onset over the previous months; he also had occasional urinary leakage but no reported cognitive decline. He was referred to Physical Therapy and started using a cane consistently with improvement in balance and gait but without return to former baseline. In the ED, he had head imaging which, in addition to demonstrating chronic infarcts, noted new changes concerning for adult idiopathic hydrocephalus. He was referred to Neurology and Neurosurgery for evaluation of NPH and consideration of ventriculoperitoneal (VP) shunt. After a high-volume lumbar puncture (LP), he had marked improvement in gait. Neurology recommended a shunt given the potential reduction in falls. However, due to patient's uncontrolled diabetes, elevated blood pressure, and use of anticoagulation, Neurosurgery determined that the risks outweighed the benefits. Mobility and increased home support were provided in lieu of a surgery.

Discussion: The exact pathophysiology of idiopathic NPH is not defined, but it is postulated that increased CSF in the ventricles may affect the frontal lobe. Presentations of NPH may not always include all symptoms of the pathognomonic triad. As NPH is a potentially treatable cause of cognitive impairment and falls, it is important to consider in the differential. Following a diagnosis on head imaging, if gait improvement is seen after a large-volume LP, the recommended treatment is a VP shunt. This case illustrates a challenging but common scenario where a medically complex older adult develops gait instability with falls and incontinence due to NPH and is unable to proceed with a potential beneficial treatment due to high comorbid burden and the invasive nature of a VP shunt.

B34

Dancing to a new tune. Music as an indicator of dementia.

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An 85-year-old woman living alone in the commuity with a history of metastatic renal cell carcinoma and transient ischemic attacks presented to the hospital with 2-3 days auditory and visual hallucinations. She reported hearing loud military music "from the neighbors' apartment" and "saw a fire and firemen" outside her window. While initially oriented she became visibly delirious during her emergency room evaluation as she noted seeing bugs, became confused, and had nonsensical speech. Initial workup was remarkable for hyponatremia to 128 and chest x-ray was concerning for pneumonia. She was admitted to the general medicine team and treated with antibiotics and IV fluids. Her delirium appeared to have resolved soon after. However, she continued to hear the tune of "God Bless America"

Geriatrics was consulted on day 4 of her admission for the evaluation of her ongoing auditory hallucinations in the context of recent delirium and concern for underlying cognitive impairment. Her exam was notable for orientation to person, place, time, and situation, appropriate judgment, negative depression screen, and no tremors or parkinsonian features. Additional workup revealed a brain MRI significant for chronic microvascular disease and hippocampal atrophy. Given her history of malignancy she underwent an abdominal MRI to assess known liver metastases and assess for portal hypertension. Her metastases had decreased in size from prior, had no portal hypertension, and ammonia levels were low decreasing concern for hepatic encephalopathy. She was also started on Vit B12 supplementation given levels in the low 200s. Her auditory hallucinations resolved by day 5 of admission and she was discharged home shortly after.

She followed up with outpatient Geriatrics a month post discharge. She endorsed one episode of auditory hallucinations since discharge and scored an 18/30 on her MOCA. Collateral from her friends was notable for months of forgetfulness, word finding difficulties, increased falls, and new dependencies in finances and medications. Given her unremarkable repeat labs, MRI findings, and lack of parkinsonism on exam she was started on Aricept for likely mixed dementia of Alzheimer's and vascular etiology. This case highlights the importance of remembering that auditory hallucinations can be a prominent presenting symptom of delirium and underlying dementia, including non-lewy body dementias. Additionally, symptoms of delirium can take several days post resolution of the inciting factor to fully dissipate.

B35

Lower Extremity Edema: A Common Complaint Due to a Very Uncommon Cause in a Geriatric Patient

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Background:

The differential diagnosis for bilateral lower extremity edema in geriatrics is broad. It includes medication side effects, venous insufficiency, and exacerbation of heart failure especially in patients with known cardiomyopathy. We present a rare case of leiomyosarcoma of vascular origin causing complete thrombosis of inferior vena cava (IVC) and resulting in refractory edema.

Case Presentation:

A 71-year-old female with a history of hypertension and nonischemic cardiomyopathy presented to clinic for follow up. Patient reported worsening lower extremity edema that did not improve with diuretics. Review of systems was otherwise negative with no dyspnea or orthopnea.

On presentation, vital signs were within normal limits. Physical exam was significant for 2+ bilateral lower extremity edema. Labs showed an elevated creatinine at 2.7 mg/dL (baseline 1.6 mg/dL). Renal ultrasound showed a large irregular complex cystic mass along the right kidney. MR Abdomen revealed large (8 cm x7 cm x7 cm) right-sided retroperitoneal mass extending into the completely thrombosed IVC.

Patient underwent biopsy of the mass which showed leiomyosarcoma with features of vascular origin. IVC venogram showed complete occlusion of the infrahepatic IVC with multiple collaterals seen. Plan was for resection of retroperitoneal mass along with right kidney with reconstruction of her left renal vein. Upon surgical exploration, patient was found to have extensive local involvement of the tumor, and curative resection could not be performed. Oncology recommended chemotherapy with single-agent doxorubicin with goal of slowing down/shrinking tumor and re-assessing afterwards.

Discussion:

This patient had a leiomyosarcoma originating from her IVC. This is an extremely rare malignant tumor arising from the smooth muscles lining the walls of the IVC. It was totally blocking the flow of blood through the vena cava. It was also extending towards the right kidney in addition to the left renal vein, affecting blood flow to the kidneys and resulting in worsening renal function. All those factors contributed to the refractory bilateral lower extremity edema though collateral veins were helping in relieving pressure from the portal system. When assessing a patient, it is important to take a detailed history and physical exam and to keep a low index of suspicion for uncommon causes of common medical problems.

B36 Resident Presentation

Don't Drop the ball on Droperidol: Managing Expectations of Effectiveness

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Background: Droperidol is a first-generation antipsychotic shown to be a safe and effective option for older adults in the emergency department (ED) with acute agitation compared to benzodiazepines. Often when there is no immediate effect after using one agent, providers will opt for another. Combining anti-dopaminergic medications raises the risk of extrapyramidal symptoms (EPS) compared to either agent alone. This case highlights antipsychotic-induced EPS in an older adult patient given multiple dopamine blocking agents.

Case: Ms. Y is an 89-year-old female with a past medical history of dementia, remote DVT, and depression who presented with altered mental status (AMS). She was combative in the ED, requiring restraint with a Posey vest. The patient was given 2mg of lorazepam with poor effect, leading to a 10mg dose of olanzapine, then 1.25 mg of droperidol, and lastly, 5 mg of droperidol. Two days later, facial movements resembling EPS were observed and she eventually developed truncal and limb ataxia. MRI reflected chronic small vessel disease, but neuroimaging was negative for an acute process. Infectious workup for AMS was unremarkable. Over time, her mentation improved, but the EPS continued. Neurology started benztropine for drug-induced EPS. Her facial movements stopped, and her abnormal leg movement improved. She was discharged on benztropine as needed for uncontrolled movements with a plan to follow up with neurology.

Discussion: Older adults are more susceptible to drug interactions due to age-related physiologic changes affecting medication metabolism. Droperidol has a fast onset of action when given intramuscularly and a shorter half-life than other parenteral antipsychotics, making it a favorable option for acute agitation in older adults. Olanzapine is often used for agitation, but it has a long half-life that is further prolonged in the elderly. The favorable profile of droperidol can easily be overshadowed by additional pharmacotherapy, especially with synergistic

dual-dopamine blockade as was seen in this case. Starting with droperidol and repeating doses as needed may have avoided the need for multi-modal sedation and decreased the risk of EPS.

Conclusion: Medication interactions and duration of action need to be carefully weighed in older adults, especially if it relates to dual anti-dopaminergic agents.

B37

Two years of tooth ache – A teachable moment on history taking

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Background

Getting the correct diagnosis is contingent upon three crucial things – a relevant history elicited by the clinician, pertinent signs observed during physical examination and relevant laboratory investigations to clinch the diagnosis. Out of these, patient history is the most crucial aspect as it guides the next steps and may itself lead to a diagnosis thus saving time and expenses. We present a case of a patient whose correct diagnosis of tooth ache was missed for over 2 years.

Case

A 60 year old Hispanic male with multiple sclerosis (paraplegia, right upper limb weakness), hypertension and recurrent herpes labialis, from a long term care facility, had been complaining of episodic pain in his right lower incisor since the past 2 years. A total of 15 encounters with the dentist involving multiple procedures on an otherwise healthy tooth and oral analgesics did not relieve the pain. The dentist finally discussed this issue with the attending physician, planned a maxillofacial surgery consult and also discussed the possibility of extracting the tooth while still reporting that the tooth was normal. The resident was not enthusiastic about getting his tooth extracted. A detailed history revealed that the pain had a "pins and needles" characteristic and was triggered by chewing. Presence of food in the right side of his mouth also triggered pain in his tooth and in his right mandibular region. Quite often, touching the right side of his jaw also elicited pain in his tooth and the right mandibular region. He also had a recent flare of herpes labialis. Based on history, a clinical diagnosis of trigeminal neuralgia was made, a neurology consult planned to assess if multiple sclerosis or herpes simplex was the cause and carbamazepine initiated.

Discussion

Long term care facilities often have multiple residents being taken care of by a few number of physicians. Quite often, time does not permit a prolonged and detailed history or physical examination. This case elaborates the value of a targeted and relevant history taking to guide diagnosis while also providing a lesson that few minutes spent listening the patient can bring down costs involved in patient care, cut down time to prescribe appropriate therapy and initiate rational management plans.

Key Points

Relevant history taking can bring down costs and time involved in management of patients

Tooth aches can have neurologic causes in addition to odontogenic causes

B38

An overlooked cause of Bradycardia and Syncope in Dementia: Acetylcholinesterase Inhibitors

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Background

Reversible acetylcholinesterase inhibitors have a transient yet modest therapeutic effect in the management of Alzheimer's dementia. A significant adverse drug effect (ADE) is bradycardia. Our case illustrates a prolonged hospital stay of a patient with dementia and recurrent syncope, relating to use of donepezil.

Case

97 year old hispanic female with dementia, hypertension, dyslipidemia, overactive bladder and primary hyperparathyroidism came to the emergency department for multiple episodes of witnessed syncope with unresponsiveness and bradycardia, as reported by the paramedic. She was on donepezil, aspirin, pravastatin, oxybutynin and labetalol. She was hypertensive and bradycardic on admission. EKG revealed sinus bradycardia (48/min) with premature atrial contractions; troponins were negative. Echocardiogram: normal wall motion and ejection fraction; CT head: chronic left frontal lobe infarct; EEG: no seizure activity. She was euthyroid. The cardiologist ruled out sick sinus syndrome, advised no further workup and all medications were continued. Elevated serum calcium normalized with hydration. On day 5 she was shifted to the geriatric medicine floor with persistent episodes of bradycardia, though hemodynamically stable. She had miosis. Donepezil toxicity was considered and the drug stopped. The heart rate improved significantly.

Discussion

Donepezil is a centrally acting acetylcholinesterase inhibitor which binds and reversibly inhibits acetylcholinesterase. This prevents hydrolysis of acetylcholine and increases its concentration in synapses causing cholinergic effects. Bradycardia is one concerning cholinergic adverse effect of this drug. Published data suggests that acetylcholine esterase therapy is associated with an increased risk of hospitalization due to bradycardia. Patients with heart disease and conduction abnormalities are predisposed to develop symptomatic bradycardia causing falls, requiring hospitalization and in some cases acute interventions in the form of cardiac pacing. Being vigilant about this known ADE can help providers of care, recognize and manage syncope or falls by discontinuing the drug.

Key Points

Syncope in geriatric patients with dementia may be an ADE, typically from use of cholinesterase inhibitors.

Timely recognition of the ADE and drug discontinuation helps prevent syncope, falls, hospitalization and needless interventions.

B39

Report of an Outbreak of COVID-19 in a Nursing Home With All Residents Vaccinated

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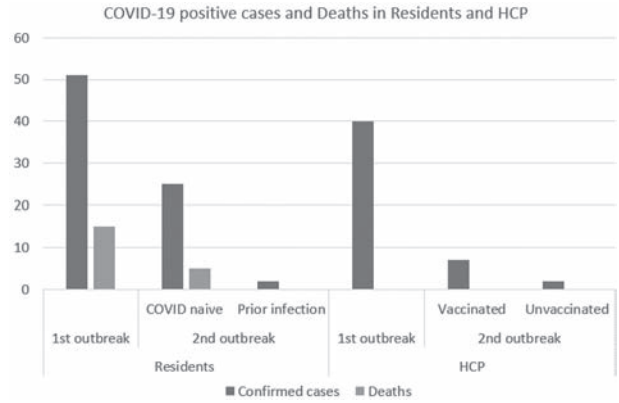
The development of COVID-19 vaccines provided hope for the end of the pandemic, which has disproportionately affected older adults. However, in the United States and France there have been reports of breakthrough infections in nursing homes (NH). Here we report an outbreak in a NH where all the residents had been vaccinated against COVID-19 and compare it to its first outbreak.

Our study compares two outbreaks that occurred in a 76-bed NH located in an urban setting in Utah. The first outbreak occurred prior to vaccination in May 2020. The second outbreak ensued in September 2021, after all residents had two doses of an mRNA vaccine against COVID-19. In the second outbreak, the index case occurred in an unvaccinated, symptomatic health care professional (HCP). We followed up individuals diagnosed with COVID-19 and extracted data from residents' medical records. HCP data was obtained from administrative records.

During the first outbreak, among a total of 73 residents, 51 individuals (70%) were diagnosed with COVID-19; from these, 15 individuals (20%) died. Among 118 HCP, 40 individuals (40%) were diagnosed with COVID-19; none of them died. In contrast, during the second outbreak, among a total of 76 vaccinated residents, 27 individuals (36%) were positive for COVID-19 and 5 residents (7%), without prior history of COVID infection, died. Among 89 HCP, 9 individuals (10%) were diagnosed with COVID-19, all were mild cases. At the time of the second outbreak, the vaccination rate was 95% for HCP.

Breakthrough COVID-19 infections can occur in settings with high prevalence of vaccination, but the number of cases and mortality rate will likely be lower compared to settings with low vaccination rates. Vaccination and prior infection may provide additional protection against breakthrough infections.



B40 Resident Presentation

Mixed Lewy Body Dementia and Alzheimer's Disease with Hyper-response to Cholinesterase Inhibitor

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Background: Alzheimer's Disease (AD) and Dementia with Lewy Bodies (DLB) are leading etiologies of dementia, which may have overlapping presentations. DLB is characterized by neuronal loss and accumulation of aggregated alpha-synuclein into Lewy bodies. Certain DLB patients are hyper-responders to cholinesterase inhibitors (ChEIs). We present a case of mixed DLB and AD as characterized by clinical course, response to donepezil, and neuroimaging findings.

Case Report: A 75 year-old woman presented with several years history of short-term memory decline. She had difficulty with word finding and recalling recent conversations. She had episodes of dream enactment but no tremor or shuffling gait. She was functionally independent. On initial neuropsychological testing she scored 24/30 on MMSE. Her performance was impaired in executive function, visual memory, and verbal memory domains. She scored within normal limits on tests of visuospatial skills. Neurologic exam was normal. Brain MRI showed medial temporal lobe volume at lowest quartile and bilateral hippocampus atrophy at 31st percentile. She was diagnosed with amnestic mild cognitive impairment due to probable AD.

Three years later, she presented with progressive cognitive decline with new onset of vivid visual hallucinations and paranoid delusions. She also displayed new postural rigidity, bradykinesia, and tremor. MMSE was 13/30. Functional decline indicated transition to dementia stage. Repeat brain MRI showed medial temporal lobe volume at 5th percentile. Donepezil was initiated and titrated to 10 mg daily. After 3 months, she and her daughter noticed significantly improved cognitive and functional status, including the ability to hold meaningful conversations, fewer disturbing visual hallucinations, and improved delusions. MMSE increased to 28/30. The patient is scheduled to undergo a lumbar puncture for CSF biomarker studies to further elucidate the etiology of her dementia.

Conclusions: The patient is considered a hyper-responder to donepezil, which supports a diagnosis of DLB. Hyper-response to ChEIs in DLB may be explained by the marked cholinergic deficit and greater preservation of postsynaptic cortical muscarinic receptors in comparison to AD. Distinguishing between DLB and AD and mixed etiology is important because these diseases have differing clinical courses.

B41 Encore Presentation

Adherence to Safer Opioid Prescribing Guidelines Among Providers Caring for Older Adults in an Urban Safety-Net Geriatrics Practice

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Background: Older patients are at risk for opioid-related adverse events due to physiologic changes, comorbidities, and polypharmacy. National and state agencies have promulgated safer opioid prescribing guidelines to reduce adverse events, misuse, and diversion. Our objective was to assess adherence to guideline-based safer opioid prescribing among providers caring for older adults at a safety-net geriatrics practice.

Methods: We conducted a retrospective chart review using the electronic health record (EHR) of a random sample (n=200) of eligible patients 65 years and older who received primary care at an urban geriatrics clinic (n=100) or house call practice (n=100) and had at least one outpatient opioid prescription from 3/19/2016 - 3/18/2020. We collected information regarding demographics, comorbidities, daily morphine milligram equivalents (MME), risky co-prescribed medications, and documentation of guideline-based care including patient-provider agreements (PPAs), Prescription Drug Monitoring Program (PDMP) checks, pill counts, and urine drug tests (UDT).

Results: The mean age was 83.5 (±8.2) years with most patients identifying as Black (66%), speaking English (68%), and residing in low-income communities (69%). Forty-two percent of patients had significant multi-morbidity (Charlson Comorbidity Index score of 9 or higher). Seventeen percent of patients had a history of substance use disorder; 5% had a history of OUD. We observed prescriptions of >50 MME/day in 30% of patients. Providers co-prescribed benzodiazepines to 31% of patients and GABA analogues to 37%. Naloxone was prescribed to only 14% of patients. In regards to recommended opioid prescribing practices, providers documented a signed PPA in 23% of patients, PDMP checks with every opioid prescription by a primary provider in just 7% of patients, pill counts in 9%, and UDT in 22% of patients during the study period.

Conclusions: Older adults at high risk for opioid-related adverse events received opioid prescriptions with infrequent documentation of risk-reducing guideline-based care. This study highlights actionable areas to reduce opioid-related risk in this vulnerable population.

B42 Resident Presentation

Bleeding Risk Review of Novel Pulmonary Emboli Treatment

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Background:

Pulmonary emboli (PE) have a high 30-day rate of mortality which has led to the development of novel therapeutics that are effective but can lead to complications. Current hemorrhagic risk assessment tools lack weight into a patient's past medical history beyond hemorrhage itself and are likely underestimating risk. This case highlights a bleeding complication of rheolytic therapy and illustrates the pathophysiology of the complications.

Case:

An 88-year-old female presented to the hospital for evaluation of progressive pleuritic chest pain with associated shortness of breath for seven days. Medical history was remarkable for rheumatoid arthritis on hydroxychloroquine therapy, remote cryptogenic organizing pneumonia, and breast cancer status post chemoradiation therapy in remission. Physical examination revealed a hypertensive female with oxygen saturation of 98% on room air and absent adventitious pulmonary sounds. A computed tomography of the chest with

contrast revealed bilateral PE with right ventricular distention. Due to the presence of cardiac strain without hemodynamic compromise and intermediate bleeding risk, the patient underwent rheolytic thrombectomy with catheter directed thrombolysis and ultrasound augmentation without immediate complications. Over the next twelve hours, she developed respiratory distress requiring supplemental oxygen and prompting discontinuation of anticoagulation and fibrinolytic therapy. Chest x-ray showed interval development of a complete left lung consolidation consistent with a hemothorax. A compromised pulmonary membrane was suspected as the source despite an unrevealing pulmonary angiogram given her history of pulmonary insults compromising the pulmonary membrane.

Discussion:

This case demonstrates the importance of hemorrhagic risk assessment prior to initiating thrombolytic and anticoagulation therapy. Close attention should be given to past medical history especially involving potential insults such as radiation and cryptogenic organizing pneumonia compromising the integrity of the pulmonary membrane. This case also highlights the complexity of risk assessment in the geriatric patient often requiring an in-depth assessment beyond available tools for decision making and counseling.

B43

Anchors Aweigh! A Cautionary Tale of Cognitive Bias in a Skilled Nursing Facility

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Background: Cognitive biases negatively affect decision-making in skilled nursing facilities (SNFs).[1] Anchoring bias can lead SNF providers who admit patients with predetermined diagnoses to overlook evidence for emerging diseases.

Case summary: A 77-year-old man came to VA San Diego for multiple poorly healing leg wounds. After two weeks in acute care, he was transferred to SNF with a diagnosis of calciphylaxis. His discharge treatment plan consisted of IV thiosulfate and wound care for his lower extremities, all of which were attributed to calciphylaxis. Initial skin assessment in SNF noted erythema on the left leg adjacent to an area of necrotic tissue. As in acute care, this finding was attributed to calciphylaxis. On SNF day 10, providers noted increased erythema in this area. Vitals were normal with no systemic symptoms and mild relative leukocytosis. He was started on cephalexin, but had worsening discomfort in this area. Soft tissue ultrasound revealed 20 x 5 x 3 cm fluid collection, which was drained by interventional radiology. Cultures grew Pasteurella multocida. He was given IV Unasyn with resolution of pain and erythema. Further discussion revealed that the veteran had three cats at home that often licked his legs, which likely seeded his wound prior to admission with subsequent growth of a large abscess over the course of his hospital and SNF stays.

Conclusion: Pasteurella is an uncommon cause of soft tissue infection associated with exposure to the oral flora of some animals, including cats. Symptoms typically begin within 24 hours of exposure.[2] In this case, providers anchored on calciphylaxis, which left a worsening Pasteurella abscess undetected for weeks. Nearly a quarter of seniors are discharged from hospital to SNF,[3] which presents an opportunity to re-think diagnoses and plans with fresh eyes, rather than solely following acute care recommendations. Being aware of cognitive bias can improve medical decision-making and patient outcome.

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B44

DISPENSARY-OBTAINED THC AS A TREATMENT FOR NEUROPSYCHIATRIC SYMPTOMS OF DEMENTIA: A CASE SERIES

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Background: Neuropsychiatric symptoms (NPS) affect the majority of patients with dementia at some point in their disease and result in significant burden on caregivers. There is no gold standard treatment for NPS in dementia, and current treatments (e.g., behavioral modification and antipsychotics) are often ineffective and carry a significant side effect profile. Prior studies of tetrahydrocannabinol (THC) for NPS in dementia are limited by study quality, and none have been conducted in the United States where the process of obtaining THC is different than outside the United States.

Methods: We report a case series of five patients with dementia who received care in a geriatric psychiatry clinic between 05/2019 and 11/2021 and for whom a trial of THC was recommended for treatment of significant NPS.

Results: This case series includes two patients with vascular dementia, two patients with Alzheimer's dementia, and one patient with an unspecified dementia. Four females and one male were included and the mean age was 87 (range, 80-93) years old. THC treatment was recommended because of the NPS of agitation, anxiety, irritability, belligerence, paranoia, sleep disturbance, and wandering. The caregivers of all five patients obtained edible THC products from a local dispensary with a starting dose of 2.5 mg daily. Two patients required the dose to be increased to 5 mg daily. All five patients were noted to have significant improvements in NPS. Caregivers reported that THC was effective in improving agitation and impulsivity, helped stabilize patients' mood, and in one case, after starting treatment, a patient was noted to laugh for the first time in the caregiver's memory. No patients were noted to have adverse reactions after starting THC. None of the patients required concurrent treatment with antipsychotics, and one patient was able to discontinue her antipsychotic. All patients applied for a medical cannabis registry card through the Medical Cannabis Registry Program of Illinois.

Conclusions: NPS in dementia are burdensome symptoms for which no good treatments currently exist. We have found in this case series that THC can be an effective treatment for NPS in patients with dementia.

B45

"'I'm still standing...yea yea yea:' How an Interdisciplinary Team (IDT) Got a Patient Back on Her Feet"

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The field of geriatrics is one that embodies a true interdisciplinary effort in caring for patients. Regardless of the setting, an IDT is essential for the best patient outcomes. This case demonstrates the importance of the IDT in the overall recovery process.

An 84 year old female long-term care (LTC) resident with a history of dementia, hypertension, anxiety, and depression was transferred to the emergency department with fever and dyspnea. She tested positive for Covid19, and chest imaging revealed infiltrates consistent with bilateral pneumonia. While hospitalized, her supplemental oxygen requirement increased. Dysphagia ensued followed by an overall deterioration in her condition. Subsequently, her family elected a "DNR" status and refused a feeding tube. She had become severely deconditioned and malnourished, resulting in a 33lb weight loss. Sacral and heel decubiti developed, unfortunately progressing to stage 4 wounds. After a 6 week hospitalization, she was able to tolerate transfer to her original LTC facility with hospice care. With familiar staff and her "home" environment, she began to improve, albeit

very slowly. Overall clinical improvement was evident; she rescinded hospice within a week of readmission to the facility. Considering her significant clinical improvement, she was placed on skilled services. Following the recommendations of speech therapy, a regular diet was implemented, and she began to vocalize her food preferences to the dietary department. Oral intake increased with new dentures after a dental evaluation. The wound care team monitored and treated her wounds accordingly. Physical and occupational therapy worked with her aggressively, and she got stronger. She transitioned to the restorative program, eventually walking without assistance and becoming independent of her activities of daily living. Her progress was discussed at weekly interdisciplinary meetings. As a result of the interventions and our patient's determination, all wounds resolved, weight had increased by 30lb, and independence and strength had been restored to a level greater than pre-hospitalization.

Medical care administered to the elderly is a specialized task, particularly to a patient that has incurred potentially detrimental infirmity. A dedicated IDT working collaboratively brought our patient "back to life," and she's "still standing."

B46 Resident Presentation

Inflammatory Cerebral Amyloid Angiopathy or another Alzheimer's Disease

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Introduction:

Cerebral amyloid angiopathy-related inflammation (CAA-ri) causes perivascular inflammation that presents as neurological deficits, seizures, or headaches but rarely has other constitutional symptoms. This is a case of Alzheimer's Disease (AD) and CAA that presented similar to CAA-ri.

Case presentation:

A 70-year-old male presented with 3-year history of progressive short-term memory loss. Recently, He had trouble holding a conversation and frequently repeating himself. He was independent in performing all basic ADLs but became dependent on managing finances. The physical and neurological exams were unremarkable. Neuropsychological testing showed impaired performance in verbal and visual memory, executive functioning, and language domains. Brain magnetic resonance imaging (MRI) showed multiple chronic parenchymal microbleeds. Differential diagnoses included cerebral amyloid angiopathy (CAA) due to AD vs. CAA-ri. Volumetric studies showed hippocampal, lateral, and inferior lateral ventricular volumes at 18%, 99%, and over 99%, respectively compared to age-matched peers. Lumbar puncture and CSF analysis showed amyloid-beta 365 pg/ml(N >1026 pg/ml), total tau protein 312 pg/ml (N <238 pg/ml), P–tau 27.6 pg/ml (N <21.7 pg/ml). This pattern was consistent with diagnosis of Alzheimer's disease with the highest probability. The CSF analysis finding did not support the diagnosis of CAA-ri. Additionally, the inflammatory markers, such as CRP and ESR, were also negative. The patient was diagnosed with AD with CAA.

Discussion:

Unlike CAA, CAA-ri presents as acute/subacute encephalopathy (76 %), headache (41 %), seizures (31 %), or with stroke-like signs such as focal neurologic signs (46 %). CAA-ri is associated with the characteristic microbleeds present on MRI gradient echo sequences as in CAA and large areas of inflammation or edema on MRI. Risk factors for CAA-ri include age and apolipoprotein E4/E4 genotype. Early diagnosis treatment with steroids is mainstay for this reversible cause.

Conclusion:

A less known entity is CAA-ri, which is potentially reversible with early immunosuppressive therapy. MRI findings of CAA within the context of dementia syndrome warrants further workup to differentiate between CAA-ri from AD concurrent with CAA. CSF analysis for AD biomarkers could be extremely helpful in differentiating hard-to-diagnose cases.

B47

A Great Distractor: CIDP presenting as a Paraneoplastic Syndrome of Lymphoma in an Older Adult Patient

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Background: Chronic Inflammatory Demyelinating Polyneuropathy (CIDP) is a demyelinating disorder characterized by ascending weakness and loss of sensation and reflexes of the legs and arms. Diagnosis requires exclusion of other diagnoses including nervous system lymphoma and paraproteinemia, as CIDP can represent a paraneoplastic neurological syndrome (PNS) of these conditions, and treatment can confound or delay diagnosis and treatment of the underlying disorder. In this case, we present an older adult who was treated for CIDPP, but found to have Diffuse Large B-Cell Lymphoma (DLBCL) one year later not evident on initial presentation.

Case Presentation: A 70 y.o. woman developed progressive, subacute lower and upper extremity weakness and significant weight loss (attributed to dieting), in the absence of constitutional symptoms. Exam noted distal weakness, foot drop, numbness, areflexia. Workup revealed lumbosacral plexopathy on EMG, enhancement of the lumbosacral and brachial plexus on MRI, negative paraneoplastic panel on LP, no tumor on CT, and inflammation on brachial plexus biopsy. She was diagnosed with CIDP, started on Solu-medrol and IVIG and transitioned to rehab. Symptoms stabilized but did not improve. One year later she re-presented with encephalopathy and failure to thrive. She was found to have acute kidney injury and elevated calcium and Vitamin D. CT revealed multiple masses, the largest being an 11x7cm right common iliac nodal mass. Biopsy revealed DLBCL. She underwent 3 cycles of mini R-CHOP chemotherapy with CT showing partial response. Function declined and she suffered many medical complications, including infections and thromboembolism. She was ultimately transitioned to comfort measures only.

Discussion: DLBCL is the most common lymphoma subtype in older adults. Rare cases of PNS have been reported in lymphomas but are not well characterized. This case demonstrates a PNS preceding clinically apparent lymphoma. She was treated for CIDP which may have temporized symptoms until she re-presented with significant tumor burden. While DLBCL is considered to be a curable disease, this patient's frailty, disease burden, and diagnostic delay led to multiple complications that affected her outcome. This case highlights the challenges of early detection of associated malignancy when symptoms of PNS precede disease and argues for a high index of suspicion when symptoms do not improve with treatment.

B48

Indwelling Pleural Catheters in Select Patients with Non-Malignant Pleural Effusions

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Background: Indwelling pleural catheters (IPC) drain fluid from the pleural space and are used to treat refractory effusions in lieu of repeated thoracenteses. IPCs are a safer alternative to pleurodesis. Criteria for IPC insertion vary by institution – most reserve this procedure for malignant effusions in patients with prognosis <3 months given risk of infection and malfunction. There is limited data for use of IPCs in nonmalignant pleural effusions (NMPE) originating from CHF, nephropathy, cirrhosis, or in patients with longer prognosis. We detail one such case.

Case: A 91 yo woman with CHF complicated by recurrent unilateral transudative effusion requiring multiple hospitalizations for thoracenteses and diuresis. CKD limited use of high dose diuretics on

an ongoing basis. On the index hospital stay, she responded to aggressive diuresis yet respiratory status remained tenuous due persistent effusion. Her family advocated for IPC placement given intolerance of diuretics and recurrent hospitalizations that were adversely impacting quality of life. Though the patient was not a Hospice candidate nor on comfort care, family understood risks of infection and malfunction of the IPC. Interventional Radiology (IR) was consulted for IPC placement; this was rejected given effusion was non-malignant and prognosis >3 months. Another IR physician at the same hospital felt comfortable placing the IPC under such circumstances and this was done. Initially, IPC drained well and relieved dyspnea x 1 week. The patient then passed away due to multiple complications.

Discussion: Optimal management of recurrent NMPE in older adults remains elusive given a paucity of data. Older patients are more likely to need a procedural solution given lower ability to tolerate diuretics than younger counterparts. IPCs represent a viable treatment for select patients with recurrent NMPE who prioritize symptom control and avoiding hospitalizations. Patil *et al.* performed a meta-analysis on managing NMPE caused by CHF; IPC placement improved dyspnea and had low rates of infection. While more evidence is needed to develop robust guidelines, Geriatricians are well-versed in making holistic decisions for their patients. They can advocate with procedural colleagues to make protocols that are consistent among providers, incorporate patient values, and utilize evidence to minimize risk.

B49

Mitigating Medication Delusions in an Older Adult with Schizophrenia

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Background: Providing primary care to aging patients with underlying psychiatric disorders can present unique challenges. This case illustrates an approach to a patient with prominent delusions impacting medication use.

Case Description: 73-year-old female with schizophrenia and hypothyroidism who presented for new patient visit with a chief complaint of "I need more levothyroxine" due to generalized weakness and fatigue for two months. Patient was hospitalized six years ago for iatrogenic hyperthyroidism after presenting with increased agitation. Current medications are levothyroxine 150mcg daily, fluphenazine and trihexyphenidyl.

Despite prominent delusions, she is high functioning and independent in all ADLs and IADLs. Patient had delusions about her parents and believed she was under government surveillance but was easily redirectable. Her psychiatrist stated the delusions were fixed and stable for several years. Patient often expressed that she needed more financial assistance despite receiving the maximal benefits for which she qualified. Physical exam notable for mild tachycardia, otherwise unremarkable.

Results: Labs revealed low TSH 0.01 mIU/L and elevated free T4 2.8 ng/dL, suggestive of iatrogenic hyperthyroidism. Vitamin D elevated at 137.0 ng/ml, with normal calcium and phosphorus levels. Folate, B12 elevated. Labs otherwise unremarkable. Her levothyroxine dose was decreased. Patient noted delusions related to her supplements. She disclosed that she would choose what to take based on how she was feeling each day. For example, if she felt her legs were weak, she would take potassium; if she had arm pain, vitamin D; if fatigued, B complex. While patient was not amenable to stopping vitamins based on risk of toxicity, she did respond to discussion regarding financial burden of unneeded supplements. Two months later, thyroid function tests were improving, Vitamin D levels downtrended, and patient noted increased energy.

Conclusion: Caring for aging patients with psychiatric disorders can present challenges when delusions affect understanding of their conditions and medications. A combination of education, compassion and appeals to concerns that may not be directly related, such as financial or social, is an approach to partnering with the patient to provide optimal care.

B50

Law and Order: The Geriatrician's Role in the Courtroom

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Background: Geriatricians are often asked to evaluate capacity of patients with cognitive impairment, yet few physicians receive formal training in this area. Physicians serve a specific role in guardianship legal cases by evaluating the ability of the patient to function independently and make decisions about personal and financial matters. Most geriatricians do not receive formal training prior to court appearances, which can be a significant source of stress.

Case: A patient presented to the geriatric clinic with his adult child, who was seeking guardianship of their father. The adult child had recently moved the patient from another state to live with their family and assume full-time care of the patient. The patient was evaluated and deemed not to have capacity due to advanced vascular dementia. However, a sibling of the patient was concerned about the adult child's motivations to seek conservatorship of the patient and contested this at the court hearing. The physician was contacted to testify to the patient's capacity and need for conservator.

Conclusions: Navigating the intersection of law and medicine can be daunting, in part because it is unfamiliar for most physicians. Understanding how to address the court's questions during a guardianship assessment, specifically baseline functioning, diagnosis and ability to function independently in multiple domains, can help direct the physician's evaluation. It is prudent to inform the court about the prognosis of the disease that limits ability to function independently – for example, dementia is a progressive disease process unlikely to improve. Above all, it is crucial to keep the patient's best interest at the forefront, as relatives may be seeking guardianship for more nefarious purposes. Ultimately, the case described was settled based on the physician's formal capacity evaluation and observations of the adult child acting appropriately in the patient's interest. Without the guidance of attorneys to advise the physician, this uncharted territory could have resulted in a poor outcome. This case demonstrates the need for increased collaboration between court and exam room to best protect and serve older adults.

B51

Japanese 'Omakase' Culture: Cultural Diversity at the End of Life

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Case Presentation: A 47-year-old Japanese man was admitted for acute pancreatitis due to an increased amount of alcohol intake during the COVID-19 pandemic. He developed necrotizing pancreatitis, peripancreatic abscess requiring drainage, and septic shock. After cardiac arrest, he developed anoxic brain injury and underwent tracheostomy and gastrostomy placement. His family in Japan had limited understanding of his status and urged aggressive treatment hoping for a full recovery. The patient was discharged to a subacute rehab facility but was readmitted for peripancreatic drain dislodgment. CT scan showed abscess not amendable to further drainage. After both parents were deemed equal surrogates, palliative care was consulted for goals of care discussion. During the virtual family meeting, the discrepancy between information given by providers and the interpreter's translation was identified by a Japanese-speaking provider. The meeting was further complicated by cultural variations around decision-making at the end of life and family's confusion over terms used in the meeting. For example, in Japan, the term 'hospice' is used only for patients with

cancer. Choosing surrogates, an uncommon practice in Japan, created confusion, and family members remained silent during the meeting. Prior to the next meeting, a pre-meeting helped the team understand relevant cultural differences, and the Japanese-speaking provider explained unfamiliar terms to the family. With the Japanese-speaking provider acting as interpreter, the second meeting was successful.

Discussion: Cultural variations influence end-of-life care decisions. Japanese families prefer group decision-making, and physical presence of family at the end of life is crucial. Families tend to be silent as Japanese culture emphasizes not bothering others. It is imperative to understand cultural variations before family meetings. Also, interpreters are not effective if they don't understand the medical/cultural context. Providers are generally advised against serving as interpreters but making an exception in this complicated case contributed to a better decision-making process.

Conclusion: End-of-life decision-making is challenging when there are cultural differences. Heightened team awareness of cultural variations and an unorthodox but appropriate role for a provider as interpreter were essential steps for a successful outcome in this case.

B52

Not all Shortness of Breath and Malaise is COVID

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Background: A previously healthy 76 year old male with regular medical care, coronavirus vaccination months prior, and limited medical history with no prescription medications, presented to the ED with a few days of progressive shortness of breath and malaise.

Clinical Course: Presentation was proceeded by a few days of diarrhea, myalgias and a fever to 102F. He was found to have a new O2 requirement of 2L to maintain >95%.

Within hours of arrival to the hospital, an echocardiogram showed a reduced ejection fraction of 31% with moderate global hypokinesis, superimposed focal severe apical hypokinesis and a dilated ascending aorta at 5.2cm. Blood work showed a BNP 54,447 (0-1,800 pg/mL), troponin 0.07 (0.0 – 0.02ng/mL), lactate 5.6 (0.5-2.0mmol/L) and creatinine 4.29 (0.5 - 1.30 mg/dL). He was admitted to the ICU for COVID rule out and diagnosed with acute kidney injury, NSTEMI and undifferentiated shock. In less than 24h, his COVID test returned negative. Right heart catheterization demonstrated low filling pressures however the patient failed to respond to fluids and pressor support with worsening lactate, renal function and work of breathing eventually requiring intubation. With a plan to initiate CVVH due to kidney failure, a decision was made to obtain a contrast CT to rule out vascular dissection given worsening cognitive status and a new left facial droop. CTA head to pelvis demonstrated extensive large vessel vasculitis with evidence of ischemia to the gallbladder, kidneys and right side of the colon. Despite high dose steroids and continuous renal replacement therapy the patient continued to decline and ultimately life sustaining therapies were withdrawn and the patient died just over 48 hours after arrival.

Conclusion: Large Vessel Vasculitis consists of Giant Cell arteritis (GCA) and Takayasu where the later typically appears before the age of 30, while GCA is more common in patients > 50 with marked increase in the eighth and ninth decades of life. GCA is often subacute in onset but can present more acutely as in this presentation. This case highlights the importance of considering subclinical GCA in patients with aortic aneurysms as well as the less common manifestations of the disease in terms of acute presentations and symptoms of stroke.

B53 Student Presentation

Dancing to a Diabetes Diagnosis: A Case of Hemichorea as a Rare Presenting Symptom of Uncontrolled Diabetes Mellitus

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Introduction: This is a rare case of uncontrolled type 2 diabetes mellitus (T2DM) with non-ketotic hemichorea as the presenting symptom. T2DM is a common disease among older adults, with Americans aged 65 years and older accounting for 14.3 million cases of the 34.2 million Americans in 2018.[1] The majority of patients are asymptomatic at diagnosis due to recent increases in screening. However, rare presenting symptoms of diabetes such as hemichorea can occur, especially in older adults.

Case Description: A 73 year old woman with a history of alcohol use disorder and hypertension presented to the John Dempsey Hospital Emergency Department with a two-day history of new onset left upper extremity choreiform movements. She had associated clumsiness of her left hand but no other focal neurologic deficits. Work-up included serum glucose of 418mg/dL, hemoglobin A1c of 12.0%, and sodium of 134mmol/L. With neurology consultation, head CT without contrast demonstrated asymmetric hyperdensity in the right putamen. MRI of the brain with and without contrast showed symmetric mildly bright T1 signal within both putamen. With endocrinology consultation, the patient's presentation was ultimately attributed to non-ketotic hyperglycemic hemichorea. After achieving euglycemia by initiating long and short acting insulin, there was complete resolution of the choreiform movements.

Discussion: Non-ketotic hyperglycemic hemichorea is a rare clinical syndrome with unclear underlying mechanism. There have been only 53 cases reported from 1985 to 2001 and the average patient age at presentation is 71.1 years.[2] Neuroimaging with contralateral basal ganglia hyper-intensity on T1-weighted MR images or high density on CT can be helpful in the diagnosis, as was the case in this patient. Recognizing this unique presentation of T2DM, which is a manifestation predominantly seen in older adults, is critical for diagnosis and appropriate intervention.

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B54

Average Volume-Assured Pressure Support Ventilation to Avoid Recurrent Intubation due to Respiratory Failure

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Background: Older adults are at increased risk for respiratory failure due to anatomic age-related changes, reduction of muscle mass, and comorbid conditions. Mechanical ventilation increases the risk of inpatient mortality; thus, non-invasive modalities are preferred where clinically feasible. Advanced modalities of non-invasive ventilation support patients with acute and/or chronic respiratory failure.

Case report: I evaluated a 95-year-old male with hypothyroidism, atrial fibrillation, seizure disorder, obstructive sleep apnea (OSA) on nightly BiPAP, and restrictive lung disease who presented to the hospital with lethargy. He was hypoxic with acute-on-chronic hypoxic, hypercarbic respiratory failure requiring intubation. Antibiotics were initiated due to radiographic consolidation. This was the third episode of hypercarbic respiratory failure requiring intubation in the prior 2 months. As geriatric consultants, we were asked to determine what future invasive measures might be appropriate and within goals of

care. At baseline, he was cognitively intact and lived with his son and caregiver. His functional status had declined and he was not able to stand at bedside. His goal was to be able to move across the country with his son, and to maintain close relationships with his family. Pulmonary service determined respiratory failure was likely persistent hypoventilation due to deconditioning and neuromuscular weakness, with supporting features of normal A-a gradient and hypercapnia. Average volume-assured pressure support ventilation (AVAPS) was initiated one hour pre-lunch, three hours in the afternoon pre-dinner, and overnight. Physical therapy provided support to avoid kyphotic positioning. He transitioned to a long-term acute care hospital for respiratory therapy with the goal of returning home.

Discussion: Respiratory failure in older adults is often multifactorial and the treatment plan should address the underlying condition along with factors such as psychosocial, functional, and cognitive needs. In this case, the patient desired interactive time with family and was willing to spend more time on non-invasive ventilation to avoid recurrent hospitalizations and intubation. The interdisciplinary approach of geriatrics and pulmonary medicine allowed for a treatment plan that focused on what mattered, rather than limiting the discussion to consideration for future intubation.

B55

Feasibility of a Digital Elder Abuse Intervention for Older Adults with Cognitive Impairment

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Background: Elder Abuse (EA) is an underreported public health problem where an estimated 1 in 24 cases are reported to authorities. Adults with cognitive impairment (CI), including Mild cognitive impairment (MCI) and Alzheimer's Disease-related Dementias (ADRD), are at greater risk of experiencing EA compared to those without, but are often excluded from screening interventions. This is problematic as they are not likely to report that they are being mistreated. The purpose of this study was to evaluate the feasibility and acceptability of a self-administered digital elder abuse intervention in older adults with CI.

Methods: We used a digital health framework to develop the VOICES EA Intervention. VOICES is a novel digital health tablet-based intervention that screens, educates, and motivates older adults to make an informed decision about self-identification (recognizing that they are abused) and self-disclosure (informing others that they are abused).

We conducted a feasibility evaluation of the VOICES tool with 30 older adults ages 60 and above. Participants were recruited from the Adler Geriatric Assessment Center in New Haven, CT. Participants with Montreal Cognitive Assessment (MoCA) scores between 8-25 were eligible for the study. Our primary outcomes included measures of usability and acceptability.

Results: Participant representation was 86% White, 14% Black or African American, and 55% female. Participants with MoCA scores between 14 and 25 (n=27) were able to complete the VOICES program independently. Overall feedback was highly satisfactory, with 87% agreeing that using the tool on the iPad was very easy to use, and 80% agreeing that VOICES was appropriate for learning about mistreatment. 79% of participants were satisfied with their ability to complete the tool on their own on the iPad.

Conclusion: Our findings suggest that older adults with cognitive impairments can use the VOICES EA Intervention and find VOICES to be feasible and acceptable. Our results suggest that older adults with CI do not have significantly different feedback using VOICES from the parent study with cognitively intact older adults. A follow-up study is needed to examine the efficacy of using VOICES in detecting elder abuse with cognitively impaired older adults with a larger population.

B56 Student Presentation

***In vitro* generation of sinoatrial node-like cardiomyocytes derived from human pluripotent stem cells.**

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Background: Sinoatrial node (SAN) cells, the natural pacemakers of the heart, determine the rate and rhythm of the heart's electrical conduction. Damage to these cells often occurs with advancing age and can lead to conditions such as arrhythmias and Sick Sinus Syndrome. These conditions are commonly treated with electronic pacemaker implants which can lead to risks of complications, such as infection. These implant complications are highest among older adults. A more biologically compatible therapeutic alternative that could reduce the risk of complications could eventually include cell transplantation with SAN cells derived from human pluripotent stem cells (hPSCs). However, a protocol for the generation of SAN cells from hPSCs *in vitro* has not been well-established, although there are well-established protocols for the generation of other cardiomyocytes, such as ventricular and atrial cells. Our study aims to generate SAN-like cells *in vitro* by using the hPSC model.

Methods: To generate the SAN-like cells, we combined aspects of protocols for the generation of ventricular and atrial cells from hPSCs with a newer published protocol proposed for generating SAN-like cells from hPSCs. By incorporating these protocols, SAN-like cells were generated by selective induction of cardiac progenitors and controlled maturation of the SAN lineage by mimicking their *in vivo* development. The cells were then characterized via light microscopy and immunofluorescence, and viability was assessed via light microscopy.

Results: We successfully generated SAN-like cells as demonstrated by their faster beating pattern on light microscopy and a lack of NKX2-5 expression on immunofluorescence, two characteristics that distinguish SAN cells from other cardiomyocytes. However, light microscopy observations demonstrated increased cellular debris and cell death morphology of the SAN-like cells, suggesting that viability of these cells was greatly reduced compared to other cardiomyocytes generated *in vitro*.

Conclusions: The successful generation of SAN-like cells from hPSCs provides a promising avenue in the development of novel biologic therapies that could improve outcomes in the most susceptible populations for rhythm disorders, specifically the elderly. Future studies need to address the issue of reduced viability of these cells compared to other *in vitro* generated cardiomyocytes.

B57

T-MoCA Feasibility in a Telehealth Geriatric Consultation Clinic

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Background: The Telephone Montreal Cognitive Assessment (T-MoCA) screens for cognitive impairment and is a modified version of the original MoCA that excludes visual elements. T-MoCA was implemented in a geriatric consultation clinic at the James A. Haley Veterans' Hospital and Clinics while in-person visits were suspended due to the COVID-19 pandemic. The goals of this quality improvement project were to evaluate the feasibility of T-MoCA and identify barriers and facilitators to use among older adults.

Methods: The clinic geriatrician obtained MoCA certification prior to implementation of the MoCA Test Blind/Telephone English Version 8.1. The Veterans Affairs (VA) Computerized Patient Record System was used to obtain T-MoCA and clinical data to record in the VA REDCap database. T-MoCA data included scores, time to administer, and barriers to use. Patient data included age, sex, and screening results for depression, frailty, malnutrition, fall risk, hearing

and vision loss. Bivariate tests were used to analyze differences among patients by the T-MoCA cut-off score <19 for cognitive impairment.

Results: T-MoCA was completed in 48 out of 51 new telehealth geriatric consults from July to December 2020 (*n*=34 video visits; *n*=14 telephone visits). Among 48 patients with completed T-MoCAs, 89.6% (*n*=43) self-reported visual impairment and 85.4% (*n*=41) self-reported hearing impairment. Barriers to T-MoCA administration included severe cognitive impairment (*n*=2) and language (*n*=1). Patients were predominately male Veterans with a mean age of 83, mean T-MoCA score of 16, and mean T-MoCA administration time of 10.4 minutes. Patients with abnormal T-MoCAs had statistically significant longer time to administer (11.3 vs. 8.6 minutes; *p*<.001), older age (*p*=.049), and frailty severity (*p*=.045) as compared to those with normal T-MoCAs. No statistically significant differences among depression, malnutrition, and fall risk screening results were observed.

Conclusions: T-MoCA was a feasible cognitive screening tool to implement in a telehealth geriatric consultation clinic among older adults with multiple geriatric syndromes. Abnormal T-MoCA scores were associated with longer administration times, older age, and frailty. Severe cognitive impairment and language barriers prevented T-MoCA administration in only a few cases. Findings suggest T-MoCA may be utilized for geriatric telephone and video visits when adequate time is permitted.

B58

Clinical Utility of a Frailty Index Calculator Embedded in Electronic Health Records at an Academic Medical Center

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Background: A formal frailty assessment is seldom done in clinical practice. At Beth Israel Deaconess Medical Center, a frailty index (FI) calculator was embedded in the electronic medical record (EMR) in June 2020. This calculator calculates a 50-item deficit-accumulation FI based on a comprehensive geriatric assessment. This quality improvement project evaluated its adoption and utility in predicting healthcare utilization in geriatric patients.

Methods: From July 2020 to September 2021, geriatrics inpatient and outpatient teams assessed frailty using the EMR FI calculator in 163 inpatients and 310 outpatients. Patients were classified as robust (FI<0.15), pre-frail (0.15-0.24), mildly frail (0.25-0.34), moderately frail (0.35-0.44), and severely frail (≥0.45). We compared the number of hospital admissions, total hospital days, intensive care unit (ICU) admissions, and total ICU days from the date of assessment until September 30, 2021 by frailty categories.

Results: The mean age was 82.2 (SD 8.6) years and 274 (57.9%) were women. There were 84 (17.8%) robust, 99 (21.0%) pre-frail, 89 (18.9%) mildly frail, 86 (18.2%) moderately frail, and 115 (24.3%) severely frail patients. The average administration time in the outpatient setting was 28 (SD 7) minutes. Increasing frailty was associated with a higher number of hospital admissions (robust vs severely frail: 0.6 vs 2.3 admissions per 100 person-years), total hospital days (2.7 vs 19.9 days per 100 person-years), ICU admissions (0.1 vs 0.4 admissions per 100 person-years), and total ICU days (0.3 vs 2.5 days per 100 person-years) (all p<0.05).

Conclusion: Use of an EMR FI calculator can not only improve uptake of a standardized frailty assessment but also help in predicting healthcare utilization in geriatrics inpatient and outpatient settings.

B59

Geriatric surgical oncology comprehensive care strategy: a complex intervention implementation study

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Background: Cancer care has inherent complexities in older adults. Despite strong evidence of effectiveness and guideline recommendations, older adult-friendly care strategies are rarely used in major cancer surgery.

Methods: We developed a comprehensive geriatric surgical care strategy using principles of complex interventions including literature review and focus groups. We innovatively integrate a suite of successful interventions to adapt to the needs of older adults undergoing complex cancer surgery including geriatric assessment, patient-centred treatment planning, and comanagement. We implemented this streategy at a single academic center between July 2020 – June 2021. All older adults 70 years and older with gastrointestinal cancer were eligible for the program. Outcomes assessment included adherence; preoperative frailty by Clinical Frailty Scale (CFS); serious complications or death (Clavien-Dindo IIIB or higher) and readmission at 90 days; unexpected ICU admissions; and patients alive at home at three months. We also compared the length of hospital stay compared to risk-adjusted expected length of stay based on the American College of Surgeons Risk Calculator by Wilcoxon signed-rank test.

Results: Of 122 patients undergoing major gastrointestinal surgery, 46 patients were 70 years or older. Of these, 80% (37/46) were included in the strategy. Median age was 79 years (range 70-94). Frailty was common (57%, 21/37, CFS ≥5), and an additional 15% (13/37) were vulnerable (CFS 4). Median length of hospital stay of 4 days (interquartile rang (IQR) 3-7 days) was significantly reduced compared to expected (6 days, IQR 5-8; $p = 0.04$). The rate of serious complications or death within 90 days was 11% (4/37 patients), readmissions within 90 days was 8% (3/37), unexpected ICU admission was 3% (1/37), and the number of patients alive at home at three months following surgery was 92% (34/37).

Conclusions: This geriatric surgical oncology strategy was successfully employed in the majority of older adults undergoing cancer surgery. Length of stay was less than expected, and outcomes of serious complications and death, readmission, ICU admission, and being alive at home were favourable in this vulnerable population of patients with a significant rate of frailty.

B60 Student Presentation

Development and Initial Validation of a Novel Successful Management of Chronic Pain (SMCP) Tool for Older Adults

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Background: Most existing pain measures seek to identify individuals with varying levels of pain-related impairment, i.e., identify those who are not coping well in the face of pain. We created the Successful Management of Chronic Pain (SMCP) tool to assess the extent to which individuals can lead meaningful lives despite their pain. Core SMCP domains include psychological functioning, maintaining self-hood, accepting pain, and self-managing pain. This study sought to establish the feasibility and initial concurrent validity of the SMCP.

Methods: Participants were recruited from an ambulatory care clinic, 3 local senior centers, and a research registry (ResearchMatch). Participants had to be at least 60 years old and experience pain on most days for >3 months. The online self-administered survey included the 17-item SMCP; the Pain, Enjoyment of Life and General Activity (PEG) scale; Patient Health Questionnaire-2 (PHQ-2); Generalized Anxiety Disorder scale-2 (GAD-2); and Lubben Social Network Scale (LSNS-6), as well as sociodemographic questions. General linear models were used to examine the regressions of SMCP on the validated measures, adjusting for sociodemographic variables.

Results: Participants (N=280) had a mean age of 70.1 years (range 60 - 99); 68.9% were women; and 85.4% were non-Hispanic white. The SMCP demonstrated significant and negative associations with the PEG ($\beta = -0.86$, DF = 258, $p < 0.001$), GAD-2 ($\beta = -0.24$, DF = 258, $p < 0.001$) and PHQ-2 ($\beta = -0.29$, DF = 258, $p < 0.001$) scales, each adjusted for gender, marital status, and education. The SMCP also showed a strong positive association with the LSNS-6 ($\beta = 0.73$, DF = 259, $p < 0.001$), suggesting a possible protective effect of social support on successful self-management of pain. Further, our sample took 6.9 (SD = 2.31; range < 3 – 10+) minutes on average to complete the SMCP and 87.1% rated the SMCP items as moderate to very easy to answer.

Conclusion: The study confirms the feasibility (as determined by the time to complete and ease of answering items) and initial validity of the SMCP. The SMCP may be a useful tool for measuring successful adaptation to pain in geriatric patients.

B61

Extended Length of Stay in Older Adults with Hip Fracture: A Descriptive Report.

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Background: Extended length of stay (ELOS) contributes to higher rates of hospital bed occupancy and healthcare resource utilization. ELOS in the US is defined as hospital stay greater than 6.1 days. In hospitalized older patients with fracture, the medical and economic implications of ELOS are profound. Identifying factors that contribute to ELOS could reduce healthcare spending and the burden of hospitals reaching full capacity. We assessed for factors contributing to ELOS among older adults with hip fracture who underwent operative repair at an academic tertiary hospital.

Methods: A retrospective cross-sectional study design was used to identify factors contributing to ELOS (LOS > 6 days). We reviewed the charts of patients aged 65+ years with fracture admitted between August and October 2021 to a multi-disciplinary orthopedic trauma-geriatrics co-managed care service. We included data from those with hip fracture who received operative repair. We assessed LOS (outcome), demographic data, degree of frailty, nutritional status, pre-hospitalization place of residence, and cognitive function. We stratified patients into those with and without ELOS. Using qualitative content analysis, we categorized the most common barriers to discharge. We analyzed the data descriptively using frequencies / percentages and used logistic regression analysis to identify independent factors associated with ELOS.

Results: Out of 82 total admissions, 56 patients met inclusion criteria. Mean age of patients was 81.7 (± 10.1) years; 57% were female. Mean LOS in those with and without ELOS was 9.5 (± 2.5) and 4.8 (± 1.0) days respectively. Among the patients with ELOS (38%), community-dwellers (81%); older-old ≥80 years (67%); male (52%); frail (48%); at-risk for malnutrition (38%); and those with cognitive impairment (20%). Post-operative medical complications (delirium, anemia, congestive heart failure--62%) and discharge placement coordination (insurance authorization and discharge placement delay--29%) contributed to ELOS. No statistically significant associations were found between ELOS and any of the covariates.

Conclusions: Both medical and social drivers extend LOS. Coordinated peri-operative medical/social optimization in older adults with hip fracture offer fundamental opportunities to reduce ELOS.

B62 Student Presentation

Enhanced Geriatric and Neurocognitive Telemedicine Consultation Through Ongoing Team Engagement and Follow-up

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Background: The population of aging Veterans with neurocognitive disorders living in rural areas is growing. This group faces unique barriers in accessing ambulatory and specialty care consultation including interprofessional dementia care. This study examined if enhanced team-based collaboration with primary care teams of older Veterans in rural Wisconsin improves access and efficacy of geriatrics consultation.

Methods: In the Madison Veterans Administration (VA) Virtual Geriatrics (VG) telemedicine program, metrics related to consultation referrals by rural VA primary care providers were examined including consult type and reason, diagnoses, and recommendations made and acted upon (based on 6-month post-consult chart reviews) by the primary care team.

Results: 540 veterans were evaluated by the Madison VG program between 2013 and 2020 (mean age = 76.4, 96% male, 100% rural). Most frequent team-based consults were clinical video telehealth (CVT) (*n*=175), neuropsychological evaluation CVT (*n*=147), and electronic consults (*n*=127). Most frequent reasons for consults included cognitive impairment (*n*=372), sleep complaints (*n*=50), functional impairments (*n*=37), and mood/behavioral concerns (*n*=31). New diagnoses were given in 76% of cases; most common diagnoses included mild neurocognitive disorder (*n*=114), major neurocognitive disorder (*n*=96), sleep disorder (*n*=50), cognitive disorder not specified (*n*=44), and Alzheimer's dementia (*n*=29). Mean number of recommendations implemented by providers (3.17) were fewer than the mean number of recommendations made by the VG team (5.13).

Conclusions: The difference between numbers of recommendations made and acted upon provided opportunities for the VG team to work with referring providers to enact further recommendations during the 6-month chart review. Preliminary results demonstrate that Madison VG telemedicine consultations for diagnosing neurocognitive disorders, formulating interdisciplinary plans of care, and providing chart-based follow-up can enhance consultation access and efficacy for elderly veterans living in rural Wisconsin.

B63

Implementation of Patient Priorities Care in Four Clinical Settings

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Background

Patient Priorities Care (PPC) addresses the What Matters aspect of the 4Ms of Age-Friendly Health Systems (AFHS) and supports alignment of clinical decision-making for older adults with multiple chronic conditions (MCCs) focusing on achieving person-centered health outcomes and avoiding burdensome care. We sought to implement PPC in four clinical settings of the Veterans Affairs Boston Healthcare System (VABHS).

Methods

From 01/2021-11/2021 we implemented PPC in four clinical settings at VABHS: Hospital in Home, Heart Failure clinic, Geriatrics clinic, and Supportive Transitions of Care (C-TraC, a telephone based post-discharge program for seriously ill veterans). Patients were eligible if they had MCC and were willing to participate in a conversation focused on identifying health related goals. PPC referrals were prioritized for veterans with no Advanced Care Planning (ACP) documentation or who expressed perceived burdensome care. PPC conversations were led by PPC trained clinicians from four professions: RN, ARPN, MD, SW. We used the What Matters Most Questionnaire by Moye *et. al.* for veterans with difficulty identifying goals. Process maps and templates for PPC implementation were developed for each care setting. The primary outcome was feasibility of implementation measured by number of PPC conversations completed. The secondary outcome was evidence of successful ACP documentation.

Results

51 PPC conversations were documented in the pilot: Hospital in Home (8), Heart Failure clinic (19), Geriatrics clinic (17), and C-TraC (7). Mean age of veterans was 78.7 years, and 92% were male. ACP was documented in 76.5% of patients: VA Life Sustaining Treatment note (N=34, 66.7%), and Advanced Directive (N=39, 76.5%).

Conclusions

PPC differs from routine medical care by shifting the focus from symptom and disease base to values, goals, and acceptable tradeoffs. PPC was successfully piloted in four VABHS clinical settings, demonstrating it is feasible and a helpful component of Age Friendly care. Ongoing harmonization of documentation and process maps will enable further spread of PPC and person-centered care for older veterans.

B64 Encore Presentation

Developing a Screening Tool for Palliative Care Referrals on Admission to Post-Acute Rehab

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Background: The interprofessional team will screen all post-acute rehab (PAR) admissions to identify those with a need for palliative care (PC) services and ensure they receive palliative care consultation upon admission.

Methods: The study was conducted at an urban, not-for-profit, skilled nursing facility (SNF) with 164 PAR beds. The first PDSA cycle focused on improving PC referral rates for patients who screened in using a PC screen. The intervention resulted in 100% of PC referrals completed for patients with positive screens, but the screen was too sensitive, lacked specificity, and was identified by the admissions team as challenging to complete. This PDSA cycle focused on a new, less complicated screening tool that admissions staff could complete using a hospital discharge summary and the New York Patient Review Instrument (PRI) admission assessment. This new screen used functional status (using PRI score of $\geq$4 in categories of mobility or eating) and diagnoses including: dementia with admission for fracture, metastatic (stage IV) cancer on active cancer treatment, heart failure with reduced ejection fraction on inotropes or left ventricular assist device, and stage 3 or greater pressure injury to identify patients. To validate the tool, our team used the screen on 22 patients admitted during a 3-day period. Concordance was compared to the Palliative Care Screening Tool, an inpatient complex PC screening instrument.

Results: In this PDSA cycle, 59% (13 of 22) of patients screened positive for referral to PC by the new tool. 11 patients screened in based on functional status with only 2 patients screening in for diagnosis alone. This was compared to 63% (14 of 22) of patients who screened positive using the PCST, with concordance between the screens of 77% (17 of 22).

Conclusion: The first PDSA cycle was successful in improving PC referral rates, and subsequent PDSA cycles now focus on optimizing identification of patients with highest need for PC in the PAR setting. In the next PDSA cycle, all patients admitted in a 2 week period will be screened. With further adjustments and implementation, we aim to increase goal-concordant care and decrease suboptimal outcomes, such as unnecessary hospitalizations and procedures.

B65

Reliability and Agreement Between Face-to-Face and Videoconference-based Cognitive Tests and Effect of Age and Dementia to Scores

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INTRODUCTION

The coronavirus disease 2019 (COVID-19) pandemic rapidly popularized telemedicine. However, reliability of cognitive Videoconference-based assessments (VCA) remains unestablished. We assessed the reliability and agreement between face-to-face (F2F) and VCA of Abbreviated Mental Test (AMT), modified version of the Chinese Mini-Mental State Examination (mCMMSE), and evaluated age and presence of dementia as factors influencing agreement between F2F and VCA scores.

METHODS

Participants underwent F2F followed by remote VCA by the same assessor within 3 weeks. Intraclass correlation coefficients (ICC, two-way mixed, absolute-agreement) were used to assess reliability, paired-sample t-test to assess mean difference, stratified by age and presence of dementia, followed by Bland-Altman plots for agreement.

RESULTS

Fifty-six subjects (Mean age 76±5.4 years; 48% has dementia: 74% mild, 19% moderate) completed assessments. ICC showed good reliability, AMT: 0.80; mCMMSE: 0.80. But VCA-AMT and VCA-mCMMSE scores were higher than F2F (mean difference [VCA-F2F], AMT: 0.3±1.1, P=0.03; mCMMSE: 1.3±2.9, P=0.001). Older age and presence of dementia were associated with greater discrepancies in VCA compared to F2F-mCMMSE (age: P=0.002, dementia: P=0.027). Bland-Altman plots indicated wide 95% limits of agreement (AMT: -2.6, 1.9; mCMMSE: -6.9, 3.2), exceeding *a priori*-defined levels of error.

CONCLUSION

Our results indicate good overall reliability for cognitive VCA in older adults. Older age and presence of dementia showed significant discrepancies in F2F and VCA scores. Higher mean scores from VCA as compared to F2F could be attributed to practice effects or possible caregiver coaching. Discrepancies in agreement between VCA and F2F emphasizes the need for further studies to ascertain the validity of VCA cognitive testing.

B66 Student Presentation

Higher Fear of Falling is Associated with More Falls and Decreased Mobility at 6-Month Follow-Up

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Background: Understanding and predicting risk for future falls is an important goal in the care of older adults. Fall risk is multifactorial and includes movement and balance disorders, mood and cognitive disorders, and fear of falling. The Falls Efficacy Scale International (FES-I) was developed to measure fear of falling with sensitivity to change in older adults undergoing a standardized intervention. We aim to assess if change in FES-I score at 6-month follow-up could indicate a patient's increased fall risk or change in functional state between visits without standardized intervention.

Methods: Data were collected at the Fall Assessment Clinic (FAC) between 2014-2018. Veterans ages 50+ are referred to the FAC by their primary or specialty care provider. A multidisciplinary team sees patients for an initial baseline visit and 6-month follow-up including H&P, gait/balance testing, and interprofessional risk assessment and plan. Participants provided informed consent to be entered into a de-identified data repository for retrospective analysis. Change from baseline to follow-up in FES-I, timed up and go (TUG), and gait speed were analyzed using T-test and Mann-Whitney U test.

Results: 157 participants who completed baseline and follow-up FES-I were included. At baseline, 50.3% of participants were considered low concern for falls (FES-I <15) and 49.7% high concern (FES-I >15). Participants were given an average of 6.3 recommendations at the first visit. At 6-month follow-up, 43.3% increased, 43.3% decreased, and 13.3% had unchanged FES-I scores. Those with increased FES-I had a significantly higher number of falls between visits (4.8 vs 2.1, p=0.016) and significantly less independence in BADLS (5.0 vs 5.2, p=0.045) than those with decreased FES-I. Linear regression of the change in FES-I versus number of falls in the past 6 months showed a non-significant upward trend (R^2=0.022). Change in TUG (p=0.392) and gait speed (p=0.183) showed a trend of worse function in the increased FES-I group, but were not significantly different between groups.

Conclusions: An increased FES-I score may indicate that a patient is functionally declining. This could be a useful proxy to implement empiric interventions in situations where a more detailed fall risk assessment may be impractical.

B67 Student Presentation

Cognitive impairment impacts orthopedic perioperative outcomes: Can an interprofessional care pathway targeting patients at highest risk help?

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Background:Perioperative neurocognitive disorder is the most common postop complication affecting older adults. Patients with preop cognitive impairment are at the highest risk for cognitive complications, but also non-cognitive complications. Up to 40% of in-patient delirium events are thought to be preventable. The perioperative brain health initiative of Keck Medical Center has implemented routine cognitive screening to identify those at highest risk and established an interprofessional care pathway aimed at risk mitigation.

Method:The interprofessional Brain Health team at Keck Medical Center conducted a retrospective chart review of elective joint replacement surgical patients over 65 years old from 2018 to 2021. All patients underwent preop cognitive screening with the Mini-Cog. We noted postop length of stay, postop complications, delirium events, place of discharge and readmissions. These outcomes were compared between patients with and without impairment. Patients identified with cognitive impairment were referred for a preop interprofessional geriatric assessment and care pathway.

Results:This study included 185 patients–136 underwent knee arthroplasty and 49 hip arthroplasty – with 22.2% incidence of preop cognitive impairment. 33% vs 8.9% of knee arthroplasties in those impaired had postop complications (p=0.004). Cumulatively, patients with preop impairment had longer length of stay (2.89 vs 2.12 days, p=0.02), increased postop complications (34% vs 9%, p=0.0004), increased delirium (14.6% vs 1.39%, p= 0.002), discharges not to home (17%. vs 2%, p= 0.001), and readmissions (7% vs 0.7%, p=0.035).

Conclusion:Patients with preop cognitive impairment had worse outcomes after joint replacement surgery. After implementing an interprofessional care pathway for those at high risk, our preliminary results show a trend toward fewer complications, delirium events, discharges to place other than home and readmissions.

Joint Replacement Post-operative Outcomes of Cognitively Impaired Patients

Total Joint Replacement	Passed MiniCog Frequency (%) Mean (SD) n=144	Failed MiniCog Frequency (%) Mean (SD). n=41	p value
Length of Stay	2.12 (1.32)	2.89 (2.93)	0.02
Postop Complications	14(9.72)	14(34.15)	0.0004
Postop Delirium	2(1.39)	6(14.63)	0.002
Place of Discharge (Other than Home)	3(2.08)	7(17.07)	0.001
Readmissions	1(0.7)	3(7.32)	0.035

B68

Lower Health Care Utilization and Costs in Community-Dwelling Low-Income Seniors Enrolled in the GRACE (Geriatric Resources for Assessment and Care of Elders) Program.

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Background: GRACE is an interdisciplinary model that supports primary care of low-income seniors. The original GRACE trial found reductions in acute care utilization, improved quality of life, and was cost-neutral. Until now, GRACE has been implemented within clinical health systems. We present outcomes from GRACE implemented by AlohaCare, a health insurance provider in Hawaii in partnership with a community health center.

Methods: Between April 2019 and September 2021, 47 high-risk, low-income patients with chronic diseases, aged 50+ years, were enrolled in GRACE. They were screened for geriatric syndromes in their homes by a nurse practitioner and social worker. Individual plans of care were developed with the interdisciplinary support team, and recommendations were given to primary care providers. This analysis focuses on a subset of n=30 patients who had been enrolled in GRACE for at least 6 months. Data were retrieved and verified from AlohaCare's EMR and paid claims information. We used paired t-tests to compare total number of emergency department (ED) visits and hospitalizations, and total cost of healthcare before and after enrollment in GRACE.

Results: Patient age ranged from 51-94 years (mean=72.2), 18/30 (60%) were female, and 25/30 (83.3%) were of Asian or Pacific Islander ethnicity. Mean cumulative number of ED visits per person decreased by 51% in the 6 months after GRACE compared to before, 0.47 vs. 0.93 respectively, p=0.060. Mean cumulative number of hospitalizations per person decreased by 33% in the 6 months after GRACE compared to before, 0.20 vs. 0.30, p=0.522. Mean total cost of healthcare per person decreased by 19.6% in the 6 months after GRACE compared to before, $12,384 vs. $15,399, p= 0.404. Cost savings over 6 months were $3,015 per patient, or a total cost savings of $90,450.

Conclusions: We saw reductions in emergency department visits, hospitalizations, and total cost of care after GRACE enrollment. Although none of these differences reached statistical significance (probably due to small sample size), all trends were consistently in the right direction. Patient recruitment was delayed due to public health emergency restrictions. A larger sample size and longer follow-up is planned.

B69

Dementia Diagnosis in a Federally Qualified Health Center

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Background: Dementia is a common diagnosis, affecting over 10% of adults aged 65 or older. Patients from racial and ethnic minorities are at higher risk for dementia and for missed diagnoses.[1] Primary care physicians make most dementia diagnoses,[2] and federally qualified health centers (FQHCs) are a major source of primary care for underserved patients. This project examines dementia diagnosis in a

high-performing FQHC, in hopes of providing next steps for improving dementia care in an important but understudied setting.

Methods: Researchers provided the FQHC's electronic health records team with a list of dementia-related ICD-10 codes. These were applied as search terms to patient encounters from July 2018 to June 2020 to obtain a list of diagnosed patients. Data were analyzed according to patient age and ICD-10 code.

Results: The review included 68,600 pts, with 4,483 aged 65 or older. Case-based racial and ethnic data were not obtained, but in all included years (2018-2020) over 75% of pts seen in the FQHC were from minority groups.[3] Dementia was diagnosed in 23 pts aged 18-64 and 97 pts ≥65 yrs; prevalence after age 65 was 2.2%. Of 120 total diagnoses, most (69 of 120, 57.5%) were for unspecified dementia, with Alzheimer's disease (33 of 120, 27.5%) as the most common specific diagnosis. One patient was diagnosed with mild cognitive impairment (MCI).

Conclusions: Based on national prevalence estimates, dementia and MCI were likely underdiagnosed in the study population. This suggests room for growth not only in the overall diagnosis of dementia, but also in earlier and more precise diagnosis. The study was limited in that it included only one site and relied on provider coding during visits. However, it represents a framework for evaluating dementia care in understudied settings that serve large numbers of high-risk patients. Future research should examine the approach to dementia diagnosis in such settings (e.g., review of other contributing conditions, typical components of evaluation), factors contributing to underdiagnosis, and approaches to treatment.

[1]Alzheimer's Association. 2021 Alzheimer's Disease Facts and Figures. Alzheimers Dement 2021;17(3).

[2]Alzheimer's Association. Alzheimer's Detection in the Primary Care Setting. Alzheimers Dement 2019;15(3):59-87.

[3]HRSA. OneWorld Community Health Centers. Health Center Program UDS Data. 2021.

B70 Resident Presentation, Encore Presentation

Development and implementation of a proton pump inhibitor deprescribing algorithm in a geriatric ambulatory care office

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Background: Proton pump inhibiters (PPIs) are among the most commonly prescribed classes of medications. Although PPIs are generally considered safe, long-term use has been associated with an increased risk of fractures, infections, dementia, and kidney disease. Deprescribing PPIs, by dose reduction or discontinuation, can lower risk of long-term effects. This study aimed to evaluate the impact of implementing a PPI deprescribing algorithm in a geriatric ambulatory office.

Method: Patients age 65 years or older with an appointment between April 1, 2021 – March 31, 2022 and a PPI on their home medication list were included. Patients were excluded if they were on hospice, deceased, PPI was prescribed by a gastroenterologist, or if they were lost to follow-up after being identified as eligible for deprescribing. A PPI deprescribing algorithm was developed to assist providers in reducing and discontinuing PPI. Through chart review, the pharmacist identified patients eligible for deprescribing and notified the provider by flagging the patient through a chart alert. The primary outcome was the percentage of patients on PPI without an appropriate indication. Secondary outcomes include: number of patients who were eligible for deprescribing, number of patients who were able to reduce or stop their PPI use, or required restarting or escalating dosage of PPI due to recurrence of GI symptoms will be evaluated in a descriptive analysis.

Results: A total of 228 patients were included in the study. The mean age was 84.7 years, 78.5% were females, and 73.2% were white. The most common indication for PPI was gastroesophageal reflux and 72% of patients were on a PPI for over 1 year. For the primary outcome, 64% of patients had an inappropriate indication for PPI use. There were 175 patients who were identified as eligible for deprescribing and 149 chart alerts were added. Of the patients who were identified as eligible by the pharmacist, 30.8% of these patients were started on a PPI taper by the provider. No patients had reported a recurrence of gastrointestinal symptoms.

Conclusion: Majority of patients in this study were inappropriately prescribed a PPI based on indication. By using a deprescribing algorithm, providers were successful in tapering PPIs without a recurrence of symptoms. Pharmacists can help to decrease unnecessary use of PPIs in an ambulatory care setting.

B71 Resident Presentation, Encore Presentation

Stop to Plan Ahead – Comparing Resident-Led Interventions to Increase Referrals to Advanced Care Planning

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Objectives: The purpose of this quality improvement project is to develop, analyze, and sustain interventions in engaging internal medicine residents in advance care planning (ACP) through Kaiser Permanente's ACP program, Life Care Planning (LCP). LCP is an outpatient service that assists patients and their families in determining and documenting ACP wishes.

Background: Studies have shown that ACP improves the congruence between patients' preferences and actual medical care provided. Internal medicine residents care for many patients with chronic illness or advanced age across multiple inpatient and outpatient settings who would benefit from LCP, however residents' engagement has been low.

Methods: Based on a previous needs-assessment survey among residents, a three-pronged intervention was implemented within the Kaiser Oakland internal medicine residency program. The interventions emphasize: 1) education including interactive mock LCP conversations, 2) engagement using weekly announcements and outreach by resident LCP "champions", and 3) addition of an LCP referral prompt in the hospital discharge summary template. Referral rates were tracked monthly, and a post-implementation survey was conducted.

Results: At the initiation of this project in September 2019, referral rates were low, around 7 per month. The didactics and weekly announcements did not yield significant increases in referral rates. However, referrals rose substantially and were sustained after introduction of the prompt in the discharge summary; almost 2 years after project initiation, referral rates increased to 45 per month. In the post-implementation survey, 19 of 29 (66%) residents surveyed stated that the discharge summary prompt was the most helpful intervention.

Conclusions: A multi-pronged approach including education, engagement, and workflow is effective in increasing resident referral rates to ACP, though systematic prompting through discharge summary templates is the most influential. These findings show that the time of discharge is a good moment to reflect on patients' overall clinical status and promote advance care planning, particularly for patients of advanced age. We also demonstrated that internal medicine residents play an important role in engaging patients with ACP.

B72 Resident Presentation

Expansion of the Integrated Management and Polypharmacy Review of Vulnerable Elders (IMPROVE) Virtual Program

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Background: The Atlanta VA site of the Birmingham/Atlanta GRECC has successfully piloted IMPROVE in VA sites both face to face and virtually. The pilot IMPROVE program was effective in reducing the number of medications and improving the overall

quality of prescribing. Our objective was to expand IMPROVE to the Birmingham VA and report short-term outcomes for comparison across sites.

Methods: Led by clinical pharmacists with geriatrics expertise, the expanded IMPROVE program involved a tailored medication management visit to address polypharmacy and target barriers to medication management and adherence within the context of goals of care. The target population was Veterans aged ≥65 years with ≥10 medications who had appointments for geriatric consultative care and agreed to a virtual pharmacist visit between March and October 2021. In addition to demographics and single item health literacy screener, we measured: (1) number of medications pre- and post-visits, (2) changes in potentially inappropriate medications (PIMs), (3) satisfaction surveys, and (4) miles saved by the virtual visits. Descriptive statistics evaluated pre- and post-interview changes in measures.

Results: For the 37 Veterans seen, the mean age was 78.8 (SD 7.6) with 46% identifying as African American or Black. Veterans reported a mean health literacy confidence level of 3.3 (range 1 'not at all' to 5 'extremely'). Medications were reduced from a mean of 15.7 (SD 7.7) to 14.5 (SD 7.3). All Veterans had at least one medication adjusted, and 67.5% had at least one medication discontinued. PIMs were overall very low (mean 0.8) and were reduced by 75% (p =0.09). All Veterans reported satisfaction with the visit and would recommend the program to others. After the visit, Veterans reported a mean confidence score of 4.2 (range 1-5) in managing medications. Virtual visits saved an average of 24.8 miles per patient.

Conclusions: Expansion of the virtual IMPROVE model to the Birmingham VA was successful; it was easily applicable to a telehealth model, reduced polypharmacy and PIMs, and had high satisfaction. Our results are similar to virtual visits using the IMPROVE model at other sites.

B73 Student Presentation

Geriatric Prescribing Context: A mixed-methods assessment of prescribing for older adults in the emergency department

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Background:

Certain medications are necessary for patient care but can pose risks to older patients at doses safe for younger people. The Geriatric Prescribing Context (GPC) is an electronic health record-based set of age-appropriate doses and frequencies for adults aged 75+ that aims to improve age-friendly prescribing. The GPC has been deployed at our hospital since 2017 and demonstrated significant improvements in orders that align with best practices.[1] In preparation for expanding this successful initiative, we conducted a needs assessment utilizing the perspectives and practices of emergency department (ED) physicians.

Methods:

This was a mixed-methods study designed to compare subjective reporting of how ED providers prescribe with objective data on how they prescribed in the previous 6 months. Structured interviews were conducted with 13 ED physicians who care for older patients to collect their perceptions of geriatric prescribing and answers for two clinical vignettes (pain and aggression control). Themes were identified using Dedoose software. Medication order data were used to determine the proportion of orders for acetaminophen, IV haloperidol, and oxycodone from 7/2020-7/2021 aligning with GPC defaults. Performance data were separated out for residents and attendings.

Results:

ED providers identified feeling rushed, the pandemic, and lack of PCP follow-up as barriers to safe prescribing. On the clinical vignettes, 23.1% of physicians selected appropriate medications and doses to manage pain and 46.2% to manage aggression. Residents safely prescribed IV haloperidol and oxycodone more often than attending providers (50% vs 0% and 100% vs 69.3%, respectively). Acetaminophen was correctly prescribed majority of the time by both residents (82.0%) and attendings (87.8%).

Conclusions:

We observed a significant gap in how ED providers report they prescribe compared to how they actually prescribe high risk medications for older adults, though residents demonstrate more consistent age-friendly prescribing. We believe this represents a good opportunity to expand the GPC to an ED setting to better align practice with age-friendly recommendations.

References:

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B74 Resident Presentation, Encore Presentation

Uptake of Pharmacist Recommendations After Pharmacist-led Medication Management and Polypharmacy Review for Older Adults

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Background: IMPROVE (Integrated Management and Polypharmacy Review of Vulnerable Elders) is an ongoing initiative to incorporate pharmacist-led medication reviews into practice to simplify older patients' medication regimens and improve prescribing quality. In previous studies, IMPROVE pharmacotherapy visits led to an overall reduction in polypharmacy and potentially inappropriate medications for older adults.

Methods: We conducted a retrospective chart review of all older adults receiving an IMPROVE pharmacist-led medication review at one Veterans Affairs medical center between 6/1/2012 and 7/31/2021. The objectives were to characterize pharmacist medication-related recommendations for the primary care provider (PCP) and to determine ensuing uptake of pharmacist recommendations by the PCP at the next primary care or geriatric visit.

Results: The study included 126 veterans, ages 64-98 years (mean 82). Patients were 98% male, 66% White, and taking a mean of 16 (range 4-45) medications prior to the visit. In addition to actions taken by the pharmacist at the point of care (337 actions), pharmacists made 192 recommendations to the PCP, of which 161 (84%) were medication-related recommendations. Seventy-four (46%) of those recommendations were acted upon by the PCP at the subsequent visit. Pharmacist medication-related recommendations included: assess the need for continued therapy (32%), stop a medication (31%), adjust the dose or frequency (11%), stop and prescribe an alternative (9%), start a medication (8%), assess for clinical indication (7%), change formulation or restart a medication (1% each). The percentages of PCP uptake of medication-related recommendations were: stop a medication (52%), assess need for continued therapy (52%), stop and prescribe an alternative (50%), change a formulation (48%), start a medication (42%), adjust the dose or frequency (28%), and assess for a clinical indication (27%).

Conclusion: PCP uptake of 46% of recommendations in this program falls in the upper range reported in other studies, suggesting adequate PCP engagement. Providers were most inclined to accept pharmacist recommendations to stop medications or evaluate medications that may be unnecessary. Pharmacist review using the IMPROVE program was an effective means to reduce polypharmacy and optimize medication safety in older adults.

B75

Medication Therapy Management in older adults with polypharmacy – new legislation and novel pharmaceutical care service in Poland

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Backround: Polypharmacy and potentially inappropriate pharmacotherapy in elderly creates a need for practical solutions in the area of pharmaceutical care in geriatrics. The aim of this study was to develop a model of pharmaceutical care in geriatrics as well as Criteria for Potentially Inappropriate Pharmacotherapy in Geriatrics. Methods: This was an intervention study carried out in 2011–2016 as part of the project "Pharmaceutical care in geriatrics" (OF-Senior). The project involved the experienced pharmacists from 10 pharmacies in Poznan, Poland and 300 elderly persons aged over 65 with severe polypharmacy (10 or more medications) Results: 291 people qualified for the analysis, including 189 women [K] (64.9% of the total) and 102 men [M] (35.1%). The average age of the participants was 74.9 ± 7.3 years (median 75, range: 62 — 102 years) with the younger age group (age: 60–74) — 136 people (46.7%), and older age group (age of at least 75 years) — 155 people. The average number of medication problems diagnosed by pharmacists in the cohort of patients was as much as 3.1 ± 1.4 (3, 1–7). The prevalence of drug related problems: untreated state (82 people [30.2%], unnecessary drug therapy (112 subjects [41.3%]), incorrect drug (153 [56,5%]), too low dose (40 [14.8%]), too high dose (52 [18.2%]), side effects (124 [45.7%]), poor patient compliance (128 [47.2%]) and interactions (145 [53.5%]). In 204 patients, the provision of pharmaceutical care improved their clinical status defined as a reduction in the number and severity of reported clinical symptoms. Pharmacists' recommendations were associated with a significant decrease in polypharmacy ($p < 0.0001$) compared to before the intervention. Conclusions: Results of the study confirms the usefulness of the created model of pharmaceutical care in community pharmacies. The presented model was recommended and accepted by the Polish Government as a basis for introducing pharmaceutical care for elderly patients to healthcare system in Poland. The pharmaceutical legislation was adjusted and the pilot project of Medication Therapy Management was established.

B76

Acceptability and Effectiveness of Virtual Group Visits for Advance Care Planning

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BACKGROUND: Group Visits for Advance Care Planning (ACP) are effective for older adults when done in person, but COVID-19 necessitated transition to a virtual format. Our geriatrics clinic conducted a pilot of Virtual Group Visits for ACP (Virtual Groups) to determine their feasibility, acceptability, and effectiveness compared to In-Person Group Visits for ACP (Clinic Groups). **METHODS:** Patients aged >65 years old were referred by their geriatrician to a Group Visit for ACP. Similar to Clinic Groups, the Virtual Groups are a 2-session workshop of up to 8 patients led by a geriatrician who facilitates a group discussion of patients' values, goals, and surrogate decision-makers. Volunteer undergraduates called the patients prior to the Virtual Groups to prepare them to use the Zoom platform, and again after the Group Visit to conduct a survey and seek open-ended feedback. Patient charts were reviewed at baseline and 3 months after the Group Visit for goals of care documentation and advance directives. Observations after each Group Visit were recorded using a structured team debriefing tool. **RESULTS:** 53 patients participated in 24 ACP Group Visits from July 2019 to July 2021, including 18 Virtual Groups and 6 Clinic Groups (mean[SD]age 77[7.9], 37% male, 75% white). At 3-month follow-up, goals of care documentation increased from 43% to 100% in the Virtual Groups and 17% to 100% in the Clinic Groups. Completion of Advance Directives increased from 17% to 23% in the Virtual Groups, and 33% to 78% in the Clinic Groups. Both the Virtual and the Clinic Groups were highly acceptable to patients (100% of surveyed participants would recommend ACP Group Visits). Team debriefing notes revealed that patients in the Clinic Groups were more likely to converse with one another during the visit, while patients in the Virtual Groups were more likely to converse with and be accompanied by surrogate decision-makers. **CONCLUSIONS:** Virtual Groups with technical assistance provided by undergraduate volunteers were feasible, acceptable, and effective in increasing goals of care documentation. Compared to Clinic Groups, patients in the Virtual Groups were less likely to engage with one another, but more likely to engage with a surrogate decision-maker during the visit.

B77 Encore Presentation

Implementation of *Drive to Deprescribe* in long-term care residents on antihyperglycemic agents

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Background: Polypharmacy in long-term care (LTC) facilities is an ongoing concern. To address this issue, the Drive to Deprescribe (D2D) initiative targets reduction of antihyperglycemic agents to improve quality of life and reduce risk of hypoglycemia. Our goal was to employ the D2D initiative to safely change, reduce, or stop one or more antihyperglycemic medications in at least 25% of patients at risk of hypoglycemia.

Methods: In a 215-bed nursing home in Southeast Michigan, we identified twenty-one LTC residents with diabetes mellitus on antihyperglycemic agents. The PDSA (Plan, Do, Study, Act) model was used to develop a deprescribing initiative.

Using a framework developed by the American Diabetes Association, we identified patients who were within, below or above their glycemic target. Antihyperglycemic medications were reviewed. We identified episodes of hypoglycemia (BG <70 mg/dL), pre-hypoglycemia (BG 70-100 mg/dL) and hyperglycemia (BG >250 mg/dL) over the past 30 days in each patient. Using a validated antihyperglycemic deprescribing tool developed by the Bruyère Research Institute, we created individualized deprescribing plans for patients. Plans were discussed with the patient, their families, and the primary care physician prior to being implemented.

Results: Regarding patients' glycemic targets, 5 patients were within 1% of their target HbA1C, 15 patients were over 1% below their target, and 1 patient was over 1% above their target.

No patients had a documented episode of hypoglycemia, 5 patients had documented pre-hypoglycemic episodes and 6 had documented hyperglycemia over the previous 30 days.

We found that implementation of individualized deprescribing plans led to a reduction of the total number of antihyperglycemic agents by 64%, decreased frequency of unnecessary BG checks by 55% and discontinuation of insulin sliding scale by 100%.

Conclusions: Individualized deprescribing plans led to reduction of antihyperglycemic agents. Benefits of this intervention likely include improved quality of life for patients, decrease in nursing duties, and cost reduction. We plan to follow up by monitoring for hypo- and hyperglycemic events 30 days post intervention and HbA1C 90 days post intervention. Next steps include evaluating the deprescribing process for strengths and pitfalls and finding ways to improve it.

B78

Get FIT! Increasing colorectal cancer screening during the COVID-19 pandemic

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Background: Cancer screening rates fell sharply during the COVID-19 pandemic. Currently, there remain lengthy wait times for endoscopy for routine colon cancer screening. Fecal immunochemical testing (FIT) is an effective alternative screening modality that is self-administered at home, making it non-invasive, affordable, and highly accessible. The aim of our quality improvement project is to increase ordering of colorectal cancer screening tests in a geriatric ambulatory practice from a baseline rate of 32% to 60% for patients aged 65 to 75-years-old.

Methods: We surveyed providers at a geriatrics primary care clinic affiliated with Boston Medical Center, a safety-net-hospital, where 74% of patients are under-represented minorities, to identify barriers to using FIT for colorectal cancer screening. Our first Plan-Do-Study-Act (PDSA) cycle was a multi-pronged intervention to address reported barriers to using FIT, including ensuring FIT kits were labeled and stocked in each room, disseminating a FIT kit instruction guide for providers, and creating a chart alert for eligible patients. Eligible patients were aged 65 to 75 and due for colon cancer screening. Patients were excluded if they were seen via telemedicine or for urgent visits, or documented as having declined colon cancer screening either prior to or during the intervention period.

Results: The two most cited barriers among clinic providers were "unable to find FIT supplies" (80%) and "unclear on how to instruct patients to perform FIT" (40%), whereas "lack of time" was only reported by 20% of providers. Based on a random sampling of clinic days, prior to our intervention 6/19 (32%) patients eligible for colon cancer screening were ordered for any colorectal cancer screening test at their visit. One week after our intervention, 5/10 (50%) patients eligible for colon cancer screening were ordered for a screening test, and of those, 5/5 (100%) were ordered for FIT.

Conclusions: It is feasible to increase use of FIT testing among geriatric primary care providers by ensuring providers' accessibility to and familiarity with this screening tool. Future PDSA cycles should investigate perceived effectiveness and sustainability of these interventions as well as FIT completion rate, including patient-related barriers to test completion to increase colon cancer screening rates.

B79

De-prescribing in Chronic Kidney Disease Offers Gains: A Performance Improvement (PI) Project

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Background

De-prescribing (DeP) is a systematic, programmed, appropriate reduction in drug number and/or dosage to address polypharmacy and adverse drug events (ADEs). Polypharmacy and inappropriate dosing in chronic kidney disease (CKD) worsen organ function and lead to ADEs due to altered pharmacokinetics from reduced renal function.

Methods

PI is a training requirement in geriatric medicine fellowship programs. For the PI project, fellows and faculty in the division of geriatrics attempted DeP in older adults during encounters at 3 long-term care (LTC) facilities and a geriatrics clinic (C) in Bronx, New York, from September 2021, to end January 2022. DeP was offered for adults ≥60 years, with CKD stage 2 or worse (MDRD equation), after discussion and consent from patient or caregiver, if no capacity. A PI tool helped gather data and entered into an excel file. Goal was to DeP an average (avr) of ≥ 0.5 per encounter.

Results

146 encounters, 132 included for analysis. Avr age 81 years (LTC 83, C 79); race: 43% patients black, 33% white, 16% Hispanic. Avr. comorbidities/patient: 6. DeP successful in 52% of encounters (LTC 33%, C 15%). Avr. number of drugs DeP: 0.7/encounter. Most common DeP drugs: vitamins & minerals (24%), acid blockers (14%), antihypertensives (13%), analgesics (10%) statins (9%), hypoglycemic agents (9%). In LTC, DeP of psychotropic agents (12%) was difficult. De-P specifically in CKD was 14%, while 86% of DeP success was in general.

Conclusions

Renally eliminated drugs require dose adjusting.

Our data confirms that DeP is possible in CKD, with potential to reduce drug and indirect costs of hospitalization.

Multivitamins and minerals, acid reducing drugs, antihypertensives, lipid lowering drugs, analgesics and hypoglycemics were easier to DeP.

Psychotropic agents prescribed by specialists posed hurdles for DeP, largely from a diluted provider effort.

Although DeP was attempted for CKD, far more substantial gains resulted from DeP in general.

Setting	Avg age	Encounters n (%)	Black	White	Hispanic	Other Races	Females n (%)	DeP n (%)	Avg comorbidities per encounter	Drugs DeP per encounter	DeP general	DeP CKD
LTC	83	82 (62%)	33 (40%)	33 (40%)	8 (10%)	8 (10%)	57 (70%)	48 (59%)	7	0.7	44 (86%)	7 (14%)
C	79	50 (38%)	24 (48%)	11 (22%)	13 (26%)	2 (4%)	27 (54%)	21 (42%)	5	0.6	20 (87%)	3 (13%)
LTC+C	81	132 (100%)	57 (43%)	44 (33%)	21 (16%)	10 (8%)	84 (64%)	69 (52%)	6	0.7	64 (86%)	10 (14%)

B80

The Association of Cancer Diagnosis on Prognostic Indexes in High Need, High Risk Veterans.

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Background: Poor clinical outcomes are prevalent in High-Need High-Risk (HNHR) veterans. Cancer diagnosis could increase the risk of adverse effects in this group by several mechanisms: burden of disease, chronic inflammation leading to disability, potentially harmful effects of therapies and its association with other comorbidities. The study aim was to determine the cross-sectional association of cancer with prognostic scores and risk of adverse effects.

Methods: This was a cross-sectional study of HNHR Veterans in Florida of the Veterans Integrated Service Network 8 identified through quarterly reports run by VA predictive analytic models. We compared Veterans with and without cancers in terms of sociodemographic characteristics, service connection, substance or alcohol abuse, and high-risk prognostic scores: CAN (Care Assessment Needs- highest risk of hospitalization or mortality), JFI (Jen Frailty Index- risk of institutionalization), and NOSOS (cost and utilization), frailty status. Frailty was defined using a 30-item VA Frailty Index (VA-FI) (excluding cancer variable) generated as a proportion based on the number of items present and split into tertiles (0.0-0.267, 0.268-0.40, 0.40-0.8). After adjusting for gender, age, alcohol abuse, tobacco abuse, number of medications and frailty status tertiles, we performed a multinomial logistic regression using odds ratios (OR) with 95% confidence intervals (CI) with cancer as the independent variable and each prognostic indexes grouped into tertiles as the dependent variables.

Results: A total of 10916 Veterans were included in the analysis, mean age 68.5 (SD=11.8) years, 93.4% male, 74.7% Caucasian, 18.0% Black, 7.4% Hispanic, 8710 (79.8%) frail and 3641 (36.1%) had cancer. After multinomial logistic regression, the presence of

cancer was associated with the highest tertile of CAN Scores (98.1-99) OR 1.9 (1.7-2.2) p<0.001, JFI Score (8.1-12.0) OR 2.1 (1.8-2.4) p<0.001 and NOSOS scores OR 1.34 (1.2-1.5) p<0.001.

Conclusions: In this veteran population, HNHR veterans with cancer were more likely to have higher risk of mortality or hospitalization, utilization and costs. Identifying and treating the HNHR patients with cancer may assist in targeting clinical strategies aimed at improving clinical outcomes while reducing utilization. Future longitudinal research is needed to better understand the clinical course of HNHR patients with cancer.

B81

A 5Ms Snapshot Tool in an Electronic Health Record at a Federally Qualified Health Center System

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Background: The Institute for Family Health (IFH) is a network of Federally Qualified Health Centers (FQHC) in New York City and the Mid-Hudson Valley caring for an growing older adult population. A two-year grant-funded project, initiated in 2020, aims to improve the care of older adults at IFH using the 4Ms framework of the Age-Friendly Health Systems.

Methods: A 34-question electronic survey was administered to assess clinical knowledge and gaps among resident and attending primary care providers. Ten PCP interviews were also conducted to obtain feedback about challenges PCPs face caring for older adults.

Results: Respondents wanted more training in topics such as cognitive impairment (72%), functional impairment (64%), polypharmacy (64%) and falls (52%). During interviews, clinicians also described the significant emotional burden of watching cognitive and functional decline of aging patients and requested more clinical and educational support on how to diagnose and treat geriatric syndromes.

Conclusions: Review of the surveys and interviews indicated that while clinicians felt the need for longitudinal education, time was a major barrier for participating in such activities. For this reason, we explored the possibility of tools within the EHR to provide real time assistance and education for clinicians. To ensure that we developed a useful EHR tool, we obtained feedback from institutional leadership and providers. The interviews confirmed that most clinicians experienced alert-fatigue from pop-up reminders in the EHR and felt there was minimal incentive to complete visits with built-in note templates that are too time-consuming. Therefore, we created a clinical decision-making snapshot tool organized by the 4Ms model Mind, Mobility, Medications, and Matters Most (and added Multimorbidity) to facilitate education and to also improve ease of chart review for providers seeing geriatric patients. This snapshot highlights these 5Ms and the related quality metrics. To also assist clinicians with "next-steps" after completion of screening tools, we also created a comprehensive educational "tip sheet" that was linked directly in the tool to provide clinicians educational resources in real time. We are using this snapshot tool as a resource as we continue to role out transdisciplinary education at this network of FQHCs.

B82

Promoting Bone Health and Fall Prevention Ambulatory Follow-up in the Geriatric Fracture Program

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Background: We previously demonstrated that an inpatient geriatric orthopedic co-management model (Geriatric Fracture Program, GFP) in patients ≥ 65 years old decreased time to surgery and length of stay at Cedars-Sinai Medical Center. In the first-year pilot, we noted a care gap in follow-up care, with only 20% of patients seen for a geriatrics follow-up in year 1, and 22% in year 2. Nationally, post-discharge treatment of falls after fracture is low, with <30% of postmenopausal women and <10% of men receiving treatment. To close this gap, a fracture liaison team was created in year 3 with a Transitional Care Coordinator (LVN), Geriatric NP, medical director, and ambulatory staff; the team worked together to educate patients regarding the importance of bone health follow up, schedule appointments, and ensure ambulatory follow up with geriatrics. Our geriatricians utilized a template for consults that encompassed the 4M's, with enhanced focus on mobility and medication safety regarding fall risk.

Methods: We used a cohort comparison design and descriptive statistics to examine outcomes, which included rates of post-discharge follow-up, gait and balance and functional assessments, medication safety review, and discussion regarding pharmacotherapy. Primary data was collected via chart review from the program period, July 2018-June 2021.

Results: In year 3 of the program, 348 patients were enrolled in the inpatient GFP program, and 124 (36%) patients had a follow-up geriatrics appointment for post-discharge bone health and fall prevention assessment. 100% of patients with follow-up appointments received outpatient gait and balance and functional assessments, medication safety reviews, and discussions regarding pharmacotherapy for osteoporosis.

Conclusions: A transitional care team helps ensure follow-up for bone health and fall prevention after fracture. Next steps will evaluate the percentage of patients with follow-up appointments who received dual x-ray absorptiometry (DXA) scans and initiated bisphosphonate pharmacotherapy.

B83

Evaluation of an Assess and Restore Program for Hospitalized Frail Older Adults

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Background: Hospitalized older adults are at risk for functional decline that could become permanent. A novel model of care, assess and restore, has been developed with the aims of decreasing length of stay, preventing decline, and reducing the healthcare burden associated with this decline. However, little is known about the effectiveness and sustainability of these programs. Humber's Elderly Assess and Restore Team (HEART) is a mobile assess and restore program in which rehabilitative clinicians provide hospitalized older adults with tailored daily therapy, access to community and outpatient services on discharge and post discharge support. This mixed-methods program evaluation aimed to determine the success and sustainability of the HEART program by examining cost savings, bed days saved, and support from both the HEART team and other Allied Health hospital staff.

Methods: We examined electronic health records from September 2018 to March 2020 to compare length of stay in HEART patients and in eligible non-participants. We then performed a cost analysis using daily costs per acute inpatient bed and differences in length of stay between HEART participants and non-participants. To examine staff experiences, we conducted focus groups with HEART staff and an online questionnaire with Allied Health staff regarding their perceptions of the benefits of the program.

Results: From September 2018 to March 2020, 6089 patients were eligible for the HEART program, with 573 patients participating in the program. HEART patients had a lower average length of stay of 4.7 days compared to non-participants (*M*=7.4 vs *M*=12.1 days). Between September 2018 and March 2020, HEART saved approximately 2680 bed days, with estimated total cost savings of approximately $2,490,000. HEART team members felt that the program provided both physical and psychosocial benefits to patients. Allied Health staff also showed support for the program, with only 3.8% feeling that the program was not a valuable addition for the patient and 54.9% believing that the program provided benefit for readiness for discharge.

Conclusions: Our results suggest that the HEART program has shown sustainability through staff support and return on investment. Other hospitals may want to consider the implementation of similar programs.

B84 Encore Presentation

Evaluation of Deprescribing Program in Skilled Nursing Facilities

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Background: Polypharmacy is a predictor of adverse drug events (ADEs) in older adults. 61% of ADEs among skilled nursing facility (SNF) residents are preventable[1] yet up to 74% are on 9 or more medications.[2] A recent study showed the impact of deprescribing in reducing benzodiazepine use in 54 SNFs.[3] Our objective was to retrospectively determine whether the introduction of a deprescribing program reduced 8 classes of medications in two SNFs within one long-term care system.

Methods: A retrospective, longitudinal pre/post evaluation was conducted on 12,144 SNF residents before and after introduction of a comprehensive program of deprescribing. Percentages of residents receiving 8 medication classes (diuretic, opioid, antipsychotic, anticoagulant, antianxiety, antibiotic, hypnotic, antidepressant) were compared pre- and post-intervention via χ^2. Mean pre/post total classes per patient were compared via one-way ANOVA. Outcome variables were compared across pre/post cohorts controlling for race, sex and age using linear and logistic regression.

Results: The mean number of medication classes were lower post-intervention (mean =1.74 per patient) vs. pre-intervention. Significant drops were observed in diuretics (-4.2%, *P*=.001), opioids (-3.8%, *P*=.001) and antipsychotics (-2.4%, *P*=.010). Effects were robust to covariate adjustment.

Conclusion: The SNF deprescribing program was associated with reductions in overall number and three medication classes per resident, suggesting that such protocols can reduce polypharmacy in SNFs. Additional research is needed.

B85 Student Presentation

Palliative Care Trigger Tool

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Problem: Palliative care providers at an academic medical center in Baltimore stated medical intensive care unit (MICU) patients are often referred late in their hospital stay. The MICU has performed well below the hospital quality performance metric of: 80% of patients who expire with expected outcomes should have received a palliative care consult within 48 hours of admission.

Purpose: The purpose of this quality improvement project is to increase palliative care utilization in the MICU through the implementation of a Nurse-Driven Palliative Trigger Tool to prompt the need for specialty palliative care consult.

Methods: MICU nursing staff and providers received education concerning the implications of underused palliative care services and the literature data supporting the use of nurse-driven palliative care tools as a means of increasing utilization of palliative care. A MICU population specific criteria of palliative triggers was formulated by the QI implementation team, palliative care team, and patient care services department. Nursing staff were asked to assess patients daily for the presence of palliative triggers using the Palliative Care Trigger Tool, and present findings during bedside rounds. MICU providers were asked to consult palliative medicine given the presence of palliative triggers; following interdisciplinary rounds. Rates of palliative consult, given the presence of triggers, were collected via electronic medical record e-data pull, de-identified, and recorded in the data collection tool.

Preliminary Results: Over 140 MICU registered nurses were educated on the palliative trigger initiative along with 8 nurse practitioners, 4 intensivists. Over 200 patients were admitted to the MICU and screened for palliative triggers during the 15-week implementation period. Primary outcomes showed an increase in palliative care consult rates to those patients presenting with triggers, a decreased mean time from admission to palliative consult, and increased recognition of unmet palliative care needs by MICU nurses and providers.

Preliminary Conclusions: Anticipatory findings of this QI project would suggest a positive correlation between utilizing a palliative care trigger criteria and decreased time to palliative care consult. The direct outcomes of effective palliative care results in decreased length of stay, healthcare costs and moral distress, as well as improved symptom management, and quality of life.

B86

Reduced Vaccine Effectiveness (VE) against Hospitalization and Death in Patients with Frailty after COVID-19 Infection During the Delta Surge

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Background: The COVID-19 delta variant became the predominant strain in the USA during the summer of 2021, contributing to increased breakthrough of COVID-19 cases. Despite reduced VE against symptomatic infections due to the delta variant, vaccines are still highly effective against severe COVID-19 infections. Research evidence suggests that frailty, a common condition in older adults may hinder vaccines effectiveness. Frailty represents a state of vulnerability to stressors characterized by chronic, low-grade, inflammation associated with multisystemic dysfunction leading to poor clinical outcomes. The aim of this study was to compare the VE against COVID-19 associated hospitalization and death in older Veterans.

Methods: This is a retrospective cohort study including US Veterans who tested positive for SARS-CoV-2 from July 25th to September 15th, 2021. Frailty was operationalized with a 31-item VA

Frailty Index (VA-FI) generated based on the number of EHR variables (morbidity, sensory loss, cognition/mood, etc). The VA-FI categorized Veterans into robust (FI<0.10), pre-frail (FI 0.10-0.21), and Frail (FI ≥0.21). After adjusting for age, BMI, race, ethnicity, gender, COPD, CVD, CKD, VE was assessed for robust, pre-frail, and Frail Veterans by logistic regression: COVID-19 related hospitalization or death as dependent variables, and vaccination status as the independent variable.

Results: 36749 Veterans were included, 3725 (37.3%) of whom were fully vaccinated at the time of COVID-19 infection, mean age 56.6(SD=16.6), 87.7% (n= 32219) male, 68.3% (n=25,084) Caucasian, 84.6% (n=31,075), non-Hispanic, 49.5% (n=18,173) robust, 27.2% (n=9,988) pre-frail, and 23.4% (n=8,588) frail. Being vaccinated was associated with a 65% reduction in the odds of being hospitalized in the robust (OR=0.35, 95% CI: 0.31-0.40), whereas 31% had a reduction in the frail (OR=0.69, 95% CI: 0.63-0.76). Similarly, vaccination was associated with a 65% reduction in the odds of death in the robust (OR=0.35, 95% CI: 0.31-0.40), compared with a 31% reduction in the frail (OR=0.69, 95% CI: 0.63-0.76).

Conclusions: This study shows reduced vaccine effectiveness against COVID-19 severe outcomes in patients with frailty. Future studies should investigate strategies to increase the immunogenicity of COVID 19 vaccines in older adults with frailty.

B87 Student Presentation

Looking Through the Lens of Colma Staff: Staff Experiences and End-of-Life Care in HUD-VASH Permanent Supportive Housing

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Background:

Colma Veterans Village (CVV) is an innovative program that offers permanent supportive housing plus on-site medical and mental health care to formerly homeless, older, frail, medically and psychiatrically complex Veterans through the Department of Housing and Urban Development and the Veterans Affairs Supportive Housing (HUD-VASH) program. This study aims to describe the first year of CVV implementation from staff perspectives, focusing on successes, difficulties, and experiences of providing end-of-life care.

Methods:

Semi-structured interviews with current CVV staff (n=9): 1 team leader/lead physician, 4 social workers, 2 nurses, 1 recreational therapist, and 1 peer support specialist. Two authors double-coded the interviews; performed content analysis to identify themes related to successes, difficulties, experiences of providing end-of-life care; and selected quotations that represented those themes. Themes were discussed amongst all authors to settle any discrepancies.

Results:

Successes listed by the staff include establishing trust and respect within the community, developing a positive work environment within the team, and understanding each member's expertise. Staff noted occasional feelings of burnout were lessened with team collaboration and communication at weekly meetings and positive interactions with the Veteran community. For end-of-life care, several members mentioned wanting more support because many Veterans lacked primary caregivers, e.g., home care aides for everyday duties. Multiple team members reported offering palliative-level care (pain management, care coordination, emotional support) in the home because Veterans were unable to enroll in home hospice. Notable difficulties included challenges with transportation that prevented Veterans from attending their medical appointments, miscommunication, and misunderstanding with property management, transportation systems, and other housing agencies.

Conclusion:

CVV staff members were highly satisfied with their roles and relied on the interdisciplinary team for support. Open communication and clear goals supported staff in understanding their roles at CVV. As veterans approached the end of life, staff members filled the role of primary caregiver. Collaborations with community hospice programs are needed to develop a model of care for unsupported Veterans.

B88

The Power of Collaboration: Improving Dementia Care with Interprofessional Teamwork

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Background: Gaps in the delivery of optimal community-based care delivered to persons with dementia (PWD) are prevalent. Many PWD without a community action plan from their primary care provider are more likely to utilize crisis-driven health care resources than those with support resources in place. Lack of provider knowledge of available resources is an important barrier to community-based supports. The purpose of this quality improvement initiative is to improve the effectiveness of interprofessional teamwork among geriatric care providers and informal community-based dementia-care providers in Olmsted County, MN.

Methods: A process analysis was conducted examining all steps involved in referring PWD to local dementia care services. Stakeholder interviews were conducted to identify elements of culture and context in the system. Based on these data, a survey was developed and distributed to Mayo Clinic Senior Service (MCSS) providers in Rochester, MN with 54 team members invited to participate. The survey assessed knowledge, attitudes and behaviors surrounding referral to local dementia care services.

Results: At time of submission, survey response rate was 57%. 83% of respondents included providers (MD/DO, NP/PA) and 17% RNs. Practice settings included home care (61%), clinic (45%), and skilled nursing facility (36%). The most commonly referred to services were meals (84% have referred), caregiver support (77%) and home safety (71%). Respondents felt at least somewhat confident in referring to meal (74%) and caregiver support services (64%), while 42% and 32% respectively felt at least somewhat not confident in making referrals to insurance navigation or financial support services. Most frequently reported barriers to referral included affordability (71%), availability (45%), and lack of knowledge of resources (23%).

Conclusions: Despite caring for PWD on a daily basis, many geriatric care providers remain unconfident partnering with community-based dementia care services, and these services go underutilized. This quality improvement project aims to mitigate barriers identified in the comprehensive needs assessment by improving senior service providers' knowledge of existing services and enhancing interprofessional relationships between MCSS providers and dementia care support services.

B89

Expanding Access to Geriatric Assessment in Medical Oncology Utilizing Geriatric Oncology Trained Advanced Practice Provider (APP).

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Expanding Access to Geriatric Assessment in Medical Oncology Utilizing Geriatric Oncology Trained Advanced Practice Provider.

Background: Geriatric assessment (GAs) in older adults with cancer can reduce chemotherapy toxicities, detect untreated geriatric conditions, and improve care coordination. Despite this, GAs are not

routinely integrated into oncology care due to lack of time, resources, and training. We aimed to develop and implement a physician assistant (PA) led GA consultation service within an academic cancer center and its rural clinics.

Methods: A GA consultation program was developed and implemented with in-person and/or virtual visits. In addition, a system-wide provider educational program was developed and implemented for oncology providers. A GA report was generated on all patients and shared with their primary oncology team. A virtual interdisciplinary meeting with the PA, geriatric oncologist, pharmacist, geriatrician, and palliative care physician is conducted bi-weekly to discuss management strategies for complex patients.

Results: During the first 7 months of the program, 43 patients (65% female, aged 65-91) with solid tumors and hematologic malignancies were referred for the PA-led GA consultation. 70% (n=30) of visits were in-person; with 30% (n=13) conducted virtually via video. Common referral types were pre-bone marrow transplant evaluation (39%) and new breast cancer diagnosis (37%). Referrals increased over time with 65% in the second half of the program's initial 7 month period. The most common vulnerabilities were physical functional deficits, polypharmacy/ potentially inappropriate medications, at risk for malnutrition or malnourished, undiagnosed cognitive impairment, and lack of social support. 82 recommendations were made. The most frequent recommendations were for physical therapy (23%), dietician consultation (13%), IADL support (11%), co-management with specialist (10%) home safety evaluation (10%), and pharmacist medication review (10%).

Conclusion: A PA-led GA consultation service is feasible and can expand access to GA in older adults with cancer through either in-person or virtual visits. Future studies are needed to evaluate the impact of a PA-led GA consultation service and expand uptake in rural clinics.

B90 Resident Presentation, Encore Presentation

Reducing Unnecessary C Diff Testing in Hospitalized Patients-QI project.

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Background: Clostridioides difficile (C diff) is estimated to cause almost half a million infections in USA each year. Nearly half of these cases are in hospitalized elderly patients. Although C diff infection is a serious disease, unnecessary testing for C diff is a major concern as studies have shown that close to 50% of patients are tested inappropriately, either because they did not have diarrhea, or they were on a laxative at the time of testing (1,2). C diff PCR testing is costly in terms of the actual cost of the test, PPE equipment used, over-diagnosing colonized patients, and delay in discharges. Our objectives include, improving C diff PCR test utilization by carefully screening patients prior to testing and reducing unnecessary testing for C diff in hospitalized patients.

Methods: Our study population includes all hospitalized patients that were tested for C diff from July 2018 to December 2019 at our facility. We implemented a ticket with an eligibility criterion in April 2019 to appropriately screen the hospitalized patients that needed testing. The nursing staff and the lab personnel are involved in the screening process. Specimens were submitted and/or processed only if the patient meets the eligibility criteria on the ticket. We compared the total number of C diff tests before and after the introduction of the ticket from July 2018 to December 2019 (9 months pre and post-intervention) in the hospitalized patients.

Results: The total number of C diff tests before the intervention from July 2018 to March 2019 was 115. After introducing this ticket, the total number of C diff tests from April 2019 to December 2019 was 68. The total number of tests was reduced by at least 40%. The average number of tests per month before intervention was 12.8 and after the intervention was down to 7.5.

Conclusion: Introduction of a simple screening questionnaire/ticket can greatly impact the appropriate use of C diff PCR testing.

Reference

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B91 Student Presentation

Racial/ethnic disparity in 4M-based primary care delivery via telehealth in provider shortage area

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Background: Telehealth is a promising alternative primary care delivery in provider shortage area. Our objective was to evaluate the implementation of commonly called the 4Ms (Medication, Mentation, Mobility, What Matters) framework in telehealth-based primary care in provider shortage area by ethnic status.

Methods: This study was a retrospective analysis of 184 adults 60+ years representing 5% of total sample at an urban primary care in ethnically/racially diverse population(39.7%, 73/184). Study period was 16 months(July 2020-September 2021). We trained 14 primary care providers about 4Ms action plans (Medication, deprescribe or reduce high risk medication;Mentation, depression/cognition assessment and brief counseling; Mobility, assessment of mobility/home safety and referral; What Matters, advance care planning); patients/caregivers about digital literacy/communication toolkit available at www.nihan.care. By reviewing electronic health record, we measured components of 4Ms per telehealth visit by ethnic/race status (white vs. non-white) using chi-squre analysis.

Results: Advance care planning(what matters) was most commonly discussed in 79.9%, followed by mobility 46.2%, medication 16.8% and mentation 14.7%. 4M action plans were not discussed in 61.4%. Compared to white, non-white populations were less likely discussed (p = 0.021) in Table.

Conclusion: There was an ethnic/racial disparity in 4M framework application via telehealth in an urban primary care clinic. Further training needs with ethnically/culturally specific and linquistically diverse curriculum are needed for both primary care providers and older adults/ caregivers in provider shortage area in order to sustain 4M-based primary care delivery via telehealth.

4M components by racial/ethnic status

4M components	White n = 111	Non-white n = 73	Total n = 184
What Matters	94	53	147
Mobility	68	19	85
Medication	26	5	31
Mentation	22	5	27
None of any 4M component	67	46	113

B92

Impact of a Home Delivery Fresh Food Rx Program for Older Adults during COVID-19

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Background/Objectives

Food insecurity (FI) is a growing health problem, worsened due to the COVID-19 pandemic. It disproportionately affects older adults who live in poverty or in communities of color. Food prescription programs are known to increase healthy eating and decrease FI, however, few studies implement food prescription programs that are theory based, or include strategies based on community input.

Methods

This non-randomized pragmatic study was aimed at measuring the impact of a community-informed, theory based food prescription delivery program on older adults with FI. It was guided by the Capabilities, Opportunities, Motivations, and Behaviors and Theoretical Domains Framework. It was conducted through an academic medical center in collaboration with community partners.

Outcomes and Measures

We tested the impact of our program on FI and fruit and vegetable (FV) intake, with the USDA FI Scale and NCI All Day Food Screener respectively at three-month intervals. We evaluated the program's impact on depression and loneliness by using repeated PHQ-9 and UCLA Loneliness Score measures at six-month intervals.

Results

Over a six-month study period, 31 people had surveys at baseline, three, six, and nine months. FI decreased by an average of 2.03 points (p=<0.001) with the odds of food security increasing significantly across time (p=<0.001). Overall, FV intake increased from a mean of 2.8 to 2.9 servings per day (p=0.53). PHQ-9 scores decreased by an average of 1.5 points (p= 0.12) for the 30 people surveyed at both baseline and six months. Loneliness scores improved from 12.3 to 9.5; for the 29 people surveyed at both baseline and six months, the average decrease in scores was 1.8 points (p=0.023).

Conclusion

This is one of the first studies using theory and community input to guide the development of a food prescription program. This program has positive impacts on FI, FV intake, and mental health outcomes of older adults. This study had the unwavering support of CBOs, nonprofits, volunteers, and faith communities to help start a food prescription delivery program during and throughout the COVID-19 pandemic.

B93

Racial/Ethnic Disparities in Serious Illness Communication

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Background: Racial/ethnic disparities in serious illness communication exist among older adults. Our prior work has shown that oncologists spend on average three minutes less in goals of care discussions with minority-group patients. In this study, we examined whether a communication intervention reduces racial/ethnic disparities in the use of communication skills.

Methods: We conducted a two-arm randomized controlled trial of solid tumor oncologists and their newly diagnosed advanced cancer patients to test a coaching model of communication skills training. We audio recorded post-imaging patient-oncologist encounters for oncologists in usual care and intervention arms. We coded oncologists' use of serious illness communication skills: open-ended questions, reflections, empathic statements, "sorry" statements, and elicitation of questions. We compared a composite score of total communication skills used per encounter between usual care and intervention oncologists, using two-sided t-tests, and stratified by race/ethnicity.

Results: Of the 22 enrolled oncologists, 11 were randomized to the intervention. Of the 149 recorded encounters, we coded 116 (78%) (median patient age: 65 years, 51% female). Comparing usual care to intervention arms, oncologists used a mean 3.5 vs 3.3 communication skills with White Non-Hispanic patients, 1.9 vs 2.8 with Black Non-Hispanic patients, and 2.1 vs 2.3 with Hispanic patients. P-values did not reach statistical significance when comparing usual care to intervention encounters overall or stratified by race/ethnicity. **(Table 1)**

Conclusions: In this sample of older adults with advanced cancer, usual care oncologists used an average of 1.5 fewer communication skills per encounter with Black Non-Hispanic and Hispanic patients as compared to White Non-Hispanic patients. Our preliminary data suggest that communication skills training reduced this disparity in encounters led by intervention oncologists with Black Non-Hispanic patients.

N (%); mean communication skills	All Patients	White Non-Hispanic	Black Non-Hispanic	Hispanic	Asian	Other
Usual Care	44 (38%); 2.6	16 (37%); 3.5	15 (34%); 1.9	11 (25%); 2.1	1 (2%); 7.0	1 (2%); 2.0
Intervention	72 (62%); 3.0	25 (35%); 3.3	25 (35%); 2.8	9 (12%); 2.3	5 (7%); 3.0	8 (11%); 3.1

B94

IMAGINE Study: Multicenter randomized clinical trial to evaluate effectiveness of motivational interview in rehabilitation of older stroke survivors

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Background

Rehabilitation pathways are crucial to reduce stroke-related disability. Motivational Interviewing (MI), a person-centered intervention to empower and motivate individuals towards different health habits, could help improve rehabilitation outcomes of older stroke survivors. Our study aimed to assess the impact of MI, as complement to standard rehabilitation, on functional improvement at 30 days and 3 months after admission, compared to standard rehab alone, in older stroke survivors admitted to geriatric rehab

Methods

Multicenter randomized clinical trial conducted in 3 geriatric rehabilitation hospitals in Spain between 2018-21 (ClinicalTrials.gov:NCT03434938). Older adults after mild-moderate stroke were randomized into control or intervention group. The intervention group received 4 sessions of MI by trained nurses, including a personalized rehabilitation plan agreed between rehab team and stroke survivors, based on their goals, needs, preferences and capabilities

Results

261 stroke survivors (mean age±SD=80±10; 46% women;mean Barthel±SD at admission 38.4±21.8) were randomized to either intervention (n=126) or control group (n=135). Both groups showed an important functional improvement measured by the Functional Independence Measure (FIM): FIM±SD at admission, 30 days and 3 months=64±19; 81±25 and 88±27, respectively; without significant differences between groups. In-hospital mobility, measured through accelerometer, reported a % time spend upright of 11.6% in intervention group and 12.2% in control group (p=0.77)

Conclusion

Although MI has demonstrated efficiency in promoting physical activity and improving rehabilitation outcomes in literature, in our studied sample we could not observe an impact on functional improvement related to MI. More research is needed to find better ways to implement MI in rehab centers and what types of older stroke survivors may benefit most from non-pharmacological interventions such MI to reduce associated disability

B95

Treatment-Related Benefit as a Mediator of Intensive Blood Pressure Lowering on Cardiovascular Mortality: Insights from SPRINT

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Background: The Systolic Blood Pressure Intervention Trial (SPRINT) demonstrated a reduction in cardiovascular (CV) mortality with intensive (<120 mmHg) compared to standard (<140 mmHg) blood pressure (BP) control. However, the mediated [BP intensity operating through non-mortality major adverse cardiovascular events (MACE) myocardial infarction, other acute coronary syndromes, stroke or heart failure)] and the joint (intensive BP + MACE) effects on CV-mortality has not been well characterized and may aid in understanding post-MACE mortality.

Methods: We performed a post hoc analysis of 9,361 SPRINT participants followed for an average of 4.2-years and obtained the risk of intensive BP treatment and MACE on CV-mortality. We used causal inference methods and obtained the natural direct effect (NDE, exposure effect on outcome if the exposure-mediator pathway is disabled), natural indirect effect (NIE, exposure effect on outcome by changing the mediator level), controlled direct effect (CDE, exposure effect on outcome if mediator fixed) and report bootstrapped bias-corrected confidence intervals.

Results: The mean age in participants with MACE was 71.5±9.7 years. **I**ntensive BP control decreased the hazard (0.57, 95% CI: 0.38-0.85), while a MACE increased the hazard (17.9, 95% CI: 12.1-26.4) of CV-mortality. A treatment intensity-MACE interaction was noted (Pint=0.03). The NDE of intensive treatment on CV-mortality was an OR of 0.59 (95% CI: 0.36-0.89); while the NIE mediated through MACE was 0.89 (95% CI: 0.80-0.97). The interaction attenuated the CDE of intensive BP control on CV-mortality (MACE present: OR 0.94 (95% CI: 0.49-1.89), MACE absent: OR 0.40 (95% CI: 0.21-0.69).

Conclusions: Although intensive BP treatment reduced overall mortality, we found a MACE occurrence substantially increased the risk of CV-death irrespective of treatment intensity. These hypothesis-generating findings may offer further insight into clinical care after a MACE occurrence.

B96

Treatment-Related Harm as a Mediator of Intensive Blood Pressure Lowering on Non-Cardiovascular Mortality: Insights from SPRINT

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Background: The Systolic Blood Pressure Intervention Trial (SPRINT) did not address the effects of blood pressure (BP) control (intensive: <120 mmHg, standard: <140 mmHg) on non-cardiovascular (CV) mortality (total mortality-CV mortality). Moreover, the mediated [BP intensity operating through serious adverse events (SAE) hypotension, syncope, injurious falls, bradycardia, electrolyte abnormalities, acute kidney injury] and the joint (intensive BP + SAE) effects on non-CV mortality has not been well characterized and may aid in understanding post-SAE mortality.

Methods: We performed a post hoc analysis of 9,361 SPRINT participants followed for an average of 4.2-years and obtained the risk of intensive BP treatment and SAE on non-CV mortality. We used causal inference methods and obtained the natural direct effect (exposure effect on outcome if the exposure-mediator pathway is disabled), natural indirect effect (exposure effect on outcome by changing the mediator level), and controlled direct effect (exposure effect on outcome if mediator fixed) and report bootstrapped bias-corrected confidence intervals.

Results: Mean age in participants with an SAE was 71.5 ± 9.8 years. Intensive BP control non-significantly decreased the hazard (0.81, 95% CI: 0.63-1.03), while an SAE occurrence significantly increased the hazard (2.42, 95% CI: 1.86-3.14) of non-CV-mortality. We did not find a treatment-SAE interaction ($_{Pint}$=0.50). The natural direct effect of intensive treatment on non-CV mortality was an odds ratio (OR) of 0.77 (95% CI: 0.60-0.99); while the natural indirect effect mediated through an SAE was an OR of 1.03 (95% CI: 1.01-1.05).

Conclusions: Intensive treatment was associated with higher risk for SAEs [data not shown] and a non-significant trend to lower non-CV mortality. An SAE occurrence was associated with an overall increased non-CV mortality. These findings demonstrate novel insights into mechanisms and joint effects of intensive BP+SAE on non-CV mortality.

B97 Student Presentation, Encore Presentation

Comprehensive geriatric assessment and management for Canadian elders with Cancer: The 5C study

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Background: Comprehensive geriatric assessment (CGA) and management is recommended for older adults with cancer considering chemotherapy, but prior to the 5C study, no definitive randomized controlled trial had been completed in Canada assessing benefit.

Methods: Patients aged 70+ with cancer, referred for chemotherapy/immunotherapy, with an ECOG status 0–2 and life expectancy ≥ 6 months were recruited and randomized (single-blind, outcome assessor). Patients randomized to intervention received a CGA and management for 6 months. Randomization was stratified by treatment intent (curative/ adjuvant versus palliative) and research site. Outcome data were collected via validated questionaries and health care diaries

for 6 months, then at 9 months and 12 months. Our primary outcome, health-related quality of life, was assessed using the European Organization for Research and Treatment of Cancer (EORTC) QLQ-C30 global health scale and analyzed using a pattern mixture model with an intent-to-treat approach. Secondary outcomes included functional status (IADL), number of emergency room (ER) visits, and number of unplanned hospitalizations. Zero-inflated Poisson regression estimated the rate of ER visits and hospitalizations by treatment group.

Results: 351 patients were recruited from 8 hospitals across Canada from May 2017 to March 2020. Patient characteristics at baseline were comparable in both arms. The average age of participants was 75.7y (SD = 4.8), 60.4% were male and 54.3% had treatment with palliative intent. All intervention participants were seen on or after day 1 of treatment. The median number of follow-ups in both arms was 8 (maximum number of follow-ups is 9).

Change in HRQOL scores over time did not differ by arm. There was also no difference in IADL between the groups. The intervention group had a lower, but non-significantly different, rate of ER use (Relative Risk [RR] = .89) than the control group. The rate of unplanned hospitalizations was equivocal (RR = .99).

Conclusions: The intervention had no impact on HRQOL or IADL. The rate of ER use was lower but not statistically significant in the intervention group. Our results may be limited due to most participants joining the study once their treatment plan was already determined and deleterious effects of the COVID19 pandemic on intervention delivery.

B98

Longer term All-Cause and Cardiovascular Mortality with Intensive Blood Pressure Control

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Background. Both the Systolic Blood Pressure Intervention Trial (SPRINT) and STEP trial have shown benefits of intensive blood pressure control on cardiovascular morbidity and mortality. However, both trials ended after slightly more than 3 years of follow-up, so the legacy effect of intensive treatment on longer term cardiovascular and all-cause mortality is unknown.

Methods. We linked SPRINT participants to the National Death Index (NDI) from 2016 to 2020, assessing all-cause and cardiovascular mortality using the NDI plus system. Cox and competing risk models were used to model the effect of intensive treatment through the trial and during post-trial follow-up on all-cause and cardiovascular mortality respectively

Results. Over a median follow-up of 8.8 years, there were 248 cardiovascular and 818 all-cause deaths with intensive treatment, and 273 cardiovascular / 826 all-cause deaths for standard treatment. Intensive treatment was beneficial for both cardiovascular (Hazard Ratio = 0.72, 95% CI: 0.52 to 0.98) and all-cause mortality (HR = 0.83, 95% CI: 0.70 to 0.99) through close-out visits for the trial (follow-up through July 2016). However, there was no indication of benefit during post-trial follow-up for either cardiovascular (HR = 1.01, 95% CI: 0.82 to 1.23) or all-cause mortality (HR = 1.08, 95% CI: 0.96 to 1.21). Results were similar for subgroups based on baseline age, cognitive function, and frailty status.

Conclusions. Our results show a strong benefit of intensive versus standard hypertension control for cardiovascular and all-cause mortality during the trial which was largely attenuated during 4 years of post-trial observational follow-up. Given indications of increasing blood pressures in SPRINT participants randomized to intensive treatment following the trial, these results highlight the importance of developing robust implementation strategies to promote consistent long-term management of hypertension in line with current guidelines.

B99

The association between antihypertensive treatment and serious adverse events by age and frailty: an observational cohort study of 3.8 million patients followed up for 10 years

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Background: Antihypertensives are effective at reducing the risk of cardiovascular disease, but limited data exist quantifying their association with serious adverse events (SAEs), particularly in older people with frailty. This study examined this association using data from a large database of electronic health records.

Methods: This was a retrospective observational cohort study, utilising data from the Clinical Practice Research Datalink in England. Patients were eligible if they were aged 40 years or older, with a systolic blood pressure reading between 130-179 mmHg and not previously prescribed antihypertensive treatment. Outcomes were defined as hospitalisation or death within 10 years due to hypotension, syncope, falls, fractures, acute kidney injury (AKI), electrolyte abnormalities and gout. The association between antihypertensive treatment and SAEs was examined by cox regression, using propensity score adjustment to adjust for confounding. Subgroup analyses were undertaken by age and frailty.

Results: A total of 3,834,056 patients, aged 57±12 years, were eligible for the study. Of these, 484,187 (12.6%) were prescribed antihypertensive medication in the 12 months prior to the index date. Over a median follow-up of 7.1 years, antihypertensives were associated with an increased risk of hypotension (HR 1.32, 95%CI 1.29-1.35), syncope (HR 1.20, 95%CI 1.17-1.22), falls (HR 1.23, 95%CI 1.21-1.26), AKI (HR 1.44, 95%CI 1.41-1.47), electrolyte abnormalities (HR 1.42, 95%CI 1.43-1.48) and gout (HR 1.35, 95%CI 1.32-1.37). The absolute risk of SAEs with treatment was very low, ranging from four syncope events to twelve AKI events per 10,000 patients treated per year. In older patients and those with severe frailty, this risk was increased up to 116-120 events per 10,000 patients treated per year.

Conclusions: Antihypertensive treatment is associated with an increased risk of SAEs, but the absolute risk of harm is very low. However, in older patients and those with severe frailty, this absolute risk is increased and physicians should take this risk into consideration when making prescribing decisions.

B100

Frequency of Fingerstick Glucose Monitoring Across Levels of Cognitive Impairment in Veterans Affairs Nursing Home Residents with Diabetes

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Background: Diabetes guidelines highlight tailoring glycemic targets for those with limited life expectancy, such as nursing home (NH) residents with cognitive impairment. One burden of greater treatment intensity is increased fingerstick (FS) glucose monitoring. Our objective was to examine FS frequency in Veterans Affairs (VA) NH residents with diabetes across levels of cognitive impairment.

Methods: We included individuals with Type 2 diabetes aged ≥65 residing in a VA NH for longer than 30 days between 2016 and 2019. NH residents were grouped by cognitive impairment status on the Cognitive Function Scale: cognitively intact, mild impairment,

moderate impairment, and severe impairment. We also categorized residents into mutually exclusive glucose-lowering medication (GLM) groups: no GLMs; metformin only; sulfonylureas/other GLMs but no insulin; long-acting insulin but no short-acting insulin; and short-acting insulin. Our primary outcome was mean number of FS on day 31 of NH admission.

Results: The study population included 13,637 NH residents (mean age 75 years, 19.4% Black residents, mean hemoglobin A1c 7.0%). On day 31, mean FS overall was 1.50 (SD=1.73) and varied from 0.39 for the no GLM group and 3.08 for the short-acting insulin group. The percentage of NH residents on short-acting insulin ranged from 22.7% in severe impairment to 33.9% in cognitively intact residents. The number of FS was higher in GLM categories with greater hypoglycemic risk regardless of cognitive impairment. On the test-of-trend, no statistically significant difference in FS was seen across levels of cognitive impairment in the short-acting insulin, long-acting insulin, and metformin groups. For example, mean FS with long-acting insulin was 2.06 in cognitively intact, 2.08 in mild impairment, 1.79 in moderate impairment, and 1.92 in severe impairment (p=0.19).

Conclusion: NH residents receive frequent FS monitoring regardless of level of cognitive impairment suggesting that cognitive status is a minor consideration in FS monitoring decisions. Future studies should determine whether decreasing FS monitoring in NH residents with moderate/severe cognitive impairment can reduce burdens without compromising safety.

B101

Change in Cognition Among Older Adults Six Months After Hospitalization for COVID-19

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Background: Infection with SARS-CoV-2 has been associated with risk of cognitive impairment (CI). Changes in cognition after hospitalization with COVID-19 among older adults have not been evaluated.

Methods: This abstract describes an interim analysis of data from VALIANT (COVID-19 in Older Adults: A Longitudinal Assessment), a study of 341 patients age ≥60 years hospitalized with COVID-19 at five Connecticut hospitals. Cognition was assessed during hospitalization and at 6 months post-discharge using the Montreal Cognitive Assessment 5-minute protocol (MoCA-5min); CI was defined as a score <22. Participants also underwent assessments of physical function, vision, hearing, health status, mental health, and symptoms. Demographic, comorbidity, and hospitalization data were supplied by an EHR-linked repository. We compared the prevalence of CI at baseline and six months post-discharge and used multivariable-adjusted logistic regression to evaluate demographic, clinical, functional, and psychosocial correlates of (1) CI during hospitalization and (2) resolution of CI at 6 months post-discharge.

Results: 208 participants were alive with complete cognitive data at the time of analysis. The mean age of the cohort was 70 (SD 8) years, 54% were women, 27% were from minoritized racial/ethnic groups, and 42% demonstrated CI during hospitalization. Participants with CI were more likely to be male (OR=2.26, 95%CI 1.08-4.77) and have physical disability (OR=2.11, 95% CI 1.00-4.46) or anxiety (OR=2.42, 95%CI 1.02-5.73). CI resolved by six months post-discharge in 61% (n=54) of participants with CI during hospitalization. Resolution of CI was more likely among participants with higher baseline MoCA-5min score (OR=1.39, 95% CI 1.08-1.79 per point) and participants with a college degree (OR=4.37, 95% CI 1.15-16.6). Age, sex, race, comorbidity burden, hospital length of stay, disability, health status, mental health, and symptoms were not significantly associated with resolution of CI.

Conclusions: CI was highly prevalent among older adults during hospitalization for COVID-19 and resolved in the majority of participants by six months post-discharge. Higher education and cognitive scores at baseline were associated with recovery of normal cognition, but clinical and functional characteristics were not.

B102 Encore Presentation

Distressing Symptoms Before and After Critical Illness among Community-living Older Adults

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Background: Older adults hospitalized with a stay in the intensive care unit (ICU) are at risk for developing distressing symptoms. Prior studies of ICU survivors have enrolled patients at hospitalization, making it difficult to determine how distressing symptoms change among older adults before and after ICU hospitalization.

Methods: From an ongoing cohort study of 754 community-living persons ≥70 years, 224 ICU admissions were identified from 197 ICU survivors(1998-2018). The occurrence of 15 distressing symptoms, based on the presence of restricted activity (defined as staying in bed for at least 1/2 a day or cutting down on usual activities because of the symptom), was ascertained in monthly interviews. The prevalence of distressing symptoms was calculated during the 6-months pre- and post-ICU hospitalization. Rates of all distressing symptoms per 100 person-months were calculated using Bayesian Poisson modeling and rate ratios for post-ICU rates relative to pre-ICU rates estimated with adjustment for demographics, comorbidities, mechanical ventilation use, and ICU length of stay.

Results: The mean(SD) age of participants was 84.4(6.0) years. Except for cold and flu, rates of all distressing symptoms in the post-ICU period increased relative to pre-ICU period. The adjusted rate ratios for post vs pre-ICU distressing symptoms ranged from 1.9 for musculoskeletal pain (95% CI:1.5, 2.4) to 3.5 for urinary problems (95% CI: 2.1, 6.1); 5.7 for memory and thinking problems (95% CI:3.4, 9.7); and 2.2 (95% CI:1.5, 3.2) to 2.6 (95% CI:1.7, 4.0) for depression and anxiety.

Conclusion: Distressing symptoms among older persons increase following ICU hospitalization. Most prominent increases were observed for memory and thinking problems, arm and leg weakness, and urinary problems. These findings underscore the importance of comprehensively assessing symptoms among older ICU survivors and the need to examine if these increases are associated with disability after ICU hospitalization.

B103

Functional Outcomes after a Long-Term Care Hospitalization: A National Cohort Study

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Background: Long-term care hospitals (LTCHs) provide post-acute inpatient care to the sickest patients. While LTCH's intended goal is to help patients regain independence, little is known about functional recovery of older adults in LTCHs.

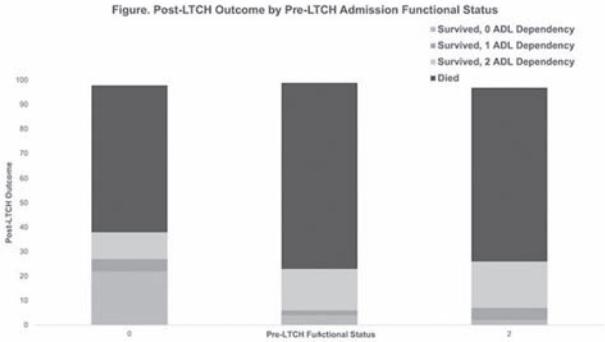
Methods: We linked the Health and Retirement Study, a national longitudinal cohort of US adults ≥50 yrs interviewed every 2 yrs, with Medicare claims to identify participants' first LTCH stay (2003-2016). Our primary outcome was favorable functional status within 2 yrs of hospitalization, defined as surviving with ≤1 ADL dependency. We described outcomes by pre-hospitalization function and identified

predictors of favorable functional status using multivariable logistic regression including pre-LTCH function and cognition, age, Lee index for 4-year mortality, ICU stay, and mechanical ventilation.

Results: Of 386 participants, the mean age was 75 yrs (±9), 51% were female, and 36% non-White. Overall, 21% had a favorable outcome (64.2% died; 14% survived with ≥2 ADL dependency). Of those with no ADL dependency pre-LTCH, 27% had favorable function vs 7% for those with ≥1 dependencies (Figure). On multivariable analysis, no ADL dependency and normal cognition or mild cognitive impairment pre-LTCH (OR:3.04,95% CI:1.56-5.90) and lower Lee index score (per point OR:0.83,95% CI:0.76-0.91) were associated with favorable function.

Conclusion: In this national study of older adults hospitalized to LTCHs, only 1 in 5 survived with a favorable functional outcome. Pre-hospitalization function and cognition and better prognosis for survival predicted functional independence after LTCH stay and should be considered in decision-making for older adults admitted to LTCHs.

Figure. Post-LTCH Outcome by Pre-LTCH Admission Functional Status



B104

Persistent Loneliness over 15 months of the COVID-19 Pandemic: A Prospective Cohort Study

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Background: Loneliness was common among older adults early in the COVID-19 pandemic due to physical distancing measures, but little is known about how loneliness persisted into later stages of the pandemic. We therefore examined longitudinal trajectories of loneliness over 15 months of the pandemic and subgroups at risk for persistent loneliness.

Methods: We used data from the COVID-19 & Chronic Conditions study collected between March 27, 2020 to July 15, 2021, including 640 older adults with ≥1 chronic condition who completed 5 interviews at approximately 3 month intervals. Participants reported loneliness (defined as some, most, or all of the time) during the past week due to COVID-19. We used trajectory mixture models to identify clusters of individuals following similar trajectories of loneliness, then determined subgroups likely to be classified in different loneliness trajectories using multivariate regression models adjusted for sociodemographic and clinical covariates.

Results: Participants were on average 63 years old, 61% female, 46% Black, 20% Latinx, and 29% were living below the poverty level. There was an overall reduction in loneliness over time (March to April/2020: 51% to July/2021: 33%, p=01). Using mixture models, two distinct trajectory groups emerged. The first (labeled: "*Persistently Lonely*") comprised 44% of the sample and had persistently high loneliness (>80%) that decreased only slightly over the 15 months. The second group (labeled: *"Not Lonely")* comprised 56% of the sample and were infrequently lonely (10-20%) over the study period. Subgroups at highest risk of the "*Persistently Lonely*" trajectory included those identifying as Latinx (aOR 2.3, 95% CI: 1.3,4.2), living below the poverty line (aOR 2.0; 95% CI: 1.3,3.3), or unmarried (aOR: 1.9, 95% CI: 1.3,2.8).

Conclusion: Although loneliness declined for a majority of older adults during the pandemic, a substantial minority (over 4 in 10 in our sample) experienced persistent loneliness, with identified subgroups at risk warranting future study. Results draw attention to needed clinical and policy interventions to address persistent loneliness amplified by the COVID-19 pandemic.

B105

Functional impairments before and after institutionalization

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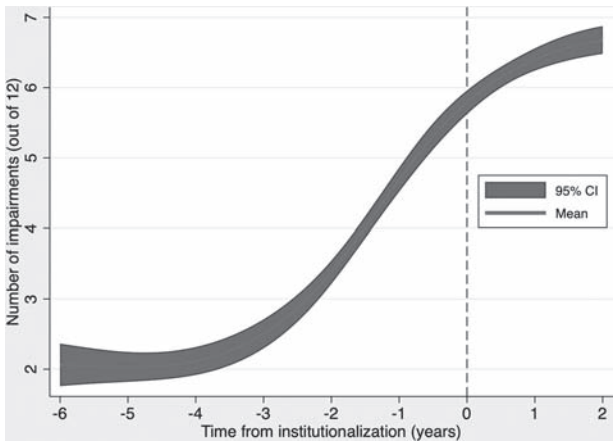
Background: Older persons with functional impairments often spend years debating if they should move to a nursing home (NH) or residential care facility for the elderly (RCFE), but studies empirically describing impairments in the years leading up to and upon institutionalization do not exist.

Methods: We assembled a cohort of older persons (n=946) who entered a NH or RCFE between 2011-2019 from the nationally representative National Health and Aging Trends Study. We followed them from up to 6 years prior to institutionalization and up to 2 years after. Our outcome (out of 12) was impairments, defined as difficulty or dependence in self-care activities (eg, eating, dressing), household activities (eg, shopping, banking) or mobility (eg, indoor, outdoor). We used linear regression and restricted cubic splines to model mean number of impairments over time.

Results: Mean age was 85.7 years (SD 7.0), 613 (65%) were female, 742 (79%) were White non-Hispanic, 337 (36%) entered an NH, and 609 (64%) entered an RCFE. Starting 4 years prior, the development of impairments accelerated until NH or RCFE entry. On average, persons were impaired in 2.1 activities (95% CI 1.9-2.3) four years prior, 3.4 (95% CI 3.2-3.5) two years prior, and 5.8 (95% CI 5.6-6.0) when institutionalized. Impairments plateaued after entry. In new residents, the most common impairments were in meal preparation (70%), bathing (66%), and outdoor mobility (65%).

Conclusions: Impairments develop over years prior to institutionalization. Upon entry, most persons get help with meals, bathing, and outdoor mobility. These descriptions could help geriatric clinicians provide guidance for this transition.



B106

Adding versus Switching to Memantine and Long-Term Nursing Home Admission in Patients with Dementia Using Cholinesterase Inhibitors

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BACKGROUND

Memantine is used to treat moderate-to-severe dementia in conjunction with a cholinesterase inhibitor (ChEI). Whether adding memantine ("adding" strategy) versus switching to memantine ("switching" strategy) in patients with dementia on ChEI therapy can delay long-term care institutionalization is unclear.

METHODS

This retrospective cohort study included fee-for-service Medicare beneficiaries with dementia who initiated memantine while receiving a ChEI in July 2014-December 2016. Patients were classified as following the "switching" strategy if the last day of ChEI prescription was within 15 days of memantine initiation, otherwise, the "adding" strategy. The date of long-term care institutionalization was defined as the 100th day in a nursing facility from Minimum Data Set. We performed 1:1 propensity score matching and compared the 1-year mean institutionalization-free days, death, and fall-related hospitalizations between the treatment strategies in the total population and subgroups defined by age, sex, dementia type (Alzheimer's disease vs other), and frailty status (claims-based frailty index ≥0.25, Kim 2018).

RESULTS

In the propensity score-matched cohort (n=1180), the number of long-term care institutionalization events was 70 (17.3 per 100 person-years) in the "adding" strategy and 60 (14.6 per 100 person-years) in the "switching" strategy, with no difference in the 1-year mean institutionalization-free days (adding vs switching: 332.3 vs 334.2 days; mean difference, -1.9 days [95%

confidence interval, -12.6 to 8.8]; p=0.725). The difference in the 1-year mean institutionalization-free days did not vary by age, sex, dementia type, or frailty status (all p>0.05). There were no differences between the two strategies in the rates of death (16.5 vs 14.2 per 100 person-years; p=0.391) and fall-related hospitalization (28.9 vs 24.4 per 100 person-years; p=0.231).

CONCLUSIONS

Adding memantine was not associated with a delay in long-term care institutionalization compared with switching to memantine in patients with dementia who were receiving ChEI therapy.

B107

Differences in Bone Mineral Density (BMD) and FRAX for US Asian and White Women

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BACKGROUND: Few studies have compared BMD and FRAX results in Asian and White women undergoing osteoporosis screening. Because Asian women have lower hip fracture risk, their FRAX score includes a 0.5 calibration factor. BMD is also lower in Asian women (due in part to smaller body size), but the BMD T-score uses the same non-Hispanic White reference for all women. Both BMD-osteoporosis (T-score ≤-2.5) and high FRAX score (FRAX-Hip ≥3%) identify women for osteoporosis therapy. We now compare these findings among Asian and White women from a diverse northern California healthcare population.

METHODS: A retrospective study examining femoral neck (FN) BMD and FRAX scores was conducted using data from Asian and White women aged 65-75y undergoing BMD screening in Northern California in 2016-2017. Women with osteoporosis treatment, recent fracture, metastatic cancer, kidney failure, or metabolic bone disorders were excluded. FN BMD T-scores (with osteoporosis classified as FN BMD T-score ≤-2.5) and FRAX scores for 10-year risk of hip fracture (FRAX-Hip) were obtained from BMD data, using the US Asian or Caucasian FRAX.

RESULTS: Among 3,640 Asian women and 11,711 White women age 65-75 years (both mean age 67±3y), Asian women had lower FRAX-Hip scores (median -1.8% vs -1.4%), but were more likely to have FN osteoporosis (24% vs 12%) and less likely to currently smoke (2% vs 4%), have a parent with hip fracture (6% vs 13%) or 2° osteoporosis (5% vs 6%); p<0.05. As previously reported, Asian women had lower height and BMI. Among the 867 Asian women with FN osteoporosis, 550 (63%) had FN T-score [-2.5 to > -3.0]; of these 550 women, only 65 (12%) had FRAX-Hip score ≥3%. Among the 1438 White women with FN osteoporosis, 996 (69%) had FN T-score [-2.5 to > -3.0]; of these 996 women, 778 (78%) had FRAX-Hip score ≥3%. Nearly all (99.8%) White women with FN T-score ≤ -3.0 had FRAX-Hip score ≥3% compared to 74% of Asian women with FN T-score ≤ -3.0.

CONCLUSION: Among Asian and White women with FN osteoporosis, two-thirds had a FN T-score between -2.5 and -3.0. Of these, FN BMD and FRAX-Hip scores aligned for osteoporosis treatment recommendation in 3 of 4 White women but only 1 in 8 Asian women. These findings indicate that in diverse clinical populations, primary care physicians will need more guidance in the management of osteoporosis for US Asian women who are at lower fracture risk.

B108 Encore Presentation

Tea is the Key! Green Tea Intake and All-Cause Mortality Over Five Decades in Japanese-American Men: The Kuakini Honolulu Heart Program

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Introduction: Previous studies have found that green tea intake is commonly associated with various health benefits. However, there are conflicting data on the relationship between green tea and reduced all-cause mortality, and studies have had limited follow-up. We examined the association between green tea intake and all-cause mortality over 49 years of follow-up in Japanese-American men.

Background: The Kuakini Honolulu Heart Program is a population-based, prospective cohort study in 8,006 Japanese-American men in Hawaii that began in 1965. Self-reported green tea intake was part of a Food Frequency Questionnaire during Exam 3 (1971-74), when 6,860 men participated. After excluding subjects with missing data on green tea, our analytic sample was N=5,944. Subjects were divided into 4 groups of green tea intake: None (0 oz/week), Low (1-29 oz/week), Intermediate (30-59 oz/week), and High (≥60 oz/week). All-cause mortality data were complete through December 2020, for up to 49 years of follow-up.

Results: Age-adjusted 49-year mortality rates significantly decreased from 46.4, to 44.9, to 44.3, to 44.2 per 1,000 person-years follow-up, in the none, low, intermediate and high green tea intake groups respectively (p for trend=0.0060). Multivariate Cox regression adjusting for age, BMI, physical activity, pack-years smoking, cholesterol, alcohol use, and prevalent hypertension, diabetes, coronary heart disease, stroke, cancer and lung disease, showed a decreased risk of all-cause mortality by increasing green tea intake: Low group HR=0.94, 95%CI=0.88-1.01, p=0.0965; Intermediate group HR=0.93, 95%CI=0.86-1.00, p=0.0657, and High group HR=0.91,

95%CI=0.85-0.99, p=0.0197, using No tea drinking as reference, p for trend across groups=0.0069. In contrast, black tea consumption was not associated with all-cause mortality.

Conclusions: Green tea consumption was associated with decreased all-cause mortality in Japanese-American men with a significant dose-response relationship, with lowest risk in the group who drank the most green tea (≥60 ounces/week, equivalent to at least a standard U.S. cup/day). The extremely long follow-up period of almost 5 decades makes this study unique.

B109

Recovery After Transfer to an LTCH for COVID-19 (RAFT COVID Study): A National Multicenter Cohort

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BACKGROUND: Severe respiratory failure is a major complication of COVID19 in older adults. Long-term care hospitals (LTCHs) play a critical role caring for those with the most severe and prolonged COVID19 illness, yet we know little of the post-acute sequelae of SARS-CoV-2 infection (PASC) including function, cognition, and psychiatric symptoms.

METHODS: We conducted a preliminary descriptive analysis of adults hospitalized for COVID19 who were transferred to one of 12 U.S. LTCHs between Mar 2020-Feb 2021, and completed a 6 or 12-month telephone or web-based survey in English as of Nov 2021. We assessed PASC using validated instruments, including quality of life (EQ5D; range 0-1), breathlessness (mMRC Dyspnea Scale; grade 1-5; higher being worse), functioning (Katz ADL), cognition (TICS), and psychiatric symptoms (PHQ9 for depression, GAD7 for anxiety, and IES-R for PTSD). Given similar findings at 6 and 12 months, we combined groups.

RESULTS: We included 148 participants (median age 64; 38% women; 37% non-White; 68% married; 39% completed college; 98% lived at home). 97% returned home. Among the 65% employed pre-illness, 59% returned to work. 70% reported not returning to their usual health. Compared to their pre-illness health, participants reported worse quality of life (pre-illness median of 0.80 to 0.66 at follow-up), more breathlessness (pre-illness: 15% ≥ grade 2 to 52% at follow-up), and worse functioning (pre-illness: 19% had ≥1 ADL difficulty to 63% at follow-up). Only 2% reported a history of dementia, but 18% had cognitive impairment (TICS≤30). Psychiatric symptoms were common (23% ≥moderate depression; 16% ≥moderate anxiety; and 16% had PTSD).

CONCLUSIONS: In this national study, after surviving a severe and prolonged COVID19 illness treated in an LTCH, participants had more breathlessness, worse quality of life, and greater burden of geriatric syndromes, including functional and cognitive impairment and psychiatric illness. Recovery did not improve at 12 vs 6 months, although these were different patients. Compared to post-ICU syndrome recovery literature, the burden of PASC appears similar. Recruitment is ongoing, with planned analyses to examine recovery by age, race/ethnicity, baseline health, and severity of COVID illness.

B110

Association of Antihypertensives with Cognitive Reserve in an Autopsy Cohort

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Background: Antihypertensives (AHT) increasing angiotensin-II mediated activity at the angiotensin-2 and angiotensin-4 receptors (AT2R/AT4R stimulating) may provide greater brain protection than those decreasing this activity (AT2R/AT4R inhibiting). We tested whether AT2R/AT4R stimulating AHTs (thiazides, dihydropyridine [DHP] calcium channel blockers, and angiotensin-1 receptor blockers) are associated with cognitive reserve as compared to AT2R/AT4R inhibiting AHTs (angiotensin-converting enzyme inhibitors, beta blockers, and non-DHP calcium channel blockers).

Methods: Observational community-based autopsy sample, Adult Changes in Thought enrollment cohort. We ascertained incident use of lifetime AHT medications (classified into AT2R/AT4R stimulating and inhibiting) from automated pharmacy and medical chart data, expressed as person-years of exposure (N=690). First, we predicted 5 measures of cognitive performance proximal to autopsy (overall: CASI; domain-specific: memory, executive function, language, visuospatial function) in separate models, by combined neuropathological measures (Braak stage, CERAD, amyloid angiopathy, cerebral microinfarcts). The residuals were operationalized as a measure of cognitive reserve. Second, we assessed the adjusted association of AT2R/AT4R stimulating AHTs with cognitive reserve. We used inverse probability weights to account for selection into the autopsy cohort and bootstrapping for statistical inferences.

Results: Mean age at death was 89 years; 59% were women. After a mean of 20.9 years of follow-up, participants had on average 9.2 person-years of AT2R/AT4R stimulating exposure and 10.8 person-years of AT2R/AT4R inhibiting exposure. Adjusted models revealed no association between AT2R/AT4R stimulating use and cognitive reserve per overall cognitive function (CASI) or memory, language, or visuospatial domain-specific function. AT2R/AT4R stimulating AHTs use was statistically significantly associated with greater cognitive reserve defined with respect to executive function (beta=0.016 per each additional person-year of AT2R/AT4R stimulating use; 95% CI=0.0015-0.03; *P*=0.03).

Conclusions: AT2R/AT4R stimulating AHT use was associated with greater executive function-defined cognitive reserve.

B111

Development and Validation of ICD-10-CM Elixhauser Summary Comorbidity Score

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Background: The Elixhauser comorbidity score is commonly used method to measure comorbidities in older adults. Recently, the Agency for Healthcare Research and Quality updated the Elixhauser comorbidity indicators for ICD-10-CM coded data which now includes 38 individual conditions, but a summary score is not available. We developed and validated an Elixhauser summary score to predict 30-day mortality and compared its performance with existing comorbidity measures in hospitalized patients and three disease-specific hospitalized populations.

Methods: This retrospective cohort study used Medicare claims for fee-for-service beneficiaries from 2017 to 2019. We included Medicare beneficiaries hospitalized in 2018 (n=899,844) and subsets

with heart failure, chronic obstructive pulmonary disease or diabetes mellitus. We used logistic regression and derived weights for 38 comorbidities to predict 30-day mortality. We performed 10-fold cross-validation to internally validate the Elixhauser summary score, and compared observed and predicted mortality to evaluate calibration. We used c-statistics to compare the summary score's performance against the Elixhauser comorbidity indicators (38 comorbidities), the Charlson comorbidity indicators (17 comorbidities) and the Charlson summary score in predicting 30-day, in-hospital and 1-year mortality.

Results: Overall, 7.3% individuals died within 30-days of hospital admission. In-hospital and 1-year mortality rates were 2.9% and 22.0%, respectively. The Elixhauser summary score was well calibrated and showed slightly greater discrimination in predicting 30-day mortality (c-statistic 0.706, 95% confidence interval [CI] 0.704-0.708) than the Charlson comorbidity indicators (c-statistic 0.696, CI 0.694- 0.698) and the Charlson summary score (c-statistic 0.690, CI 0.688-0.693), but less discrimination than the Elixhauser comorbidity indicators (0.711, CI 0.709-0.713). Similar findings were observed for in-hospital and 1-year mortality. In three disease-specific populations, the Elixhauser summary score performed equally well or better than both Charlson comorbidity measures.

Conclusions: Our newly derived Elixhauser summary score may be useful to control confounding due to comorbidities and risk stratify patients based on comorbid burden.

B112 Student Presentation

Disparities in Advance Care Planning Among Older US Immigrants in a Nationally Representative Sample

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Background: Despite known racial disparities in advance care planning (ACP), little is known about ACP disparities experienced by US immigrants. We determined the prevalence of ACP by US immigration status and years in the US, a measure of acculturation.

Methods: We used data from the 2016 Health and Retirement Study, a nationally-representative survey of 9,938 English- and Spanish-speaking community-dwelling adults age ≥65. We defined ACP engagement as self-report of at least one of the following: end-of-life (EOL) discussions with family or friends, designation of a power of attorney (DPOA), and/or a documented living will. For immigration status we asked, "Were you born in the United States?" If they answered "no," we then asked the number of years they have lived in the US. We used logistic regression to determine the association between ACP engagement and immigration status, and the relationship of acculturation to ACP engagement, after adjusting for variables shown to be associated with ACP, including race, ethnicity, marital status, number of children, religious attendance, education, assets, and life expectancy (validated Lee prognostic index that includes age, sex, health conditions, and functional status).

Results: Of the cohort, 1,177 (9.5%) reported being an immigrant; 651 (47%) of immigrants identified as Hispanic. The prevalence of overall ACP engagement was lower for US immigrants vs non-immigrants (58% vs. 83%, p<0.001). After adjustment, immigrant status was significantly associated with lower overall ACP engagement (aOR=0.66, 95% CI: 0.59-0.84) and lower EOL discussions (aOR=0.63, 0.50-0.79), with a non-significant lower engagement of DPOA designation (aOR=0.79, 0.60-1.03) and living will documentation (aOR=0.88, 0.67-1.14). Among immigrants, each year in the US was associated with a 4% increase in the odds of overall ACP engagement, ranging from 29% 5 years after immigration to 67% after 50 years and 83% after 75 years.

Conclusion: ACP engagement was lower for older adult US immigrants compared to those born in the US, particularly for those that recently immigrated. Efforts to reduce disparities in ACP should consider immigration status and acculturation. Further studies should explore the unique ACP needs of different immigrant populations.

B113 Resident Presentation

Assistance Networks for Black and White Older Adults during the COVID-19 Pandemic

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Background: The COVID-19 pandemic has disproportionately impacted older Black Americans. Given that assistance networks play a crucial role in older adults' ability to respond to challenges, we sought to investigate whether size of assistance networks for older adults changed during the COVID-19 pandemic and whether these changes differed by race.

Methods: Data came from the National Health and Aging Trends Study (2018, 2019, and 2020). Participants included Black and White adults aged 70 and older living in the community or residential care in the United States. We used ordinary least squares regression to compare change in the size of assistance networks, as well as number of family, unpaid nonrelative, and paid helpers, between the pre-COVID-19 period (2018-2019, N = 3,439) and the COVID-19 period (2019-2020, N = 3,186).

Results. Black older adults had larger assistance networks with a greater number of family helpers before and during the pandemic compared to their White counterparts. Assistance network size for older adults decreased during the pandemic mostly due to the loss of unpaid nonrelative and paid helpers, but the reduction did not significantly differ by race (Table 1).

Conclusions. Black and White older adults experienced a similar reduction in their assistance network size during the COVID-19 pandemic. Further research is needed to investigate the relationship between the assistance network changes observed in this study and unmet needs for community-dwelling older adults.

Table 1. Size and Change in Pre-COVID-19 (2018-2019) and COVID-19 (2019-2020) Assistance Networks by Race

	Pre-COVID					COVID				
	Black		White			Black		White		
	Mean	(SD)	Mean	(SD)		Mean	(SD)	Mean	(SD)	
Number of helpers										
Baseline	1.99	(2.16)	1.72	(1.06)	***	1.97	(2.22)	1.76	(1.07)	**
Follow-up	2.14	(2.32)	1.81	(1.11)	***	1.95	(2.01)	1.73	(1.02)	**
Changes (follow-up-baseline)	0.15	(1.96)	0.09	(1.11)	ns	-0.02	(1.92)	-0.03	(1.07)	ns

**** p < .01 *** p < .001**

Source: National Health and Aging Trends Study

B114

Factors Contributing to High-Intensity Care for Patients with Advanced Dementia

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Background: Patients with advanced Alzheimer's disease and related dementias (AD/ADRD) are receiving mechanical ventilation and other treatment in the intensive care unit (ICU) at sharply higher rates than they were twenty years ago. This phenomenon is poorly understood.

Methods: Using data from the Department of Veterans Affairs and the Centers for Medicare and Medicaid Services, we identified Veterans with advanced AD/ADRD who lived in nursing homes and died in 2013 (n=5,150). Veterans were classified as having advanced AD/ADRD if two Minimum Data Set assessments in the last six months of life recorded a diagnosis of dementia, dependence in all activities of daily living, and a Cognitive Performance Scale score

of 5-6. We used procedure codes to identify those who received care in an ICU, were intubated, or underwent cardiopulmonary resuscitation in the 30 last days of life, restricting the sample to Veterans who received these treatments at a VA hospital so that we could access the electronic health record (n=43). We conducted in-depth chart reviews to construct narratives of each patient's illness and to describe the decision to pursue high-intensity care, then used open and axial coding to identify themes, including common paths to such treatment.

Results: The median age was 85 years (IQR, 78-89 years), 98% were men, and 28% were non-White. A living will expressing a preference to limit treatment under some circumstances was available for 26.8% of patients. There were four distinct pathways to delivery of high-intensity care. The most common was that emergency department-to-ICU transfers occurred reflexively, without discussion first with the patient's family (36.6%), followed by situations in which the family struggled with decisions and, despite discussions with providers, did not limit treatment until after high-intensity care had occurred (31.7%). There were cases in which high-intensity care was delivered because information about the patient's preferences was poorly communicated or unavailable (17.1%). The least common situation was that the patient's family advocated for high-intensity care under all circumstances (14.6%).

Conclusions: It was unusual for patients with advanced AD/ADRD to receive high-intensity treatment because their family members had a strong belief that such care was appropriate. Decision-making often appeared to be influenced by provider- or system-level factors.

B115

Development of a portal-based Advance Care Planning tool for community-dwelling persons living with cognitive impairment

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Background: Patient portals can be an innovative and efficient way to engage patients in advance care planning (ACP), however, the use of technology in older adults with cognitive impairment presents several barriers and challenges. Our objective was to develop a portal-based Advance Care Planning Tool (ACPdSmart) for community-dwelling persons living with mild cognitive impairment (MCI) or dementia by engaging end-users in the design process.

Methods: The ACPdSmart Tool was developed in 2 stages. Firstly, questions were vetted with members of the patient and family advisory panel (n=10), palliative care experts (n=4), a chaplain, and an ethicist. Secondly, cognitive interviews were conducted using purposive sampling with 30 participants (10 with MCI and 10 with mild dementia and their care partners) to assess respondents' understanding of questionnaire items. Trained interviewers conducted two rounds of cognitive interviews using a semi-structured script via Webex to identify and resolve cognitive issues related to comprehension and response, and to assess content validity using concurrent verbal probing.

Results: Thirty participants were enrolled from May 2021 to October 2021. Mean age was 79.7 years (SD 6.9), 66% were female, and 25% were African American. Mean Mini-Mental State Examination score was 25.6 (SD 2.6). Unclear wording and undefined vague and/or unfamiliar terms were the major issues identified. Revisions to item wording, format, response options, and instructions were made to improve navigational ease as well as question comprehension and response.

Conclusion: Overall, participants were receptive to the ACPdSmart tool and demonstrated comprehension of tool items. The ACPdSmart tool can be utilized as a standardized tool to accelerate ACP among community-dwelling older adults with cognitive impairment.

B116 Student Presentation

Association of Baseline Education and Income with Resilience in Adult Advanced Kidney Disease Patients

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Background: Resilience is a protective factor in aging successfully, which may have relevance in dialysis patients who experience accelerated aging because of the significant strains associated with dialysis. Low resilience is associated with poor health and psychosocial outcomes including an increased risk of disability. There have been very few studies conducted chronicling the link between factors such as income and education and resilience, especially in the context of kidney disease patients.

Methods: 50 English speaking new dialysis patients and 25 Stage 4-5 CKD control patients over the age of 60 were recruited. Baseline questionnaires captured demographic data. Resilience was measured using the Resilience Scale, a validated 25-item questionnaire, where each item is scored 1-7 Likert scale. Baseline kidney disease quality of life was measured by the KDQOL-36 and broken into physical and mental quality of life composites. Bivariate linear regression analyses were conducted to determine the association of baseline characteristics with resilience.

Results: Among 67 patients with mean age 67.91, 46.3% female, baseline resilience scores on scale 25-175 was mean 147.44 ±18.01 (SD). Scores were similar in dialysis and CKD patients (p=.33). Higher income (r=.01) was not associated with resilience among either group. In dialysis patients, KDQOL mental composite (r=.28) and the Short Physical Performance Battery score (r=-.34) were associated with resilience. In CKD patients, education (r=-.39), age (r=.50), and the KDQOL physical composite score (r=.45) were associated with resilience.

Conclusions: Income and education did not have any association with resilience scores suggesting that members from lower income are not at an inherent disadvantage of worse patient outcomes because of their level of resilience. Differences in mental composite score in dialysis vs CKD could be explained by the emotional resilience and strength of an individual who agrees to undergo dialysis. Physical composite scores may be higher in CKD vs dialysis group because of the physical stress of dialysis. Further studies are needed to corroborate our findings.

B117

Evaluating the Severity of Caregiver Burden in Dementia

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BACKGROUND:

Adult children, spouses, and other family members often take the role of informal caregivers for persons with dementia. Caregiving requires time, emotional/physical commitment, and financial resources. As the severity of dementia progresses, caregivers face increasing levels of burden. While there are support services available for caregivers, they are often inadequate. This pilot study evaluated the severity of caregiver burden in comparison to the relationship of the caregivers and the patient's severity of dementia. The goal of the study is to better understand how dementia progression and relationships contribute to caregiver burden.

METHODS:

60 patients were enrolled over a 12-month period from a memory clinic in a community hospital in Western North Carolina. A correlation study was conducted to evaluate a validated Modified Caregiver Strain Index (MCSI)[1] with dementia severity utilizing the functional assessment stage (FAST) and Montreal Cognitive Assessment (MoCA) score. Caregiver relationship was also observed in comparison to MCSI severity.

RESULTS:

A statistically significant positive correlation was observed between the MCSI severity and FAST severity (n=57, rs=0.510, $p=5\times10^{-5}$). There was no statistical significance comparing MCSI score to the MoCA score (n=52, rs=-0.208, p=0.138). In comparing caregiver relationship, children on average (x=11.2, σ=5.97) had higher MCSI scores than spouses (x=8.00, σ=6.00).

CONCLUSIONS:

This pilot study demonstrates a relationship between functional decline in dementia and caregiver burden. Relationship to the patient also influences caregiver burden. Findings suggest that with progression of dementia, caregivers may need additional screening for burden and support.

REFERENCES:

1. Thornton M, Travis SS. Analysis of the reliability of the modified caregiver strain index. J Gerontol B Psychol Sci Soc Sci. 2003 Mar;58(2):S127-32. doi: 10.1093/geronb/58.2.s127. PMID: 12646602.

Caregiver Burden Severity Data

Sample Demographics N=60; Age μ=80; Female 38 (63.3%), Male 22 (36.7%)		
MCSI Severity correlated with Dementia severity	**Spearman Rho (rs)**	**P-value (p)**
MCSI and FAST (n=57)	0.510	5×10^{-5}
MCSI and MoCA (n=52)	-0.208	0.138
MCSI and Caregiver Relationship	**Average MCSI (x)**	**Standard Deviation (σ)**
Spouse (n=18)	8.00	5.84
Child (n=27)	11.2	5.86
Grandchild (n=4)	2.75	2.16
Sibling (n=4)	12.3	4.44
Other (n=3)	8.67	7.59

B118 Resident Presentation

Impact of COVID-19 on Goals of Care in Skilled Nursing Facilities (SNF)

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Background: COVID-19 has majorly impacted the healthcare system and society. Older adults living in SNF suffered high mortality and serious restrictions. During the pandemic, we found more individuals declining hospitalization and life sustaining treatments, leading to an outreach effort to clarify goals of care. We aim to quantify the changes in goals of care to better understand this trend.

Methods: Retrospective chart review of long-term care patients (admitted for long term care or a stay >100 days by March 1st, 2020) in SNFs in Southeast Minnesota who were alive on July 1st, 2020. Exclusions included short term rehabilitation or hospice status. We compared code status, provider order for life sustaining treatment (POLST) and advance care planning (ACP) notes before and after March 1st. Primary outcome was the number of residents with a change in goals of care.

Results: We included 208 long term-residents who were alive on July 1st, 2020. Average age was 83.5 years and 67% were women. Most residents had an advance directive on file prior to the pandemic; 208 had code status, 190 had POLST forms, and 103 had ACP notes. Before the pandemic, 157 residents had either DNR or DNR/DNI orders in place. After March 1st, 34 residents (16.3%) deescalated code status; 28 from Full Code (FC) to DNR/DNI, 1 from FC to DNR and 5 from DNR to DNR/DNI. Deescalation in goals of care was noted in 32 of 64 POLST forms completed after March 1st. Goals of care remained unchanged for 25 residents, of whom 12 had previously documented comfort care approach. Limitations include inability to capture patients who died between March 1st and July 31st and possible missing ACP notes not in the structured format.

Conclusion: The threat of COVID-19 led many SNF residents to prefer a comfort focus avoiding hospitalization and advanced life support. While patients may have overestimated their COVID-19 mortality risk and thus potentially opted out of life saving interventions, this population was also frail with mostly conservative goals of care prior to the pandemic. Thus, opting for comfort care likely best fit their goals of care. Better understanding of how COVID-19 impacted goals of care and outcomes of SNF residents can help future pandemic response.

B119

Transforming a Business Negotiation Framework to Resolve Conflicts between Older Adults and Caregivers

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Background: Family caregivers frequently facilitate, oversee, or provide direct care to their loved ones with Alzheimer's disease (AD). Our prior research has shown that family caregivers often act as "helicopter advocates" or patient navigators, interacting with the health system for a multitude of conflicts (e.g. determining if a test/medication/hospitalization is necessary, responding to insurance denials, billing errors, home health extensions, scheduling issues). Family caregivers often experience frustration, anxiety, and stress as they deal with conflicts and may also lack formal training in conflict resolution.

Methods: We convened an interdisciplinary team comprised of a social worker, geriatrician, business negotiation experts, and a community-based family caregiver panel (N= 9; Illinois, Florida, New York, California) to examine current communication frameworks and applicability to three caregiver conflicts: caregiver-older adult (CA), caregiver-healthcare provider (CH), and caregiver-caregiver (CC). Caregivers provided relevant dialogue surrounding potential scenarios. Qualitative analysis (constant comparative analysis with thematic analysis) was performed by grouping the responses into the themes of the framework. Further dialogue was ascertained from the group to augment the framework matrix.

Results: The caregiver panel generated the following number of responses for the conflicts: CA (n=97), CH (n=80), and CC (n=75). Thematic analysis revealed that the responses fit the Interest-Rights-Power (IRP) framework for resolving conflict. IRP framework was then applied to real-world conflicts and deemed best fit, through consensus, for characterizing negotiations for caregivers of older adults with AD.

Conclusion: The Interests-Rights-Power (IRP) framework provides a good fit for resolving caregiver conflicts with older adults, providers, and other caregivers. The framework provides a tool to examine the IRP of the involved parties (e.g. caregivers, older adults, and providers) and determine goals, outcomes, and strategic movements to interest. Future research will examine the application of the IRP framework in the negotiation training of caregivers of older adults.

B120

Circular Decision Making Surrounding Long Term Care Planning for Alzheimer's Disease.

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Background: Older adults often do not consider what will be needed for their future long term care (LTC) if they develop Alzheimer's disease (AD) or have increasing support needs. We sought to longitudinally understand decision making about LTC, in the event of developing AD.

Methods: The PlanYourLifespan (PYL)-LitCog study is examining the longitudinal LTC decision making processes among a cohort of older adults age 65 and older, who have bi-annual cognitive assessments. PYL is a planning tool that has been shown effective in helping older adults learn about LTC options and facilitate planning. Subjects were surveyed at baseline (BL), administered PYL, and then re-surveyed at 1 and 6 months. Questions were asked about whether they had contemplated or made decisions about their LTC planning in the event of AD and to describe the decisions. Responses were analyzed using a mixed-methods approach with open-ended responses were coded by three coders using constant comparative analysis.

Results: Of the 293 subjects surveyed, mean age was 73.0 years, 72.7% (213) female, 40.4% (118) under-represented minority. At baseline, 41.4% (121) had made AIP-LTC decisions in the event of AD, while 58.6% (171) were contemplative. At 1 month, 43.1% had made decisions while 56.7% were still contemplative. Decision patterns fluctuated over the following 6 months. Notably, 20.1% (59) subjects changed decisions in a circular pattern (e.g. from a BL "Yes" (made LTC decision) to a 1 month "No/don't know" to a "Yes" (made LTC decision)). Circled decisions (Yes-No-Yes) thematically included changing LTC location: 1.)(BL) I would like to stay at home as long as I could and bring in healthcare workers. (1 mo.) Don't know. (6 mos.) I would go to an assisted living facility. 2.)(BL) I would want to move into a long term care community. (1 mo.) No decision. (6 mos.) I would prefer to be living in my own home. 3.)(BL) To live at home with assistance. (1 mo.) Don't know. (6 mo.) I don't want to be in a facility … feels like in a prison due to the pandemic. I know I want to stay at home.

Conclusion: Instead of a linear process (pre-contemplative, comptemplative, decision), LTC decision making for AD can fluctuate and display circular change patterns over a six month period. Future studies are being conducted on experiences that influence older adults changing LTC decisions.

B121

Physician perspectives on using life expectancy to inform cancer screening decisions in older adults – results from a national survey.

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Background: Guidelines recommend against routine screening for breast, colorectal, and prostate cancers in older adults with <10-year life expectancy but many of these older adults continue to be screened. Literature suggests that physician recommendation is an important driver. A prior qualitative study suggested that physicians may disagree with the framework of using limited life expectancy to guide cancer screening cessation. We aimed to examine physicians' perspectives on this topic in a national survey.

Methods: In a mailed survey of 1800 primary care physicians (PCP) and 600 gynecologists randomly selected from the AMA Masterfile, we assessed, on a 5-point Likert scale, the extent that physicians agreed with various statements developed based on the prior qualitative study; statements described a) the potential benefits and concerns around using <10-year life expectancy to guide stopping screening, and b) the potential benefits and concerns if interventions were to reduce over-screening in older adults with limited life expectancy.

Results: Excluding 583 ineligible physicians, 777 (42.8%) responded to the survey so far (data collection ongoing). Participants were mostly men (54.5%) and white (67.0%) with average age 51.3 years. Results were consistent across cancer screening types but differed by physician specialty. Although most (80.1% PCPs, 58.8% gynecologists) believed that 10-year life expectancy was a reasonable criterion for stopping screening, many had concerns that using life expectancy as a metric may introduce bias against racial/ethnic minorities (43.1% PCPs, 57.1% gynecologists) or those with low socioeconomic status (47.7% PCPs, 58.8% gynecologists). Only 40.2% of PCPs and 27.1% of gynecologists believed that over-screening was a significant problem in older adults. 52.8% of PCPs and 77.3% of gynecologists were concerned that efforts to reduce over-screening may reduce appropriate screening and 48.3% of PCPs and 73.1% of gynecologists believed that it was more important to not miss cancers than to avoid over-screening.

Conclusions: Many physicians had concerns about using life expectancy to guide cancer screening cessation and most did not perceive over-screening to be a significant problem in older adults. Addressing the potential disconnect between guideline recommendations and physician attitudes and beliefs is critical step to promote appropriate cancer screening.

B122

Ethical Considerations for Optimal Medication Management in Dementia

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Background. Deprescribing can help avoid adverse effects and improve outcomes for patients with dementia. We investigated barriers that affect deprescribing decisions for this population.

Methods. Using data from the American Medical Association Physician Masterfile, we conducted a national survey of primary care physicians. Participants were randomly assigned to a scenario that either depicted no benefit from medication or increased risk of an adverse drug event, and were prompted to choose the biggest and smallest barriers to deprescribing amongst a series of 9 attributes considering the patient's culture, perception of symptom management, role of other prescribing physicians, risk factors, quality metrics, familial input, and financial burden. Best-worst scaling was used to quantify respondent preference and ranged from -4 to 4. Choice behavior was analyzed using a conditional logit regression model (ref= financial burden).

Results. Of 3000 invited physicians, 442 surveys were excluded as undeliverable or ineligible (i.e., retired) giving a response rate of 33.7% (863/2558). Of the sample, 42% were female, 75% spent >75% of time in outpatient care, and 49% have experienced an adverse outcome after deprescribing. Of the 79% with all survey items completed for the adverse event scenario, participants ranked selections which focused on self-reported benefit of medication for symptoms (conditional logit parameter 3.49, ± 0.08), medication prescribed by a different physician (2.77, ± 0.07), and the threat to patient stability (2.17, ± 0.07) as the biggest barriers to deprescribing. Conversely, financial burden (referent), time constraints with discussing medication discontinuation (0.74, ± 0.07), and achieving quality metrics (0.82, ± 0.07) as the smallest barriers.

Conclusions Physicians find it hardest to deprescribe medications when the patient reports deriving symptomatic benefit when another clinician prescribed it, or when stopping the medication might result in clinical instability.

B123

Pre-Operative Biological Age Advancement is Associated with Longer Post-Operative Length of Stay.

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Surgery in older adults is associated with an increased risk of complications, likely due to vulnerabilities associated with biological aging. Biological age (BA) measures may identify older adults at increased risk of post-operative complications. Multiple methods have been proposed to quantify BA, including clinical biomarker-derived measures constructed from clinical chemistries and clinical blood counts. The objective of this analysis was to determine 1) the association of pre-operative BA advancement (BA – chronological age; BAA) with American Society of Anesthesia Classification (ASA score) and 2) whether greater BAA is associated with post-operative length of stay (LOS).

The One Thousand Patient Project (1KPP) is a longitudinal cohort study of Duke patients presenting for elective surgery with the goal to define the biological responses to surgery. We analyzed three clinical-biomarker-algorithm methods to quantify BA in 263 1KPP participants (Mean Age=57.85±13.94; 47.5% Female; 20% African-American). Klemera–Doubal method (KDM) BA and homeostatic dysregulation (HD) were parameterized from analysis of U.S. National Health and Nutrition Examination Surveys (NHANES3) data based on published methods. Levine-method Phenotypic BA (PhenoAge) was adapted from a published analysis of NHANES data. We used multinomial logistic regression to determine the association of BAA with ASA score. We computed quartiles of BAA and used negative binomial regression to determine whether greater BAA was associated with increased LOS. All analyses were adjusted for age, sex, and race.

1KPP participants had greater BAA by all measures (KDM BAA=2.55±12.87 years; HD = 2.13±1.05; PhenoAge BAA=1.38±8.31). 1KPP participants with greater HD or PhenoAge BAA were more likely to be assigned an ASA Score of III or IV compared to I (all $p<0.05$); 1KPP participants with greater KDM BAA were more likely to be assigned an ASA score of III compared to I ($p=0.046$). Greater PhenoAge BAA was associated with longer LOS (IRR=1.08 95%CI[1.00,1.16]; $p=0.045$), adjusting for procedure type.

In conclusion, clinical biomarker-derived measures of BAA were associated with ASA Score and greater PhenoAge BAA was associated with longer LOS. Clinical biomarker-derived BA measures may identify surgical patients at increased risk of post-operative complications.

B124

Aged mice exhibit significantly greater myeloid-derived suppressor cells and display increased glycolytic capacity and CD38 expression

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Background

Inflammaging is increasingly recognized as a driver for age-related diseases and includes the expansion and activation of monocytic myeloid-derived suppressor cells (MDSCs). MDSCs suppress acute inflammatory responses, but may undergo metabolic dysfunction that leads to inflammaging. MDSCs have been studied as a potential target for cancer, but have not been explored in a model of aging. MDSC metabolism depends upon Sirtuin1 signaling, an NAD+ dependent deacetylase, and which immune regulator CD38 competes for available NAD+. The goal of this study is to investigate MDSCs during aging and the underlying metabolic and transcriptomic changes.

Methods

Cells were isolated from bone marrow, spleen, and blood from 6- and 24-month-old male C57BL/6JNIA mice, and flow cytometer analysis was performed. Glucose metabolism of magnetically sorted MDSCs was assessed using a Seahorse XFe24 extracellular flux analyzer. Transcriptomic profiling of MDSCs was performed with NextGen sequencing.

Results

Splenic and circulatory MDSCs are increased by 40% and 70%, respectively, in aged mice but not in the bone marrow. In contrast, the T cell population (T cytotoxic and T helper cells) was decreased in the spleen and blood. The MDSCs from aged mice bone marrow and spleen exhibited greater glycolytic capacity (27% and 246%, respectively) and increased expression of glucose metabolism genes than did MDSCs from young mice. In addition, MDSCs from aged mice expressed less Sirt1, whereas the NAD consuming enzyme CD38 was increased 3-fold in aged mice MDSCs.

Conclusion

Aged mice exhibit significantly more MDSCs and fewer T-Cells in both spleen and blood. The MDSCs from the aged mice display greater glycolysis and glycolytic reserve. Furthermore, there was reduced Sirt1 gene expression in the aged mice MDSCs and increased CD38 gene expression. As CD38 plays a vital role in NAD+ decline, which contributes to age-related diseases, future studies will investigate whether NAD+ replenishment or knockout of CD38 reduces MDSC abundance and activation, and curtails the increased consumption of NAD+.

B125

Analysis of fifteen sirtuin gene isoforms in the mouse genome

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Background: Sirtuin (SIRT) proteins are a highly conserved family of NAD+-dependent deacetylases that regulate histones as well as non-histone proteins. There are seven sirtuin genes in the mammalian genome. Every sirtuin gene contains multiple exons, and usually undergoes alternative splicing. The role of sirtuin in protein acetylation has been extensively studied, but transcriptional regulation of sirtuin genes remains incomplete. We have previously reported that serum response factor (SRF) binds to the CArG motif sequence of sirtuin-2 (SIRT2) gene promoter, and regulates the SIRT2 gene via transcriptional regulation. We hypothesize that other sirtuin genes may contain SRF binding sites and that transcriptional regulation via the binding sites may be influenced by cellular stress.

Methods: The mRNA transcript and DNA sequences of mouse sirtuin genes were obtained from NCBI database. The isoform, promoter sequences, and intracellular localization signals were analyzed. Additionally, a cell model of serum deprivation and serum restoration was used to reflect blood supply and nutrients level changes in the ischemia and reperfusion condition. The expression of all sirtuins was confirmed by quantitative RT-PCR.

Results: We identified 15 mouse sirtuin gene isoforms, half of which have not been reported. The nuclear localization signal, and nucleolar localization signal were found in SIRT1v1, SIRT1v2, SIRT6v1, SIRT6v2, SIRT7v1, and SIRT7v2. The mitochondrial targeting sequence was found in SIRT3v1, SIRT3v2, SIRT4v1, SIRT4v2, and SIRT5. In serum stress conditions, three SIRT2 isoforms, and SIRT3, SIRT3, SIRT5, SIRT6 were highly expressed under serum deprivation (6 h); three SIRT1 isoforms, SIRT2v3, and SIRT6, SIRT7 were highly expressed in response to serum restoration (48 h). The CArG-like motif sequence was found in all seven sirtuin genes. Additionally, a classic CArG motif was found in sirtuin-5 gene promoter.

Conclusions: Alternative splicing increases transcriptome and proteome diversity. Serum deprivation and restoration differentially impact the expression of sirtuin isoforms. Our results will help to elucidate the role of sirtuin genes in the regulation of cellular stresses, including ischemia and reperfusion. In addition, SRF may regulate sirtuin genes via directly binding to the sirtuin promoter. Further investigation is warranted.

B126

Truth or Dare the Geriatrician Way: Utilizing gamification to enhance learning

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Background: As the population ages, there is an increasing need for physicians to become *little* g geriatricians who provide competent and effective care to older adults; however, gaps in proficiency remain when trainees start residency. At our institution, a curriculum based on the 5Ms and geriatrics for the specialist were created to address these gaps in internal medicine interns. Didactics and gamification were utilized for learner engagement. A Mobility Truth or Dare Game (MTDG) was created to follow a Falls and Mobility didactic with the aim of improving intern knowledge.

Methods: The MTDG consists of a deck of 30 cards equally divided between Truths and Dares with point values based on difficulty. Truth Cards consist of true or false knowledge-based questions and Dare Cards consist of more difficult knowledge questions and physical challenges (e.g adjusting a walker). Players took turns drawing cards and completing the activities, with the player receiving the highest point value winning a prize. The games were lead by geriatricians and fellows using the included teacher's guide and was repeated with 5 groups of interns. The game was evaluated by learners regarding the content and usefulness of the MTDG following the session. Additionally, as a part of the larger 5Ms curriculum, interns took a pre-post knowledge test with falls specific questions from Medical Knowledge Self Assessment Program (MKSAP).

Results: Of the 28 interns participating across the 5 sessions, > 88% rated the content of the game highly with an average score of (4.3 +/- 0.9). 84% of interns and 100% of faculty rated the game as a useful learning experience. Intern responses to the MKSAP falls questions increased from 64% to 70% correct (p=0.16). Intern comments were positive: "loved it!" "fun" "interactive" "effective," and "should do it again."

Conclusions: The MTDG was well received among interns and faculty. Additionally, it may have been related to a nearly significant improvement in falls related knowledge seen on course pre-post testing. The MTDG was implemented by different faculty and fellows using a teacher's guide and can easily be exported for use at other institutions.

B127 Student Presentation

Interprofessional Teamwork Makes the Geriatric Dream Work: Health Profession Student Exposures to Interprofessional Education and Geriatric 4Ms

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Background: Interprofessional (IP) education (IPE) is vital to prepare health profession students to care for older adults. However, IP training and geriatrics education has been limited in professional schools' curricula. This study evaluated interprofessional education (IPE) and geriatric 4Ms exposure in health profession students and planned application of IP skills.

Methods: 747 medical, nursing, and social work students participated in a virtual IP clinical geriatrics activity from 10/2020 to 7/2021. The activity involved students meeting in virtual IP teams (IPT) to create a comprehensive IP care plan based on geriatric 5Ms, followed by a faculty-led debrief. Students completed pre-activity surveys to assess prior exposure to TeamSTEPPS, formal IPE training, IPT meetings, and geriatric 4Ms (1=yes, 2=no). In a post-activity survey, students identified two IP skills they felt most confident using in future practice. Descriptive analyses were performed on the data.

Results: Complete data was analyzed for 568 students (341 nursing, 192 medical, 35 social work). 38% had prior TeamSTEPPS experience, 42% had prior formal IPE, 44% had IPT meeting experience, and 9% had prior 4Ms knowledge. When compared by profession, social work students had the most exposure to 4Ms and medical students had the most exposure to TeamSTEPPS, formal IPE, and IPT meetings (Table 1). Students were most confident in consulting (57%) and engaging in conversations (48%) with other health professions.

Conclusion: Students from health profession schools had varying levels of exposure to IPE and 4Ms. This suggests there are opportunities to develop these skills within multiple professions, with particular emphasis on 4Ms education. The differences in prior experience may reflect each school's priorities and can guide future educational efforts.

Table 1: Percentage of students within each profession with prior exposure to IP skills

	TeamSTEPPS % (n)	Formal IPE % (n)	IPT Meeting % (n)	4Ms % (n)
Nursing n=341	13% (46)	27% (93)	31% (104)	6% (21)
Medical n=192	84% (161)	69% (133)	68% (131)	10% (20)
Social Work n=35	17% (6)	40% (14)	37% (13)	29% (10)

B128 Resident Presentation

Finding Equity in Home Care

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Background: As part of a required geriatrics clerkship, Boston University School of Medicine fourth year medical students rotate through our home care program which serves over 500 patients (60% from minority populations, 25% low English proficiency). In a recent qualitative study of student experience on home visits, participants identified teaching around the social determinants of health (SDOH) as a central component of their learning. Furthermore, the recent AGS sponsored Minimum Competencies in Geriatrics for Medical Students include a new competency in health equity. We created an exercise using the Geriatrics 5Ms framework to assess how SDOH impacts patients' care during home care encounters.

Methods: All students were asked to complete a structured observation of a patients' home environment using a standardized worksheet. Students were prompted to describe their impression of how an individual patient was affected by the World Health Organization-defined categories of SDOH. They were then asked to crosswalk the identified SDOH with the 5Ms to provide a visual demonstration of the intersection between the two. 57 of the 163 current fourth year students completed the assignment at time of analysis. The worksheets were reviewed by two independent reviewers to determine common themes.

Results: The following themes, organized by the 5Ms, were identified as most commonly reported by students:

-Mind: inability to understand medical issues; cognitive/sensory impairments impacting ADL/IADLs

-Mobility: mobility within and to patient's home; inability to access care outside home based primary care; functional impairment leading to difficulty with ADL/IADLs

-Medication: difficulty accessing and managing medications

-Multicomplexity: financial insecurity; inadequate insurance coverage; reliance on caregiver support

-Matters Most: desire for family support; goal to remain independent

Conclusions: This exercise serves as an introduction to the importance and relevance of incorporating SDOH into the care of older adults using an easily adaptable framework, which can be expanded to other trainees and interprofessional team members. It also serves as a first step toward attaining proficiency in the new health equity competency for medical students. We plan to further study the impact of this educational intervention through the creation of a post-exercise survey tool this academic year.

B129 Student Presentation

A virtual interprofessional Death Café to increase comfort with end-of-life conversations

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Background: Discussing death and dying is a critical aspect of most health-care professionals' work; however, doctors and nurses often report insufficient training on and discomfort with end-of-life conversations. The Death Café model has been adopted in lay and professional communities world-wide to foster agenda-free discussion about death. To address discomfort with death and dying and to strengthen cross-disciplinary communication on end-of-life topics within the confines of a pandemic, we coordinated a virtual, interprofessional Death Cafe within an academic medical community.

Methods: Students and faculty affiliated with the schools of Nursing, Medicine, and Public Health were invited by email to participate in a voluntary, virtual, interprofessional Death Café. Following the event, participants were invited to complete an anonymous survey incorporating Likert scale questions about event feedback and comfort/experiences with death. To compare feedback between nursing and medicine affiliates, t-tests were performed using numeric responses: -2, Strongly disagree; -1 Somewhat disagree; 0 Neither agree nor disagree; 1, Somewhat agree; 2, Strongly agree.

Results: Forty-six of the 69 Death Café attendees (67%) completed the survey; 28 (61%), 10 (22%), and 7 (15%) were affiliated with the School of Medicine, Nursing, and Public Health, respectively; for 35 (76%), a bachelor's was the highest degree held. Overall, 78% agreed that attending this Death Café changed their perspective on end-of-life discussion in a positive way; 80% reported feeling more comfortable talking about death/dying after the event; 98% stated they would attend a similar event in the future. Compared to medicine affiliates, nursing-affiliated attendees were more likely to report comfort discussing death/dying with patients ($t= -3.65$, $p=0.002$) and to agree that their education provided adequate preparation to discuss ($t= -2.61$; $p=0.020$) and to witness ($t= -4.41$; $p=0.001$) death/dying.

Conclusions: The virtual Death Café model provides a feasible, effective platform to increase comfort with end-of-life conversations among health-care trainees and professionals. This study supports the value of incorporating interprofessional Death Cafés into medical, nursing, and public health curricula to prepare health-care trainees to facilitate end-of-life conversations.

B130

Age old Knowledge: Improving intern proficiency to care for older adults

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Background: Physicians are caring for an increasingly older patient population and will spend their careers continuing to do so. Most trainees do not specializes in Geriatrics, but should have a minimum level of knowledge and skill to care for older adults. A 6-month course on geriatrics and palliative care was created for internal medicine (IM) interns at our institution in an attempt to impact proficency and attitude related to geratric medicine. It was disrupted by the COVID-19 pandemic, giving an opportunity to look at the impact of rapid educational shifts over a 2-year period.

Methods: IM interns participated in a 6 month course consisting of didactics, interactive activities, and an Observed Structured Clinical Exam (OSCE). All learners completed pre and post-course assessments that included the Carolina Opinion on Care of Older Adults (COCOA) questionnaire to assess attitudes as well as questions from the Medical Knowledge Self-Assessment Program (MKSAP) related to the topic. The original course was designed for in-person instruction. However, the course began in January of 2020, and due to the pandemic it was quickly transitioned to virtual instruction without an OSCE. By January 2021, the course was delivered 100% virtually and included a virtual OSCE.

Results: 63 interns participated in the course, 31 in 2020 and 32 in 2021. There was a 95% response rate on pre-assessment and a 48% response rate on post-assessment. Overall knowledge scores increased from 67% to 77% ($p=0.04$). 2020 cohort knowledge scores increased from 69% to 73% ($p=0.43$), and 2021 cohort knowledge scores increased from 64% to 79% ($p=0.02$). Overall COCOA scores increased from 143.5 +/- 13.0 to 144.5 +/-15.4 ($p=0.76$) with no significant differences by cohort.

Conclusion: Despite disruptions due to the pandemic, a 6-month course in geriatrics and palliative care successfully improved intern knowledge, but not attitudes towards older adults. The 2021 cohort had less significant disruption in course format than the 2020 cohort which may explain the improvement in knowdlege. As teaching shifts back to an in-person format, insights on optimal instructional methods may be gained through continued monitoring of trainee knowledge and attitudes.

B131

Virtual interprofessional geriatrics education: Making it work for all the schools

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BACKGROUND Training healthcare providers to care for older adults must include interprofessional education (IPE) to prepare them for team collaboration. IPE is logistically challenging due to variable student schedules and locations, and virtual learning may help. We created a virtual geriatrics IPE experience and evaluated impact on health profession students' self-rated competence at interprofessional (IP) practice skills.

METHODS 747 nursing, medicine, and social work students participated in 2020-21. Students completed pre-work readings on IP practice and geriatric evaluation and management (using the 5Ms). Students conducted small virtual IP team meetings about an older adult case and generated a comprehensive IP care plan. Afeterward, students participated in a 1 hr faculty-led debrief. Post activity, students completed the retrospective pre-post Interprofessional

Collaborative Competency Attainment Scale-Revised (ICCAS-R; 20 items; Likert 1=poor, 5=excellent). We analyzed pre vs post student ratings for each ICCAS item with paired t-tests and assessed between group differences with ANOVA.

RESULTS 568 students had complete data (341 nursing, 192 medical, 35 social work). Students' mean self-rated ability at IP practice skills improved significantly post-activity (all ICCAS-R items $p<.001$). There were differences between groups for items related to communication (#1-3, 5), roles/responsibilities (#10), and conflict management/team function (#19-20). For communication and conflict management/team function items, nursing students reported the greatest improvement, followed by medical, then social work ($p<.05$). 89% of students rated their ability to collaborate interprofessionally as somewhat or much better after the activity.

CONCLUSION Our virtual geriatrics IPE experience improved student confidence in IP collaboration skills with between group differences in the communication and conflict management/team function. This activity is a feasible and effective strategy for interprofessional geriatrics education.

B132 Encore Presentation

A Geriatric Telehealth Curriculum: Improving the "Tele-skills" of Medical Students

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Background: Despite the need for a healthcare workforce that is properly trained and comfortable conducting telehealth visits, telemedicine training for medical students is lacking. In response to the gap in medical student education, a geriatric-focused telemedicine curriculum was presented to medical students.

Methods: The virtual curriculum started with a 20 min didactic session presented by a geriatrician that included the following topics: agenda setting, addressing impairments, and utilizing the teach-back method. Students were split into small groups of 2-5 persons to conduct a telemedicine visit for 45 min with a standardized patient (SP). These encounters were observed by a preceptor. SPs were instructed to play the role of Mr(s). Smith, age 80, cognitively impaired, scheduled for a 3-month video follow-up visit. Each student was assigned a role or multiple roles for the SP encounter: A) set agenda, elicit questions, triage problems, perform a history, ensure appropriate lighting and audio B) perform a geriatric review of systems and reconcile medications C) present an assessment and plan to the preceptor D) relay the plan to the SP E) provide feedback. The SP encounter was followed by a short reflection in which students debriefed with the preceptor and the SP. Students were given pre- and post-surveys to assess confidence (on a 5-point Likert scale) using telemedicine and caring for SPs ≥65. The data was non-normal (Shapiro-Wilk $p<0.0001$) and paired comparison was not possible because identifiers were not collected, therefore a Wilcoxon rank-sum test was used to detect changes in confidence.

Results: Fifty-eight students were surveyed (pre=58, post=40). Students reported statistically significant ($p<0.0001$) increases in confidence using telemedicine for patients ≥65, interviewing patients ≥65 over telemedicine, and managing patients ≥65 over telemedicine after completing the curriculum. Most students reported a positive experience, specifically commenting on the ability to get practical experience in this environment.

Conclusion: A geriatric telemedicine curriculum improved medical students' confidence levels using telemedicine and caring for patients ≥65 with a telehealth visit.

B133

A City-Wide Point-of-Care Ultrasound Curriculum for Geriatric Fellows

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BACKGROUND:

Prior research demonstrated the feasibility of incorporating a geriatric-oriented point-of-care ultrasound(POCUS) curriculum into an existing geriatric fellowship. The current pilot study assessed the feasibility of incorporating the POCUS curriculum across multiple geriatric fellowships.

METHODS:

In July'21, we recruited 8 fellows from 3 fellowship programs. The fellows completed a pre-curriculum survey about prior POCUS experience, interest, confidence levels and attitudes. Responses were in Likert scale format(0=least, 10=most). The fellows also completed a pre-test to assess baseline POCUS knowledge. The curriculum began with a 4-hour didactic session consisting of lectures on knobology/physics, echo, lung, bladder, Deep Venous Thrombosis(DVT) and volume assessment along with scanning time on standardized patients. Afterwards, the fellows completed a post-test and post-survey.

RESULTS:

From the pre-curriculum survey, 5 fellows had some POCUS training and 3 fellows had none. All fellows expressed interest in learning POCUS and ranked the top 3 POCUS applications in perceived usefulness as follows: DVT, volume assessment, and lung. All fellows agreed that POCUS was an important adjunct to the physical exam. 7 of 8 fellows agreed they would use POCUS in their clinical practice and that a POCUS curriculum should be formally incorporated into geriatric fellowship. The average pre and post-test scores were 25% and 69% respectively with a Δ +44%(Range:12.5-87.5%). After the didactic session, all fellows reported, on average, an overall 5.2 point increase in confidence levels in image acquisition and 5.6 point increase in image interpretation. The fellows reported greatest confidence in the bladder and DVT and least in cardiac.

CONCLUSION:

Our pilot study showed that a city-wide geriatric POCUS curriculum was feasible and valued by all fellows with all fellows demonstrating improved POCUS knowledge and confidence.

B134

Impact of a Virtually-Delivered Caregiver Education Program on Burden, Self-Competence, and Self-Efficacy

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Background: The Oklahoma Dementia Care Network, a geriatric workforce enhancement program, delivered *Powerful Tools for Caregivers (PTC)*, an evidence-based 6-class series that teaches skills for caregiver self-care, emotional self-management, communicating in challenging situations, and managing difficult decisions. Two instructors delivered PTC by Zoom during the COVID19 pandemic (July 2020-March 2021). We evaluated the impact of virtually-delivered PTC on caregiver burden, mental health, perceived self-competence, and self-efficacy for service use.

Methods: Of 61 PTC participants, 40 (66%) completed all 6 sessions and pre- and post-evaluations at 6 weeks. Most were college-educated (55%), white (80%), female (88%), caregivers of spouses or parents, and most cared for a person with dementia. Average participant age was 60.2 (SD12.7) years. Pre and post total scores were compared using a paired signed rank test for the Zarit Burden Interview (4-item), PROMIS Global Mental Health, Pearlin Caregiver Self-Competence Scale, and Fortinsky Caregiver Community Service Use Self-Efficacy Scale.

Results: After completion of PTC, caregivers reported greater self-efficacy for use of community supports and services. (Table) There was no significant change in caregiver burden, self-rated competence, or mental health scores.

Conclusions: PTC delivered virtually was well-attended and improved caregiver self-efficacy for use of community-based supports and services, despite the impact of the COVID19 pandemic on caregiver strain and decreased accessibility of community resources.

Table: Caregiver Self-Efficacy, Burden, Competence, & Mental Health Scores after Completing PTC

	Pre, M (SD)	Post, M (SD)	p-value
Fortinsky Caregiver Service Use Self-Efficacy Scale, total score (range 4-40)	24.2 (10.5)	29.1 (8.9)	0.06
Q1: Get answers to all questions about relative's problems	6.5 (2.6)	7.2 (2.3)	<0.0001
Q2: Find organizations in community that provide services to help with care	6.0 (2.9)	7.4 (2.4)	<0.0001
Q3: Get answers to all your questions about these services	5.9 (2.8)	7.5 (2.3)	0.002
Q4: Arrange for these services yourself	5.9 (3.1)	7.0 (2.5)	<0.0001
Zarit Burden, total score (range 0-16)	11.3 (3.5)	11.0 (2.7)	0.42
Pearlin Self-Competence, total score (range 4-16)	12.9 (2.7)	12.7 (2.5)	0.64
PROMIS Global Mental Health, total score (range 4-20)	13.3 (2.8)	13.4 (3.2)	0.97

Higher scores indicate greater self-efficacy, greater burden, higher self-competence, and better mental health.

B135 Student Presentation

Frontiers in Aging: A Novel Geriatrics Elective for Medical Students

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Background: Physicians across specialties encounter older adults with unique medical and psychosocial needs. In medical school, geriatrics education is limited, leaving many graduates unaware of older adults' specific needs. Frontiers in Aging (FiA) is a novel 4-week elective designed to increase the confidence and proficiency of 4th year medical students pursuing diverse specialties in caring for older adults.

Methods: Students follow a theoretical patient who ages with multiple comorbidities. The curriculum explores pertinent geriatric care with interdisciplinary teams, including caregivers. It emphasizes patient-centered perioperative care, transitional care management, and individual rehabilitation needs while incorporating evidence-based medicine and practical skills necessary for residency. Interactive sessions include team-directed activities, homeostenosis/aging simulations, and case-based learning. Pre-course, midway, and post-course surveys assessed curricular feasibility, utility, and acceptability. Comments were reviewed for themes, and feedback shaped the course. Three courses (2019-21) were evaluated; one was virtual due to COVID-19.

Results: Seventy-eight students were enrolled across 3 years with 88% (69/78) survey completion. Respondents indicated that 96% of sessions covered novel content and recommended that 95% of sessions be continued in future iterations. Unsolicited comments were very favorable and notable for 4 themes: the course content is practical and relevant (37), the skills and information are useful for future careers (21), the material is important for students of all specialties (12), and the course was engaging and enjoyable (49). Notably, 97% (67/69) stated they would choose this course again or would recommend it to another student, including all 18 students in the virtual course.

Conclusion: FiA is an innovative, interactive medical student elective that successfully delivers foundational geriatric medicine concepts to students applying to various specialties. It was well received in both in-person and virtual formats. This multimodal course provides crucial information and skills to medical students as they transition to caring for older adults in residency. Future directions include the expansion of this curriculum to other institutions and the inclusion of interdisciplinary trainees.

B136 Student Presentation

Education About Deprescribing for Pre-licensed and Licenced Health Care Professionals: A Scoping Review

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Background: Deprescribing is a complex process involving decisions about polypharmacy, potentially inappropriate medications, medication burden, patient values, priorities and preferences, and the integration of evidence applied to specific patients. The World Health Organization and national deprescribing networks have recommended that deprescribing be intentionally integrated into healthcare curricula. In order to understand how deprescribing is currently being taught we conducted a scoping review of deprescribing education.

Methods: This scoping review was conducted using the 5 step model first introduced by Arksey and O'Malley with revisions from Levac et. al. The databases searched include Medline, Scopus, and Embase, updated to May 2021. Papers were included if they were full text in the English language, contained an educational intervention about deprescribing tailored toward physicians, pharmacists or nurses, or commentaries containing expert opinion on deprescribing education. Papers targeting chemotherapy, antibiotics, radiation dose were excluded.

Results: A total of 2538 studies were eligible for screening; 239 papers were eligible for full text review. Extraction was conducted on 39 papers including 21 peer reviewed publications, 14 conference presentations, and 4 expert opinion/white papers. The studies were from 10 different countries. 26 of the studies delivered group education and 2 had 1-on-1 teaching Only 8 studies had a control group. Seventeen studies focused on physician education, 10 on pharmacy education, and only 3 on nursing. Increase in learner self-efficacy and increase in learner knowledge were most commonly measured outcomes, whereas a decrease in the number of potentially inappropriate medications was the most common patient-centred outcome. Two of the 4 expert opinions focused on nursing education.

Conclusions: There is international interest in studying the education of deprescribing, and interprofessional interest in ensuring this applies to medical, pharmacy, and nursing education. The research supports deprescribing education in improving knowledge outcomes, but further research is required to determine the impact of educational interventions on deprescribing in practice.

B137

Association of mortality and aspirin use for COVID-19 patients at the VA Community Living Centers

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Background/Objectives: COVID-19 disproportionately impacts nursing home residents likely secondary to immunosenescence, associated morbidities including cardiovascular-related events due to prothrombotic and proinflammatory pathways. We hypothesized low dose aspirin used for primary or secondary prevention of cardiovascular events may decrease COVID-19 mortality.

Methods: This is a retrospective, observational cohort analysis identified long-stay VA nursing home residents between December, 2020 to September, 2021. Residents were included if they had a positive SARS-CoV-2 PCR test result. Aspirin users were identified as those with 10 of 14 days of low dose (81 mg) therapy prior to the (+) COVID test date. The primary outcome was 30-day mortality and the

relative risk for mortality with aspirin use. To better adjust for differences between aspirin users and non-users, we performed a propensity score matching.

Results: We identified 1244 residents with SARS-CoV-2 infection. The overall cohort had a mean age of 72.8±10.9 years and 4.2% (n=53) were female. Among the 345 (27.73%) residents taking ASA, 30-day mortality after initial SARS-CoV-2 test establishing infection was 4.64% (n=16) compared to 9.23% (n=83) not taking ASA (Adj RR 0.475, 95% CI 0.265-0.803). Among the 345 (27.73%) residents taking ASA, 180-day mortality after initial SARS-CoV-2 test establishing infection was 12.17% (n=42) compared to 16.35% (n=147) not taking ASA (Adjusted RR 0.683, 95% CI 0.472-0.967).

Conclusion: In this retrospective observational study of VA CLC residents infected with SARS-CoV-2, low dose aspirin use for primary or secondary prevention of cardiovascular events is associated with lower COVID-19 mortality and breakthrough cases are lesser in residents taking ASA. Additional prospective evaluation is required to more completely understand these associations and the potential implications for improving care. While the association is important to explore further, aspirin remains a medication with known side effects and clinical practice should not change based on these findings

B138

Older Adults' and Surgeons' Perspectives Regarding Expectations Around Spine Surgery

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STUDY DESIGN: Qualitative(Clin-STAR recipient)

BACKGROUND: While spine surgery among older adults (≥65 years of age) is often beneficial, over 30% of patients report less desirable outcomes and one-in-five regret their decision to undergo surgery. Previous studies suggests that decisional regret may be due to misalignment of patient and surgeon expectations around outcomes from surgery. This qualitative study sought patient and surgeon perspectives regarding expectations around spine surgery.

METHODS: We conducted semi-structured, in-depth interviews with 19 older adult patients who had undergone spine surgery within the last 5 years at quaternary medical center and 11 fellowship trained spine surgeons (90% male, 45% white) from across the country. 36.4% neurosurgeons, 63.6% orthopedic surgeons, 81.8% practiced in an academic setting and 18.2% in private practice. Audio-recorded interviews were transcribed and thematically analyzed using NVivo 12.0 (QSR Australia). Thematic findings and representative quotes were interpreted by the research team.

RESULTS: Among the 19 patients interviewed, the mean age was 70 years, 65% were female and 95% white. Three significant findings emerged from the interviews: (1) while the patients' primary motivation for seeking surgery involved pain reduction and relief, surgeons were more inclined towards anatomical and functional improvements; (2) both patients and surgeons felt that when patients' expectations from surgery outcomes were met, they were more accepting of some other undesirable results; and (3) while patients' perceptions and feelings about how well the care team listened to their health concerns and expectations impacted evaluation of outcomes, surgeons expressed difficulty eliciting patient expectations and communicating their expectations and outcomes from surgery to patients.

CONCLUSION: Our study highlighting older adult and surgeon perspectives regarding expectations for spinal surgery found several gaps in communication and shared decision making practices that are actionable. While patients' perceptions around whether their goals and needs regarding surgery were addressed was a key factor in their evaluation of surgery outcomes, surgeons expressed a need, as well as difficulty in eliciting and managing patient expectations.

B139

Lower Urinary Tract Symptoms Severity, Urinary Bother, and Incident Life-Space Mobility Restriction in Older Community-Dwelling Men

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Background: Life-space mobility represents distance, frequency, and independence of mobility, ranging from one's bedroom to beyond their town. Lower urinary tract symptoms (LUTS) may cause older men to purposely limit their life-space mobility in order to stay close to a bathroom, although it's unknown whether men are more influenced by LUTS severity or how bothersome their LUTS are regardless of severity. Our objective was to determine associations of LUTS severity and urinary bother with incident life-space mobility restriction.

Methods: Prospective cohort with 2716 community-dwelling men ≥72 years from the multicenter Osteoporotic Fractures in Men (MrOS) study. American Urologic Association Symptom Index was used to classify baseline LUTS severity as none/mild (score 0-7), moderate (8-19), and severe (20-35) and to assess urinary bother (score 0-1,2,3,4-6). The University of Alabama Life-space Assessment was used to define life-space mobility restriction (≤60) at baseline and the 2-year follow-up visit based on reported associations with mortality in older adults. We excluded men with baseline life-space mobility restriction. We used log-binomial regression with robust variance estimators to model the risk ratios (RR) for LUTS severity and urinary bother with incident life-space mobility restriction. RR were adjusted for age, site, health-related behaviors, and comorbidities. We mutually adjusted for LUTS severity and urinary bother.

Results: Among men without urinary bother (scores 0-1), 2-year risk of new life-space mobility restriction was 7.2%. Compared to men without urinary bother, risk of incident life-space mobility restriction was significantly higher among men with urinary bother scores of 4-6 (cumulative incidence=18.6%; RR=2.20, 95%CI:1.52,3.19), independent of LUTS severity and other confounders. LUTS severity was not associated with risk of life-space mobility restriction after adjustment for urinary bother.

Conclusions: Urinary bother is positively associated with risk of incident life-space mobility restriction among older men, independent of LUTS severity. To maintain life-space mobility in older men with LUTS, future studies should focus on identifying interventions that minimize urinary bother.

B140

Trends in Prescribing of Gabapentinoids as Multimodal Pain Medication After Surgery in Older Adults

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Background

Over the past decade, surgeons have made substantial efforts to decrease opioid prescribing, leading to a nationwide adoption of non-opioid pain medication including gabapentinoids (GB) (gabapentin/pregabalin). However, gabapentinoids are not without risk and can lead to altered mental status, dizziness and renal dysfunction in older adults. Additionally, they contribute to polypharmacy, which can lead to increased adverse events and hospitalizations for older adults. Despite this, little is known about the adoption of GB prescribing in the postoperative period.

Methods

We conducted a retrospective cohort study merging patient data from Medicare Carrier, MedPAR and Outpatient Files with Medicare Part D for 2013-18, using a 20% Medicare sample. We included

patients ≥66 years old without prior GB use who underwent 15 of the most common surgical procedures performed in older adults. Any fill for a GB 7 days before or after surgery was considered a discharge prescription. We excluded patients whose discharge disposition was hospice or death. The primary outcome was the change in the proportion of post-surgical discharge prescribing of any GB.

Results

Among 646,088 patients in our cohort, mean age was 74 years, 56% were women and 85% were White. In 2013, 1% of patients had a GB prescription at discharge. However, by 2018, 5% of patients had a GB prescription at discharge (p<0.001). Overall, this increase was similar across age ranges, racial/ethnic groupings and types of surgery, though the percent change was most striking among colorectal and spinal procedures. In our cohort, concomitant opioid prescribing at discharge increased from 46% in 2013 to 56% in 2018 (p<0.001).

Conclusions

While multimodal pain medication prescribing has been touted as a vehicle to decrease opioid use, its adoption for use in surgical patients has not been well-studied over time. In our study, we found that there is a nationwide increase in gabapentinoid prescribing after surgery in older adults. Importantly, this increase in prescribing did not occur with a concomitant decrease in opioid prescribing among this same cohort, suggesting that an increase in gabapentinoids, with its own inherent risks, is not decreasing the number of patients who also receive opioids.

B141 Student Presentation

Examining Readmissions From a Geriatric Surgical Program

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Background: In accordance with the American College of Surgeons Geriatric Verification Program, we implemented a Geriatric Surgery Pathway (GSP) in 2018. Our GSP resulted in a reduction in major complications and loss of independence, however, 30-day readmission rates increased. The purpose of this study was to examine all cause readmissions following GSP implementation.

Methods: Patient >/= 65 years from the pre-GSP (2016-2017) cohort were compared to GSP patients (2018-2020). EMR data was merged with ACS National Surgical Quality Improvement Program data. Readmissions included hospital admissions within 30 days from primary admission discharge. Univariable analyses were performed to compare pre- and post-GSP demographics and outcomes.

Results: From our total cohort of 549 patients, 38 (15 [40%] pre-GSP, 23 [60%] GSP) had a 30-day all cause readmission. The cohorts did not significantly differ in baseline characteristics, primary admission length of stay (LOS), or primary admission discharge disposition (Table). Compared to pre-GSP, GSP patients had significantly shorter readmission LOS (4 vs 11 days, p<0.001) and a trend toward improved readmission discharge disposition (87% vs 60% home discharge, p=0.09).

Conclusion: Although we observed increased readmission following our GSP implementation, we show a reduced impact of the readmissions on geriatric surgical patients. It is possible the multidisciplinary approach led to more thorough evaluation and intervention following surgical discharge leading to increased readmissions but ultimately better outcomes.

Characteristics		Pre-GSP (n=15)	GSP (n=23)	p-value
Age, mean (SD)		71 (4.94)	74.3 (7.94)	0.73
Female, n (%)		7 (46.7%)	11 (47.8%)	0.94
Black & Other, n (%)		6 (40%)	5 (21.7%)	0.23
Modified Frailty Index ≥ 2, n (%)		6 (40%)	7 (30.4%)	0.54
Operative Stress Score, n (%)	2	4 (26.7%)	5 (21.7%)	0.33
	3	10 (66.7%)	11 (47.8%)	
	4	1 (6.7%)	4 (17.4%)	
	5	0	3 (13.0%)	
Primary Admission Length of Stay, median (IQR)		2 (2, 5)	2 (4, 6)	0.09
Primary Admission Disposition, n (%)	Home	12 (80%)	20 (87%)	0.57
	Skilled Nursing Facility	3 (20%)	3 (13%)	
Days until Readmission, median (IQR)		10 (6, 19)	10 (3, 18)	0.63
Readmission Length of Stay, median (IQR)		11 (6, 24)	4 (2, 7)	<0.001
Readmission Disposition, n (%)	Home	9 (60%)	20 (87.0%)	0.09
	Rehabilitation	0	1 (4.3%)	
	Skilled Nursing Facility	5 (33.3%)	1 (4.3%)	
	Hospice	1 (6.7%)	1 (4.3%)	

B142 Student Presentation, Encore Presentation

Documentation of Goals of Care Conversations in Clinical Notes of Older Adults with Advanced Cancer

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Background/Purpose:

Goals of care conversations (GOCC) in patients with advanced cancer are associated with higher quality of life, fewer hospital admissions, and less aggressive medical care at the end of life. Using previously validated standard natural language processing methods, we examined the prevalence of documentation related to goals of care conversations in the clinical notes of older adults with advanced cancer.

Methods:

We conducted a retrospective study of clinical notes from 4,000 patients with advanced cancer treated at Dana-Farber Cancer Institute between 1/1/2016 and 12/31/2019. Subjects were at least 65 years of age at the time of diagnosis with an identified problem list billing code of advanced cancer and two ambulatory visits within 365 days of each other. We identified GOCC documentation using the annotation software ClinicalRegex which uses a predefined ontology to display clinical notes that contain highlighted keywords or phrases associated with documentation of GOCC. Human annotators then reviewed the clinical notes to confirm that the highlighted phrases were relevant to GOCC (ie., advanced care planning, goals of care, DNI/DNR status, comfort measures, and/or hospice discussion, etc.).

Results:

Among the cohort, mean patient age was 72 years and 50.6% were female at the time of initial advanced cancer diagnosis. Additionally, 33.9% died within 6 months (n=1,356/4,000) and 39.1% died within one year (n=1,562/4,000) of an advanced cancer diagnosis. More than a third (37.9%, 1,516/4,000) had documentation of GOCC within at least one clinical note.

Conclusions and Implications:

Findings show that only 37.9% of older patients with advanced cancer had GOCC documentation within clinical notes, suggesting the need for interventions to improve GOCC in this seriously ill population. Clinicians, in general, may either not engage in GOCC with patients or fail to document such discussions in clinical notes. However, given their poor prognosis, these conversations are vital to optimize quality care in this population.

B143 Student Presentation

Primary spoken language and variances in use of regional anesthesia in total joint arthroplasty in older adults

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Background: As the population ages and becomes more diverse, it is crucial to investigate disparities in total joint arthroplasty (TJA) care for older adults. Non-White patients and those with non-commercial insurance undergoing total joint arthroplasty (TJA) surgery have lower odds of receiving neuraxial anesthesia (NA), increasingly viewed as the standard of TJA care. Of additional concern is primary spoken language, as preoperative patient-anesthesiologist discussions on anesthetic options may be impaired by language barriers. We aimed to study disparities in receipt of NA, focusing on the role of primary spoken language, among TJA patients in a hospital system with a diverse patient population.

Methods: This IRB-approved retrospective study included institutional data on 4,539 TJAs (2018-2019). Patients were a median age of 66, up to age 95. The primary outcome was NA use. Main variables of interest were primary spoken language (English, non-English), race (White, Black, Asian, Other), ethnicity (Hispanic, non-Hispanic), and insurance type (Commercial, Medicare, Medicaid, Other). Regression models measured the adjusted association between these variables and receipt of NA, focusing on primary spoken language as an explanatory variable. We report odds ratios (OR) and 95% confidence intervals (CI).

Results: NA was used in 84.7% (n=3,843) of TJAs; this was particularly lower in Medicaid (78.9%) patients while smaller differences were observed when looking at Black (82.1%) and Hispanic (87.1%) patients; all $p<0.001$. We did not find a significant unadjusted difference in NA use in patients with English (versus other languages) as primary language: 84.8% versus 84.7%, $p= 0.271$. In multivariable analysis, lower odds of receiving NA were specifically observed for Medicaid (OR 0.59 CI 0.45-0.78) and Medicare (OR 0.77 CI 0.61-0.96) patients, as well as those patients that do not have English as their primary language (OR 0.75 CI 0.58-0.98), all $p<0.05$.

Conclusion: Primary spoken language does appear to explain some of the existing disparities in receipt of NA in TJA patients with a median age of 66. Given the negative impacts of these existing disparities, arthroplasty surgeons and anesthesiologists must be cognizant of these differences when caring for older adults. Future studies are needed to further elucidate underlying mechanisms.

B144 Student Presentation

Slower gait speed in older women with osteoporosis: a potential indicator for frailty

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Background

Gait speed is a component of many frailty measures and predicts functional decline. Osteoporosis, a deterioration of the bone architecture, is associated with an increased risk of fracture, as well as worsening functional abilities. It is unclear whether a diagnosis of osteoporosis is associated with slower gait speed, a marker of underlying frailty. As physical activity is the best and often the only way to intervene in the progression of frailty, it is important to identify those with an increased risk of fracture so an individualized plan may be developed to prevent frailty through improving physical activity. We aimed to investigate associations between osteoporosis and gait speed in older women.

Methods

This cross-sectional study involved women 50 years and older seen from September 2019 to February 2020 in an osteoporosis clinic. A diagnosis of osteoporosis (yes or no) was based on a T-score of -2.5 or less at either femur neck, lumbar spine, or wrist regions of the bone mineral density (BMD) scans. Walking speed was evaluated using a timed 6-meter walk test where participants were asked to walk a course of three meters and back. Other clinical characteristics collected about the participants included age, grip strength and diagnosis of chronic diseases (hypertension, hypothyroidism, depression, type 2 diabetes, osteoarthritis). Because age is a common confounding factor for both osteoporosis and gait speed, we divided the women into younger and older (i.e., <75 and ≥ 75 years) groups based on the median age. Linear regression determined associations between gait speed and osteoporosis in both age categories, and the models were adjusted for the above-mentioned co-variables.

Results

There were 21 and 18 women in younger and older groups respectively. Mean ages in years were 69±5 for younger and 85±6 for older groups. Mean gait speed for younger and older groups were 10.03 (±3.40) and 17.14 (±8.40) seconds, respectively. About 48% in the younger and 61% in the older group had osteoporosis. In the older group, having a diagnosis of osteoporosis was associated with slower gait speed (β 13.7, 95% confidence interval 5.03 to 22.41, $p<0.01$). There was no such association found in the younger group.

Conclusion

A diagnosis of osteoporosis in women 75 years or older may indicate risk of developing frailty as indicated by slower gait speed.

B145 Encore Presentation

Impact of Physical Therapy in Emergency Departments on Recidivism for Older Adults Who Have Fallen

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Background: Adults over the age of 65 years represent the fastest growing population in the United States, accounting for 23.1 million visits to the emergency departments annually. Falls are the number one chief complaint for older adults, representing 10% of all emergency department visits amongst this group. This places a tremendous burden on the resources of the emergency department and results in increased hospital admissions and return visits. The purpose of this study was to determine the impact of a physical therapy consult in the emergency department on outcomes for older adults who present with a chief complaint of falls.

Methods: Data was collected retrospectively for a period of 8 months from January to August of 2020. Fifteen emergency departments within a large health system in Wisconsin and Illinois were included in the analysis. Patients over the age of 65 with a documented chief complaint of "fall" were included in the analysis. Patients were separated into two groups, those who received physical therapy and those who did not. Revisits to the emergency department were measured within 72 hours and 30 days from the index visit.

Results: A total of 2,743 patients were identified as meeting criteria for inclusion in the analysis. The group that received a physical therapy consultation in the emergency department (n=129) had a mean age of 83.9 years and a revisit rate of 3.9% within 72 hours and 22.8% within 30 days. Those that did not receive a physical therapy consult in the ED (n=2,614) had a mean age of 81.5 years and a revisit rate of 6.6% within 72 hours and 33.9% within 30 days.

Conclusions: This quality improvement study showed the potential benefit of initiating physical therapy in the emergency department for patients who have fallen to improve outcomes and reduce emergency department recidivism. This study was limited to patients seen within one health system without controls and therefore cannot be generalized to a larger demographic. The preliminary data suggests that the physical therapist, as part of the interdisciplinary team within the emergency department, can play a critical role in reducing ED recidivism. Further studies should not only consider additional patient characteristics but components of physical therapy evaluation and intervention, both within and beyond the ED, that most contribute to lower recidivism.

B146 Encore Presentation

Reduction in Geriatric Emergency Department Recidivism Using a Physical Therapy Care Transition Model

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Purpose: Adults over the age of 65 years represent the fastest growing population in the United States, accounting for 23.1 million visits to the emergency department (ED) annually. Care transitions from the emergency department to the community are critical as over half of older adults are discharged without a hospital admission. Several studies have shown decreased ED recidivism for older adults who received PT in the ED, particularly those with a diagnosis of falls. However, the impact of outpatient physical therapy on outcomes amongst older adults seen in the emergency department for any diagnosis is unknown. The purpose of this study was to determine the impact of physical therapy during and after an older adult emergency department visit on outcomes and recidivism.

Methods: Data was collected retrospectively during an 11 month period from 2020-2021 from fifteen geriatric emergency departments within a large health system in Wisconsin and Illinois. Patients over the age of 65 who received an order for outpatient physical therapy were included in the analysis. Data markers included % patients who receive PT in ED, % who attended OP therapy, 72 hour ED visit %, and 30 day ED visit %.

Results: Attendance at OP PT was 34.1% for all older adults with orders upon discharge from the ED (248/726) and 49% amongst those who also received PT while in the ED (72/148). Back pain and dizziness were the most prevalent chief complaint amongst patients who attended outpatient physical therapy after discharge. The highest percentage of patients who did not attend outpatient PT had a chief complaint of falls. The primary findings were that patients who attended outpatient physical therapy were less likely to return to the ED within 72 hours (3.2%) and 30 days (10.5%) compared to those who did not attend (7.7% and 26% respectively). Revisits were even less likely amongst those who both received physical therapy in the ED and attended OP PT (0% within 72 hours and 6.9% within 30 days) compared to those who did not.

Conclusion: This retrospective data analysis showed the potential benefit of integrating physical therapy into the emergency department and ensure transition to the outpatient setting to improve patient outcomes and reduce emergency department recidivism. Future studies should consider the barriers and facilitators of attending outpatient physical therapy as well as stratifying patients by diagnoses and age groups.

B147

Impact of Coronary Revascularization Strategies on Days Alive and Out of Hospital for Acute Coronary Syndrome in Older Adults

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Background: In older adults presenting with acute coronary syndrome (ACS), the impact of coronary revascularization with either coronary artery bypass grafting (CABG) or multivessel percutaneous coronary intervention (PCI) on the patient-centered, geriatric-sensitive outcome of days alive and out of hospital (DAOH) is incompletely understood.

Methods: Observational cohort study of patients ≥ 65 years admitted for ACS and referred for coronary angiogram between 1/1/2010 and 3/1/2018 in a large integrated healthcare delivery system in Northern California. Patients with significant Left Main disease and/or multivessel coronary disease undergoing CABG or PCI were included. Patients with a prior CABG history or cardiac arrest within 24 hours were excluded. Baseline demographics, comorbidities and angiographic details were obtained using validated algorithms from health plan databases. Selection bias was accounted for through propensity score modeling techniques and inverse probability of treatment weighting (IPTW). Cox proportional hazards models were estimated to evaluate the association of revascularization type with outcomes. Primary outcome was absolute DAOH during three time-intervals.

Results: In 3,871 patients (33% female), CABG (N=1,575), compared to PCI (N=2.296) was associated with a greater absolute number of DAOH, significant after the first year (mean difference at 1-year: +5.8 days, 95% confidence interval [CI], -1.6 to 13 days; 3-years: +56 days, [+25 to +88 days]; 5-years: + 131 days, [+57 to +205 days]).

Conclusions: In older adults with ACS, CABG, after the first year, was associated with a greater absolute number of DAOH.

Comparison of Days Alive and Out of Hospital (DAOH) in Patients Receiving CABG or PCI - Matched data

	CABG	PCI	Difference (95% CI)	P-value
1-year				
DAOH, Median (IQR)	365 (356-365)	365 (356-365)	0 (0,0)	0.911
DAOH, Mean (SD)	335.3 (85.2)	329.6 (90.3)	5.8 (-1.6, 13.1)	0.124
3-years				
DAOH, Median (IQR)	1093 (1074-1096)	1091 (994-1096)	2 (0.1, 3.9)	0.040
DAOH, Mean (SD)	963 (313.1)	906.6 (352.7)	56.4 (24.5, 88.3)	<0.001
5-years				
DAOH, Median (IQR)	1819 (1680-1826)	1812 (1022-1826)	6.1 (0.2, 12.0)	0.042
DAOH, Mean (SD)	1525.4 (578.9)	1394.5 (648.9)	130.9 (56.5, 205.4)	<0.001

B148 Resident Presentation

Validating Self-reported Aspects of Preoperative Frailty Assessment and Associations with Loss of Independence in Surgical Patients Aged 65 Years or Older

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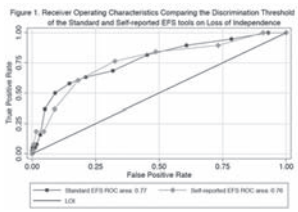
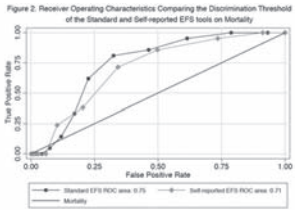
Background: Self-reported aspects of patients' health may be useful in preoperative assessments and faciliate postoperative planning. We previously reported the use of the Edmonton Frailty Scale (EFS) as a valid preoperative assessment tool. We wished to validate the self-reported components of the EFS (srEFS) by examining its association with loss of independence (LOI) and mortality.

Methods: This is a single-institution study in patients ≥65 years undergoing multi-specialty surgical procedures who were assessed preoperatively using the EFS. Data analysis of the EFS determined the new threshold for frailty on the srEFS, with a score of ≥3 considered frail. Procedures were classified using the Operative Stress Score (OSS) scored 1-5. LOI was defined as a change in functional status. Mortality was defined as death in-hospital or within 30 days post-discharge. Receiver operating characteristic (ROC) curves were used to estimate areas under the curves for srEFS versus EFS in relation to LOI and 30-day mortality.

Results: 535 patients were included. 274 (51.2%) patients were frail. 179 (33.5%) patients underwent a procedure with an OSS ≥3. LOI occurred in 38 (7%) patients. Mortality rate was 4% (21 patients). Examining ROC curves shows EFS and srEFS had similiar predictive thresholds (figure).

Conclusion: This study shows that self-reported EFS components are sufficiently valid and may be useful in preoperative assessments to help predict LOI and mortality in older surgical patients.





B149

Patients with late-onset-systemic lupus erythematosus have different disease presentations

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Background: Systemic lupus erythematosus (SLE) predominantly affects females of reproductive age but can affect patients later in life. Late-onset (LO)-SLE is diagnosed at age 50 years or later. Studies characterizing LO-SLE have been conflicting. It is unclear if LO patients have different disease presentations or SLE autoantibodies (AA). Using a de-identified electronic health record (EHR), we assessed demographic, clinical, and SLE AA in LO vs. non-late-onset (NLO)-SLE patients.

Methods: We assembled a cohort of SLE patients using a validated and published algorithm that requires ≥ 4 SLE ICD-9 codes and a positive ANA ≥ 1:160. We performed chart review on all SLE patients to ensure diagnosis by a rheumatologist. Age at SLE diagnosis was defined as age at first SLE billing code or age at SLE diagnosis documented in notes, whichever came first. AA status was defined as positive if ever positive. We compared SLE AA (dsDNA, Smith, RNP, SSA, SSB) in LO (SLE diagnosis at ≥ 50 years) vs. NLO patients (SLE diagnosis at < 50 years). We also compared demographics and SLE nephritis, defined by renal pathology or clinical diagnosis by rheumatology or nephrology, in LO-SLE vs. NLO-SLE patients.

Results: We identified 123 LO-SLE and 402 NLO-SLE patients. Both LO and NLO patients were predominantly female (85% vs. 91%, p = 0.10). LO patients were more likely to be White vs. NLO patients (80% vs. 64%, p = 0.001). Hispanic ethnicity was less common in LO vs. NLO patients (1% vs. 5%, p = 0.03). Compared to NLO patients, LO patients were less likely to have positive dsDNA (39% vs. 57%, p = 0.001) and RNP (17% vs. 32%, p = 0.02). Rates of positive Smith, SSA, and SSB were all similar in LO vs. NLO-SLE patients. When analyzed by decade of age at SLE diagnosis, AA positivity declined with increasing age. LO vs. NLO patients were less likely to develop SLE nephritis (9% vs. 29%, p < 0.001).

Discussion: LO-SLE patients were less racially and ethnically diverse compared to NLO-SLE patients. LO patients were less likely to have positive SLE AA and SLE nephritis. With less SLE AA, LO-SLE patients can pose a diagnostic challenge. Understanding how age impacts SLE disease presentation could help reduce diagnostic delays for SLE patients.

B150

Patient-centered outcomes: frailty and disability transitions after hospitalization for COVID-19

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Background: As the pandemic advances, management improved, with millions of people recovering from COVID-19, the interest grew regarding the long-lasting consequences of the infection. However, few studies have explored patient-centered outcomes in those who survived hospitalization for COVID-19. We aimed to investigate frailty and disability transitions in COVID-19 patients admitted to the hospital.

Methods: We conducted a prospective cohort comprising survivors of COVID-19 admissions at a large academic medical center receiving patients from 278 secondary hospitals from the metropolitan Sao Paulo area. We assessed frailty through the Clinical Frailty Scale (CFS), defining frail for CFS scores ≥ 5. We evaluated disability as the need for help in five basic activities of daily living (ADL), including bathing, dressing, toileting, grooming, and eating). Baseline frailty and disability considered the period 2-4 weeks before COVID-19. Trained physicians also registered information on age, sex, race/ethnicity, Charlson comorbidity scores, delirium in the hospital (CHART-DEL), admission to intensive care, mechanical ventilation use, and length of stay. Our outcomes were frailty and disability assessed using structured telephone interviews every three months one year after discharge. We examined transitions in frailty status. We used linear mixed models to investigate the predictors of new-onset ADL disability after discharge.

Results: We included 1,030 patients with a mean age of 65 years, 55% males. Overall, 17% were frail at baseline. The prevalence of frailty was 38%, 32%, 21%, 16%, and 15% at one, three, six, nine, and 12 months after discharge. Of note, 70% of those who became frail during the first six months after discharge were non-frail at baseline. The prevalence of ADL disability doubled at 12 months after discharge compared to baseline (21% vs. 12%; p<0.001). Older age, female sex, Charlson comorbidity scores ≥ 3, baseline frail status, delirium in the hospital, and length of stay ≥ 14 days were associated with new-onset ADL disability one year after discharge.

Conclusions: Frailty and disability were frequent in COVID-19 patients after hospital discharge. Our results show that most patients who survive hospitalization for COVID-19 transition to poorer health status, highlighting the importance of long-term medical follow-up for this population.

B151

Delirium and Subsequent Dementia (ADRD) Diagnosis After Heart Failure Hospitalization

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BACKGROUND: Delirium hastens functional decline in persons with Alzheimer's Disease and Related Dementias (ADRD), an especially serious problem for patients hospitalized for acute heart failure (HF). This study will determine the risk of a new ADRD diagnosis after delirium in Veterans with HF admitted to SNF.

METHODS: This observational retrospective cohort study included Veterans hospitalized for acute heart failure from 2010 to 2015, and discharged to SNF. It excluded those with SNF care in the past 7 days, or with ADRD diagnosed in the previous year. We determined delirium via the Confusion Assessment Method, included in the Minimum Data Set 3.0 admission assessment. We determined new ADRD diagnosis through analysis of Medicare and VA claims over the subsequent year. We evaluated time to ADRD diagnosis for delirium relative to no delirium for the 365 days after SNF admission via a Cox proportional hazards model. This model adjusted for competing risk of mortality, and for relevant demographic, clinical, and utilization-related covariates.

RESULTS: The cohort included 14,385 residents (mean age 76 +/- 10; 97% male, 15.7% Black). In total, 2.84% (N=409) of the cohort had delirium on admission to SNF. New ADRD diagnosis occurred in 35.7% (N=5133) of the entire cohort: 52.8% (N=216) of those with delirium and 35.2%(N=4917) of those without delirium. Delirium increased the hazard of new ADRD diagnosis in the year following SNF admission (adjusted hazard ratio 1.9, 95%CI 1.6, 2.3).

CONCLUSIONS: We found that greater than one third of Veterans admitted to SNF after HF hospitalization received a new diagnosis of ADRD in the subsequent year. Delirium doubled the risk of ADRD diagnosis. These findings demonstrate the need to address cognitive dysfunction through appropriate long-term supports and services in post-acute care of patients with HF, especially those with delirium.

B152

Short-term delirium in nursing home residents after COVID-19 vaccination: a case series

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Background: A systemic inflammatory response to COVID-19 vaccination causes flu-like symptoms, and could potentially cause delirium in susceptible older adults. The objective of this series was to describe the frequency of delirium and its course among nursing home (NH) residents after COVID-19 vaccination.

Methods: We identified residents of a 514-bed NH in New York City scheduled to receive COVID-19 vaccination who were enrolled in a study of delirium severity measurement (Better Assessment of Illness (BASIL) II). An advanced research clinician (geropsychologist or geriatrician) conducted structured cognitive assessments at enrollment (before COVID-19 vaccination), 1 day after vaccination, and, if delirium was present, 10-14 days later. Delirium and dementia were ascertained using the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5), and delirium severity was ascertained using the Confusion Assessment Method Severity Long-Form Score.

Results: Thirty-nine residents (average age 82 (SD=7); 54% female, 33% Black, 21% Latinx; 64% with dementia) of 65 BASIL II enrollees (60%) received a COVID vaccine (Pfizer-BioNTech). It was the 3rd vaccine in the series for 38 subjects (97%). One day after COVID-19 vaccination 3 subjects had delirium, and 1 had delirium symptoms without fulfilling DSM-5 criteria; for an estimated frequency of 4/39 (10%; 95% confidence interval 3-24%). The average delirium severity for these subjects was 8.5 (SD=1.9), indicating mild-to-moderate delirium. At 10-14 day follow-up, delirium was no longer present in any of the cases. Three (12%) with dementia versus 1 (7%) without dementia experienced delirium (p=.56).

Conclusions: About 1 in 10 NH residents experienced short-term, mild-moderate delirium following COVID-19 vaccination, which resolved within 10-14 days. Since delirium can be associated with adverse events (e.g., function impairment, falling), susceptible older adults should be monitored for delirium after vaccination. Importantly, delirium incidence, severity, and sequelae after COVID-19 vaccination compare favorably with delirium after COVID-19 infection. Thus, the risk-benefit ratio strongly supports vaccination in vulnerable older adults.

B153 Student Presentation

Older Adults experience and response to Voice Assistant Systems

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Background: Speech is the primary and most natural way of vocal communication used by humans. Voice Assistant Systems (VAS, e.g., Amazon Alexa) are software applications that understand human speech and are capable of completing various tasks. VAS is increasingly being used among older adults as it allows them to use the internet and other Internet-of-Things devices without a need to learn new or complex skills. We explored the experience and response of older adults using Voice Assistant Systems (VAS), i.e., Amazon Alexa.

Methods: This is a secondary analysis of a study that evaluated speech patterns in the detection of early cognitive decline. We recruited community-dwelling older adults (age 65+ years). Participants were categorized as having normal cognition, mild cognitive impairment (MCI) or dementia (as diagnosed by clinicians). All participants were evaluated using a structured questionnaire focusing on VAS experience, ease of use, satisfaction in its use, and whether the study-related VAS activities were interesting to the user. All were measured using Likert scales (range 1-10, low to high). As an exploratory analysis, we compared each of these scores across the three stages of cognition.

Results: Of the 79 consenting participants, mean age was 73.3±5.8 years (53% female, 91% white) and 37.9% had mild cognitive impairment, and 24.1% had dementia. Only 46.8% stated previous VAS experience before study participation, and 62.1% of those owning a VAS used the device 2-10 times per day. Of the patient participants with dementia, 58% reported no previous VAS use. VAS devices were believed to be useful in 67.7% of participants. Patient participants had favorable experience (9.7±.71), found VAS was easy to use (9.5±1.2), and interesting (9.1±1.5). A majority (62%) believed that they would not need any assistance in setting up a VAS system at home due to previous experience and 85.9% stated they would like to have a VAS in their home for future use.

Conclusions: We demonstrated that older adults are enthusiastic about using VAS devices and may have potential in enhancing their health. Use of VAS declined with stage of cognition suggesting that cognitively intact individuals may be better suited in its use.

B154

Pressure Injuries and Wound Care: A Lost Geriatric Syndrome

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Background: When modern geriatrics was established in the 1980s, pressure ulcers were considered a geriatric syndrome. Since then, pressure injuries (PI) remain a major problem and prevalence of other chronic wound subtypes has grown. The cost is staggering and measured in mortality, pain, surgical procedures, infections, staff time, and dressing products. To quantify a gap in attention to chronic wounds, we measured education and research on wound care in JAGS and AGS annual meetings over 3 decades.

Methods: We searched 30 years of JAGS titles using key words related to PI and wounds and noted authorship from US geriatric or VA programs. We also searched AGS Annual Meeting abstracts comparing wound-related titles to falls, another geriatric syndrome. We also reviewed 17 years of AGS Annual Meeting programs to assess wound care education.

Results: From 1991 to 2021 there were 62 articles after exclusion of letters to the editor. Only 28 had co-authors from US geriatrics programs. When grouped by decade, there were about 50% fewer articles on wound care from 2011 to 2021 than the prior 2 decades. There were 16,621 meeting abstracts of which 119 (0.72% of all abstracts) related to wound care. Of these, 86 presented clinical research and the remainder were case reports. Most common topics were risk assessment and prevention (25.6%), wound care education (17.4%), and epidemiology/natural history of PI (16.3%). In comparison there were 596 fall-related abstracts over the same period (3.59% of all abstracts), which is 5x the number of wound-related abstracts. Only 17 annual meeting programs were accessible (2005-2021). There were 3 symposia and 5 pre-conference sessions on wound-related topics. Leaders from pre-cons and symposia were drawn from only 3 US geriatric programs. There were 7 years with no educational programming in main sessions on wounds. In all oral presentations, there were only two on diabetic and arterial vascular wound management.

Conclusions: Despite the well-documented association of chronic wounds with aging, frailty, multiple comorbidities, and the dying process, the field of geriatrics has provided suboptimal attention to this important topic. The agenda for geriatrics must include education, research, and collaboration with other disciplines to optimize outcomes related to PI and other chronic wounds including diabetic, vascular, post-surgical, and wounds related to malignancy.

B155

FACTORS AND OUTCOMES ASSOCIATED WITH DYSPHAGIA IN HOSPITALIZED PERSONS WITH DEMENTIA

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Background

Dysphagia is prevalent in older adults with dementia, particularly in the acute care setting. The objective of this study was to use an innovative approach to extract a more representative sample of patients with dysphagia from the electronic health record (EHR) to determine patient characteristics and outcomes associated with dysphagia in hospitalized persons with dementia.

Methods

A retrospective study of hospitalized adults (65+) with dementia was conducted in seven hospitals across the greater New York metropolitan area. Data was obtained from the inpatient EHR with the following inclusion criteria: age greater than or equal to 65; admitted to one of seven health system hospitals between January 1st, 2019 and December 31st, 2019; and documented past medical diagnosis of dementia (based on ICD-9). A diagnosis of dysphagia was defined as: nurse documentation of a positive bedside swallow screening; nurse documentation of "difficulty swallowing" as reason for not performing bedside swallow screening; and physician documentation of a dysphagia diagnosis. For multivariable analyses, logistic regression (binary outcomes of invasive mechanical ventilation, delirium, mortality, 30-day readmission) and linear regression (continuous outcome of LOS) were utilized to determine the association between dysphagia and hospital outcome, controlling for variables found in the univariate analyses.

Results

Of adults with dementia (N=8,637), the average age was 84.5, 61.6% were female, 18.1% were Black and 9.3% Hispanic. Dysphagia was identified in 41.8% (N=3,610). In multivariable models, dysphagia was associated with: invasive mechanical ventilation (Odds Ratio, OR:4.53, 95%CI:3.55-5.78), delirium (OR:1.53, 95%CI:1.40-1.68), increased length of stay (B=3.29, 95%CI:2.98-3.60), and mortality (OR:4.44, 95%CI:3.54-5.55).

Conclusions

Given its high prevalence, under recognition, and associated poor outcomes, improving large-scale dysphagia identification can impact clinical care and advance research in hospitalized persons with dementia.

B156

Interpretable deep-learning based opioid and benzodiazepine overdose risk prediction for hospitalized older adults with degenerative spinal conditions

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Backgrounds: Opioid with co-use of benzodiazepine leads to overdose in hospitalized older adults, especially, with degenerative spinal conditions. We hypothesized that a novel interpretable deep learning model development will result in a significant improvement of clinical outcomes by optimizing benzodizepine and opioid co-prescription in these circumstances.

Methods: We developed a novel interpretable deep learning based that predicts overdose risk by benzodiazepine and opioid on each individual (n = 1,870) age 60+ years with degenerative spinal conditions at an safety-net hospital in Southwest area in 2018. The model was trained using electronic health record (EHR) data with demographic (age, gender, race/ethnicity, payer source, living arrangment, residential area, length of stay, discharge place), clinical information (body mass index, Charlson comorbidity index, funtional status, substance use, mental health conditions including Alzheimer Disease Related Dementia, pain scale, morphine milligram equivalent, diazepam milligram equivalent). ICD-10 codes selection and manual chart review processes were conducted. The proposed model was assessed by comparing the performance, area under curve(AUC) of multivariate logistic regression, LASSO, random forest, gradient boosting, and deep neural networks. Missing value was imputed using KNNImputer, sklearn in Python.

Results: AUC of deep neural networks was 0.896, followed by gradient boosting 0.892, random forest 0.886, LASSO 0.864, and logic regression 0.792. Risk factors were computed and risk scoring system development was available as real-time overdose risk predictor in EHR.

Conclusions: New prognostic risk scoring system using novel machine-learning models not only significantly improves performance of predicting overdose risk, but also characterizes complex interactions and hidden patterns of each risk factor. This model may stratify overdose risk groups by adding new risk factors and assist healthcare providers with optimizing their prescription patterns of opioid and benzodiazepine.

B157

Efficacy of Valproic Acid (VA) in Inpatient Geriatric Patients with Delirium

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Background: Based on recent studies, delirium is present in 20-50% of the inpatient population. Pharmacologic management of delirium in that setting is multimodal, including psychotropic medications and VA. Current literature remains unclear about the use of VA in the management of delirium. **Methods**: A retrospective chart

review was performed on 747 inpatients 65 years and older from 01/01/17-12/31/19 at HUMC. Deidentified data was collected for demographics, ICD-10 codes for delirium, Confusion Assessment Method (CAM) scores, discharge destination, 1:1 sitter, VA and other psychotropic medications, length of stay (LOS), restraints and mortality. Patients with delirium as defined by a positive CAM were divided into two groups; those who received VA were the intervention group and those who received other medications were the control group. **Results**: In our study, the groups did not differ statistically in age or ethnicity. 12% of patients received VA, 7% received olanzapine, 43.5% received haloperidol, and 37.5% received quetiapine. Patients with VA had mean LOS of 7.3 days and mean 0.5 days with restraints, while the control had mean LOS of 10.23 days (p=0.034) and mean 1.19 days with restraints (p=0.0063). Among patients who took VA, 16.67% had a sitter while 39.57% of the control group had a sitter. 65% of patients treated with VA showed resolution of delirium (as defined by CAM positive/negative), while 51% of patients treated in the control group showed resolution of delirium (p=0.0174). The odds of resolution for patients treated with VA was 1.76 times more than the odds of patients in the control group [1.10, 2.85]. There was no statistical difference in discharge to home and skilled nursing facility in both VA and control groups (31% vs 30%, 41% vs 40%). The odds of in-hospital mortality for patients not treated with VA were 2.97 times the odds for patients treated with VA (95% CI [0.9638, 9.1223]). **Conclusion**: Our retrospective chart analysis, though a small sample size, indicates that the use of VA may be beneficial in the treatment of delirium by decreasing inpatient LOS and need for restraints as compared to other medications. There was no effect on the discharge destination or in-hospital mortality. A subsequent study with a larger sample size is needed to establish the efficacy of VA and the potential benefit of using VA to treat delirium in other healthcare settings.

B158

Re-imagining dementia care in primary care

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Background: Within healthcare systems, dementia care often takes place in primary care. Quality of care varies. Our objective was to elicit interdisciplinary staff perspectives on barriers and opportunities to improve care for older adults newly diagnosed with dementia in primary care.

Methods: We conducted qualitative, semi-structured interviews with staff from a large Mid-Atlantic primary care practice system. Participants (providers, nurses, medical assistants, practice administrators, pharmacists, care managers, social workers) were recruited from 5 practices that varied in location, practice size, and patient population (age, race/ethnicity, dementia diagnosis). Interviews addressed current dementia care practice, challenges, and new opportunities (Medicare cognitive assessment and care planning [CACP] visits, team-based care, technology, medications). Transcripts were coded and analyzed by 2 investigators using qualitative content analysis methods to identify major themes.

Results: 20 primary care staff participated thus far. We identified 5 themes across disciplines relevant to post-diagnosis dementia care. (1) *Familiarity breeds care*: Staff familiarity with patients facilitated dementia diagnosis and care. Most staff were familiar with dementia from personal experience. (2) *"We're bursting at the seams"*: Numerous priorities and time were noted as barriers to dementia care. (3) *"We're already doing that"*: Staff were not familiar with the CACP billing code but felt many required dementia care domains were addressed in Annual Wellness Visits (AWV). Bridging the Medicare visits could organize and bill for work already done, and strategies used to increase AWV rates could also promote CACP visits. (4) *Leverage teams:* Access to and use of the interdisciplinary team varied but domains of dementia care within the scope of other staff were universally recognized. (5) *Pandemic opportunities:* Unique telehealth challenges in dementia were noted but increased access to care and family inclusion were welcomed. Greater patient portal use increased communication and resource sharing. Of note, new medication (aducanumab) played no role in care.

Conclusions: While barriers to comprehensive dementia care are present, interventions or strategies that build upon Medicare initiatives and existing infrastructure could facilitate higher quality dementia care in primary care.

B159

Association of Visitor Restrictions with Antipsychotic and Benzodiazepine Use in Hospitalized Older Adults

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Background: Hospital visitor restrictions during the pandemic prompted concerns about unintended consequences for older patients, including an increased incidence of delirium and agitation. While first-line interventions for these conditions are non-pharmacologic, a lack of family support during hospitalization could result in increased prescribing of antipsychotics and benzodiazepines, which are associated with poor outcomes in older adults. Whether visitor restrictions are associated with use of these medications is unknown.

Methods: We conducted a retrospective analysis of 4,801 patients ages 65 and older admitted to 4 hospitals affiliated with a large health system in the Mid-Atlantic from 3/1/2020 to 5/31/2020. Visitor restrictions were implemented at different times across hospitals. We used staggered difference-in-difference with two-way fixed effects to measure the impact of policy changes on prescribing. We assessed use of benzodiazepines and antipsychotics using patient-level electronic medical record data. Using linear probability regression, we measured change in the probability of receiving each medication when visitors were vs were not allowed, at the level of the hospital day. We adjusted analyses for age, gender, race, ethnicity, Charlson comorbidities, and length of stay. Two-way fixed effects included facility and day of study period.

Results: Mean age was 76.2 years (SD, 8.1), 50.3% were female, 60.3% white, 30.1% Black, and 2.2% Hispanic. Overall, 1,667 (34.7%) patients were prescribed a benzodiazepine and 591 (12.3%) an antipsychotic. The probability of benzodiazepine use was 2.9% lower on days when visitors were vs were not allowed (95% CI, -5.4%, -.45%). Antipsychotic use did not significantly differ between days when visitors were vs were not allowed (.38%; 95% CI, -1.2%, 2.0%). In analyses stratified by dementia and age group, the effect was concentrated in older patients without a dementia diagnosis. Benzodiazepine use for these patients was 4.4% lower on days when visitors were allowed (95% CI, -8.2%, -.5%).

Conclusions: Among older patients hospitalized during the first wave of the pandemic, there was a small but significantly lower probability of benzodiazepine use on days when visitors were allowed. These findings suggest that the presence of caregivers impacts quality of care for hospitalized older adults, supporting efforts to recognize caregivers as essential members of the care team.

B160

Withdrawn

B161

Changes in Behavioral Symptoms and Depression among Nursing Home Residents with Dementia during the COVID-19 Pandemic

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Background: The COVID-19 pandemic has significantly disrupted nursing home (NH) care. These disruptions may contribute to increased behavioral symptoms and depression among NH residents with dementia. This study's objectives were to compare behavioral symptoms (e.g., agitation, aggression, rejection of care) and depression among Michigan long-stay NH residents with dementia before and during the COVID-19 pandemic.

Methods: This retrospective, cross-sectional study included Michigan long-stay (≥100 days) NH residents, aged ≥ 65 with dementia based on Minimum Data Set assessments from January 1, 2018 - June 30, 2021. Residents with schizophrenia, Tourette syndrome, or Huntington's disease were excluded. Outcomes were change in the prevalence of behavioral symptoms (measured by the Agitated Reactive Behavior Scale) or significant depression (measured by the Patient Health Questionnaire-9 score [PHQ-9] ≥ 10) during the pandemic. Using an interrupted time series design, we compared trends in behavioral symptoms and depression over Period 1: January 1, 2018 - February 28, 2020 [pre-COVID] and Period 2: March 1, 2020 - June 30, 2021 [during COVID]. The hypotheses were that the prevalence of behavioral symptoms and depression would be higher during the COVID-19 timeframe than pre-pandemic.

Results: A total of n = 53,451 Michigan long-stay NH residents were identified and n = 37,427 (70%) with dementia were included. Most were female (68.2%), on average 85.1 years (SD=8.7), 71.9% were ≥ 80 years, and 15.9% were Black. No significant difference in behavioral symptoms among long-stay NH residents with dementia was observed during the COVID period compared to pre-COVID (19.9% vs. 20.0%, slope change = 0.05, P =0.31). The prevalence of depression was higher during COVID compared to pre-COVID (4.0% vs. 2.9%, slope change = 0.03, P = 0.03).

Conclusions: Michigan long-stay NH residents with dementia had higher prevalence of depression during the COVID-19 pandemic compared to before the pandemic. Facility-level policies to assess and address depression symptoms regularly in long-stay residents with dementia are warranted during the COVID-19 pandemic.

B162

Receipt of Medicare Part D Comprehensive Medication Reviews and Potentially Inappropriate Medication Use in Older Adults with Dementia

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Background: Older adults with Alzheimer's Disease and Related Dementias (ADRD) are at high risk for medication problems. Comprehensive medication reviews (CMRs), part of Medicare Part D Medication Therapy Management (MTM) for eligible beneficiaries, may reduce adverse events, but receipt in older adults with ADRD is unknown. This study's objectives were to compare: 1) CMR receipt and 2) potentially inappropriate medication (PIM) use in older adults with ADRD to those without ADRD.

Methods: 2014 Health and Retirement Study (HRS) participants age ≥ 65 years, with linkable Medicare data, continuous coverage in Medicare fee-for-service and Part D were eligible in this retrospective, cross-sectional study. Our outcomes were CMR receipt (yes/no) and PIM use (defined from 2019 AGS Beers Criteria, yes/no) in 2014 or 2015. Our primary independent variable was presence of dementia (from self-reported HRS questions and validated algorithms, yes/no). Covariates included sociodemographic characteristics, physical health conditions and limitations (e.g., difficulty with activities of daily living). Weighted descriptive and bivariate statistics, and multivariable logistic regression were used.

Results: After weighting, n=15,534,698 older adults were included and 19.5% had ADRD. Participants with ADRD were older (mean age (SE): 82.1 (0.4) vs. 73.7 (0.2) years, age ≧ 85 years: 42.6 vs. 8.3%) and had a higher proportion of Black (12.9 vs. 5.8%) or Hispanic (10.1 vs. 4.4%) race/ethnicity compared to those without ADRD (all $p < 0.0001$); no difference was observed by sex. Older adults with ADRD were more likely to be offered a CMR (21.3 vs. 13.9%, $p = 0.003$), but rates of CMR receipt did not differ between those with and without ADRD (both 2.6%, $p = 0.95$). Those with ADRD were more likely to use PIMs than those without ADRD (76.3 vs. 70.6%, $p = 0.007$) and had 1.4 times higher odds of PIM use (OR=1.4, 95% CI: 1.10-1.86). ADRD status was not a significant predictor of CMR receipt or PIM use in the fully adjusted logistic regression models.

Conclusions: Older adults with ADRD had more PIM use but were not more likely to receive a CMR. Efforts to improve medication use and increase CMR receipt in older adults with ADRD are warranted.

B163

Member Experience with a Medically Tailored Meals Supplemental Benefit After Hospitalization

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Background

The Chronic Care Act allows Medicare Advantage (MA) plans offer supplemental benefits such as meals, to address unmet needs of beneficiaries with certain chronic conditions. We sought to describe the experience of MA plan members with heart failure who received home delivered medically tailored meals (MTM) after being hospitalized within a large integrated healthcare system, and to identify patients who benefited the most from MTM for their recovery.

Methods

We recruited English and Spanish-speaking patients who received MTM (n=557) between January 1, 2021 and August 28, 2021 to complete email or phone surveys. The survey included questionnaire about satisfaction with MTM, areas for improvement, unmet needs, self-rated health, and food insecurity. We linked survey responses to other variables from electronic health records. We used multivariable logistic model to assess the associations between patients' satisfaction with MTM and their socio-demographics (age, gender, race/ethnicity, food insecurity), as well as their clinical factors (self-rated health, primary or secondary heart failure, diabetes, co-morbidities, and functional status at hospital discharge).

Results

Among 156 patients (mean age: 79±9, 54% female, 20% Hispanic, 8% spoke Spanish) who completed the survey, nearly a third reported food insecurity and over half reported fair or poor health (mean weighted Charlson Comorbidity score: 7.7±2.8). Patients reported that the meals met (49%) or exceeded (25%) their expectations. Most agreed that the delivered meals were very (29%) or extremely (45%) helpful, and 42% said it changed their perception of a healthy meal. Our results suggest that patients who reported good or better overall health were twice more likely to report higher satisfaction with MTM compared to patients with fair or poor health (Odds Ratio [OR]: 2.93, 95%CI: 1.2-7.4). Moreover, patients who experienced food insecurity were more likely to report higher satisfaction with MTM (OR: 2.03, 95%CI: 0.85-6.49).

Conclusions

We found that most patients were highly satisfied with the MTM. However, the finding that patients with poor/fair health were less satisfied with the meals deserves further scrutiny and possibly, the urge to tailor MTM to accommodate the needs of frail patients. We plan to conduct analyses of healthcare utilization outcomes in 2022 as more data accrues.

B164

Impact of Economic Disadvantage and Dementia on Aging in Place after Hip Fracture

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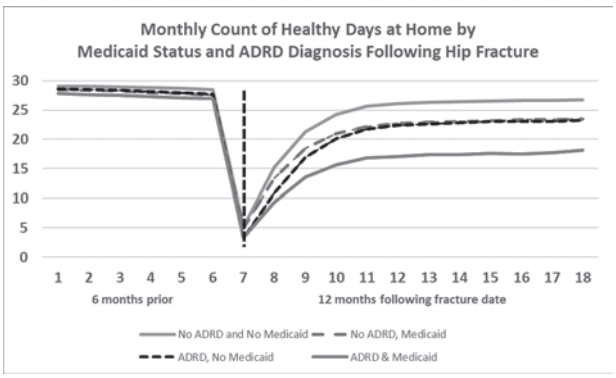
Background: Older adults with Alzheimer's disease and related dementias (ADRD) have poorer outcomes after hip fracture than those without ADRD. It is unclear whether those living with ADRD and concurrent economic disadvantage may be even more vulnerable.

Methods: Data were drawn from 2010-2018 Medicare claims. ADRD was identified in the Chronic Conditions file; Medicaid eligibility (proxy for economic disadvantage) was drawn from enrollment files. The primary outcome was a monthly count of high-quality days at home (HQ-DAH) for 1 year after hip fracture—days at home not utilizing emergency care or homebound. Patients were eligible if covered by Medicare for the study period. Repeated measures Poisson regression and generalized estimating equations were used to model HQ-DAH. A Medicaid by ADRD interaction variable was included in the final models, adjusted for demographics, injury severity, comorbidity burden, community factors, and HQ-DAH over the prior 6 months.

Results: 70,477 patients contributed 714,707 person-months of follow-up. ADRD and Medicaid eligibility were associated with poorer outcomes after fracture; those with both spent nearly 7 fewer HQ-DAH each month (Figure). In adjusted models, patients living with concurrent dementia and Medicaid eligibility spent 9% fewer HQ-DAH each month as compared to those living with ADRD and no Medicaid eligibility (interaction rate ratio=0.91, 95% CI 0.89-0.94).

Conclusions: The impact of dementia on high-quality aging in place after hip fracture is magnified for older adults living in poverty. This suggests unmet needs that need to be addressed in future care pathways.



B165

Analysis of safety threats to older adults receiving home health services after hospital discharge

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Background: Older adults requiring skilled home health (HH) services after hospital discharge are at high risk of re-hospitalization. We previously developed the Hospital-to-Home-Health Transition Quality (H3TQ) index to identify care transitions safety threats in real time. Objectives: (1) Identify incidence of safety threats in hospital-to-HH transitions from the perspectives of HH providers, older adults, and family caregivers and (2) Determine association of safety threats with 30-day emergency department (ED) use or re-hospitalization.

Methods: Prospective cohort study of older adults (≥ 65 years) referred for HH services at a HH agency in Baltimore, MD. Older adults, caregivers, and HH providers used the H3TQ to rate the quality of the older adults' hospital-to-HH transition via online or phone survey. We followed each older adult for 30 days post-diischarge to capture ED/re-hospitalization rate.

Results: 321 participants (164 older adults, 81 caregivers, 76 HH providers) rated a hospital-to-HH transition, with 200 paired patient-provider ratings. 55% of transitions rated by HH providers had at least one safety issue, while only 44% of those rated by older adults/caregivers did. Older adults/caregivers consistently rated their transition quality higher than did HH providers rating the same transition. Timeliness of the HH visit and older adults' ability to communicate with physicians after hospital discharge were significantly associated with ED use/re-hospitalization within 30 days of discharge ($p<0.05$).

Conclusions: Older adults, caregivers, and HH providers provided differing perspectives of care transition quality. Timeliness of HH visits and communication with physicians post-discharge were the safety issues most associated with suboptimal outcomes. Study findings demonstrate the importance of including both provider and patient perspectives in identifying safety issues during care transitions.

B166 Student Presentation

Older Latinx Living with HIV: Care Needs of a Growing Population

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Advances in antiretroviral therapy have resulted in a nationwide aging of the population of people living with HIV. These demographic shifts are not distributed equally. Latinx individuals experience the fastest-growing increase in numbers of HIV diagnoses among racial/ethnic groups, but less attention is paid to the intersection of older age and Latinx living with HIV (LLWH). Challenges facing older LLWH (ages 50+), such as the compounded effects of intersectional stigma, language barriers, inadequate discussions of sexual activity and substance use, and immigration factors and fear translate into substandard HIV care. Closing the gap in the HIV care continuum for older LLWH requires better understanding of their unique needs.

In our study we utilized a survey of 758 individuals living in Central San Diego. Of these participants, 117 identified as non-Latinx older adults living with HIV (OALWH), and 107 identified as older Latinx living with HIV (OLLWH). Questions fell under topics

of housing, social support, emotional concerns, physical health and well-being, sexual health, and necessities. Quantitative data was analyzed using a chi-squared test of independence.

We found that OLLWH were more likely to own their own home, be able to pay rent, and report having enough money for retirement than OALWH (94% vs. 50% reported suffcient savings). However, they also felt significantly more negatively about the future, struggled with daily tasks, and wanted more help with daily tasks, despite generally having more help with daily tasks (69% some or all of the time vs. 36%). Additionally, OLLWH were significantly more concerned about sex and gender stigma, as well as their ongoing substance use (79% vs. 26% had moderate concerns about substance use).

Despite feeling more financially secure, OLLWH felt more negatively toward the future. Similarly, despite reporting greater assistance with daily tasks than OALWH counterparts, OLLWH desired more help with their day-to-day. These apparent paradoxes suggest that the internalized and perceived stigmas that OLLWH experience impacts their future outlook and day-to-day function. This suggests the need for investment in developing support for OLLWH, whether that be in-home caretakers or culturally appropriate and Spanish-speaking support groups, and the need for culturally competent providers that will openly discuss concerns regarding gender/sexuality and substance use.

B167

Medicare Medication Therapy Management Services for those receiving the Low-Income Subsidy

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Background:

Medicare Medication Therapy Management (MTM) offers high risk beneficiaries a service known as Comprehensive Medication Reviews (CMRs). This service seeks to identify medication related problems and empower beneficiaries to better manage their medication regimens through one-on-one encounters. MTM has low participation, and its eligibility criteria may disproportionately exclude those with low income. Low Income Subsidy beneficiaries represent about 36% of the Medicare population, but account for 75% of Medicare Part D program spending. Little is known about their utilization of MTM.

Methods:

A retrospective, cross-sectional analysis of Medicare administrative data from 2016 was conducted. Multivariate logistic regressions were used to calculate the odds of completing CMR for those receiving LIS and those not receiving LIS, along with variables including race, age, and US state of residence, using SAS Studio 3.71. Additional multivariate logistic regressions were used to generate odds to characterize method of CMR completion, type of MTM provider, and odds of having a Targeted Medication Review (TMR).

Results:

In 2016, LIS was associated with 19% greater odds of ***not*** completing a CMR (OR 1.19 95%CI 1.180-1.191) but 87% higher odds of receiving at least one TMR (OR 1.87 95%CI 1.833-1.903). Native American race was associated with the highest odds of not completing CMR (1.61 95%CI 1.558 1.671) compared to all other races. Residence in Alaska was associated with the highest odds of not receiving CMR (3.50 95%CI 3.122 3.930) among states. LIS beneficiaries were 37% more likely to receive a CMR from their insurance company or pharmacy benefits manager (PBM) (OR 1.37 95% CI 1.365-1.379) and 26% more likely to have the CMR be an in-person encounter (OR 1.26 95% CI 1.244-1.271). 4,091,968 beneficiaries were included in this analysis, and were 13.24% African American, 3.97% Hispanic, 2.68% Asian, and 77.03% white. The population was 58.3% female.

Conclusion:

LIS is associated with greater odds of having a TMR which often focuses on high-risk medications and/or potentially inappropriate medications. However, LIS beneficiaries are more to not receive CMR. More research is needed to look at the implications of these services on costs and clinical outcomes.

B168 Student Presentation

Healthcare Costs and Utilization Associated with Delirium among Hospitalized Medicare Beneficiaries in a Nationally Representative Cohort

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Background:

Delirium, an acute decline in cognition and attention, is a prevalent condition among hospitalized older adults and is associated with poorer health outcomes, long term cognitive and functional decline, and higher healthcare costs. Few studies have looked at the cost of delirium on a population-based scale. This study aims to estimate healthcare cost utilization associated with delirium in a nationally represented sample of Medicare beneficiaries.

Methods:

Claims-linked data from the 2016-2017 Current Medicare Beneficiary Survey (MCBS) was used to identify Medicare beneficiaries who experienced delirium during hospitalization based on a validated claims algorithm with mild sensitivity and moderate specificity. Participants were categorized as either having delirium or no delirium. Linear and logistic regression models were used to characterize the association of delirium during hospitalization with outcome variables including the amount paid by Medicare, length of hospitalization in days, and risk of 30 day readmission. Models were adjusted for presence of stroke, Alzheimer's disease or dementia, Charlson Comorbidity Index, age, sex, race, education, and Medicaid support.

Results:

Of the 6,407 hospitalized Medicare beneficiaries, the claims algorithm identified 387 participants as having experienced delirium. In adjusted models, delirium was associated with an extra cost of $5,178.653 per hospitalization paid by Medicare (95%CI: $2534.876, $7822.431, SE: 1348.89), a 3.34 days longer hospitalization (95% CI: 2.086, 4.601, SE: 0.641), and a 1.785 odds of experiencing a 30 day readmission (95% CI: 1.353, 2.356, SE: 0.253).

Conclusion:

In a nationally-representative analytic dataset of hospitalized Medicare Beneficiaries, delirium was associated with increased cost, longer length of hospital stay, and higher 30 day readmission rates. Prevention of delirium could have implications for cost-savings to Medicare. This data supports the need for further population-based analyses to better characterize the health economics of delirium.

B169

Typologies of the Homebound

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Background: There are around 2 million community dwelling older adults in the US who are homebound, i.e., never or rarely leave home. While existing research and clinical paradigms consider homebound older adults as a homogeneous population, multiple disparate clinical and social factors contribute to becoming homebound. Thus, the population is likely to be heterogeneous. Identification of distinct subcategories, their characteristics and outcomes will help to plan care tailored to the needs of this population.

Methods: We used a nationally representative sample of Medicare beneficiaries drawn from the National Health and Aging Trends Study 2011-2019. Subjects were defined as homebound if they reported never or rarely leaving the home over the past month. Clinical and sociodemographic covariates derived from survey data in NHATS anchored to the first wave at which the subject was identified as being homebound. Latent class analysis using clinical (conditions, symptoms, function) and sociodemographic covariates was used to identify the existence of distinct subgroups within the homebound population. An index of model fit (BIC) was compared for models testing 1 to 4 latent classes. Survey weights were applied to provide nationally representative estimate of proportion of homebound older adults within each class. Competing risks regression was used to analyze mortality during follow up, with nursing home admission as a competing risk.

Results: Overall, 901 subjects were identified as newly homebound between 2012 and 2019, 68.9% female, 38.6% 85 years and older, 72.6% White, Non-Hispanic. The 4 class model provided the best fit for the data (BIC 17033.98) resulting in 4 distinct classes: (i) Healthier homebound (n = 262, 29.1%); (ii) Dementia with high functional impairment, (n = 300, 33.3%); (iii) High multimorbidity, less functional impairment (n = 247, 27.4%); (iv) Older/institutional care (n = 92, 10.2%). Class (ii) and class (iv) had the highest prevalence of mortality during the follow up period.

Conclusion: There are distinct sub-populations of homebound older adults. Future research is needed to further explore this typology and inform clinical service delivery.

B170 Student Presentation

External validation of a predictive model for unplanned hospitalization in older adults with advanced cancer receiving chemotherapy

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Background

Older adults receiving chemotherapy are at a risk of hospitalization. Predictors of unplanned hospitalization among older adults receiving cancer chemotherapy were recently published utilizing data from a prospective study conducted by the Cancer and Aging Research Group. The aim of this analysis is to: 1) externally validate these predictors in an independent cohort including older adults with advanced cancer; and 2) examine whether adding other predictors improves model performance.

Methods

This validation cohort included patients (n =369) from the GAP 70+ Trial (NCT02054741; PI: Mohile) usual care arm. Enrolled patients were aged 70+ with incurable cancer; had ≥1 geriatric domain impairment; and were planned to start a new line of palliative chemotherapy. Previously identified risk factors included in the validation model were ≥3 comorbidities, albumin <3.5 g/dL, creatinine clearance ≤60 mL/min, GI cancer, ≥5 medications, requiring assistance with dressing or bathing, and having someone available to take them to the doctor. The primary outcome was unplanned hospitalization within 3 months of treatment initiation. Model validation was performed by calculating area under the receiver-operating characteristic curve (AUC). Subsequently, other baseline predictors with P<0.1 in bivariate analysis were added to the model and performance was reassessed.

Results

Mean age was 77 years (range 70-94); 45% were females; and 29% (n=107) experienced unplanned hospitalization within the first 3 months of treatment. The proportions of hospitalized patients among those with 0-2, 3-4, and 5-7 previously identified risk factors were 23%, 28%, and 38%, respectively. The AUC of the model including the 7 identified risk factors was 0.64 (95% CI, 0.58-0.70). Adding the variables fall history during the past 6 months and Geriatric Depression Scale impairment to the model led to its improvement (AUC=0.67, CI, 0.61-0.73).

Conclusion

This study supports successful external validation of a predictive model for unplanned hospitalization among older adults with cancer. This model can be used to identify high risk patients to guide interventions to reduce hospitalization in this vulnerable population.

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B171

Assocation Between POLST Maturity Status and Place of Death of Nursing Home Residents

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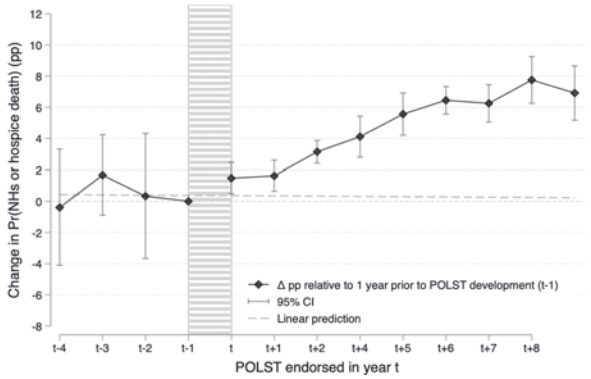
Background: Physician Orders for Life-Sustaining Treatment (POLST) programs assist with decision-making to ensure that preferences for treatment are established and prioritized at the end of life. This study examined the association between POLST maturity status on place of death (e.g., nursing home (NH) or hospice) of NH residents based on developing or endorsed status (e.g., developing status is defined as a program in the beginning phases of use, endorsed status is defined as having benchmarks and quality assurance).

Methods: In this event time model study, we created a national 10% sample of NH decedents between 2012 and 2018. The data on POLST year of development or endorsement were merged with quarterly assessments and place of death of NH residents age 65 and older from the Minimum Data Set 3.0.

Results: Our sample included 225,149 NH residents. Average age was 85.7 years and two-thirds (67%) were women. The majority were white (82.2%). Five years after development, the probability of dying in a NH or hospice was higher by 5.6 percentage points (or 7.5%) compared to the year prior to POLST development (p<0.01). The probability of dying in a NH or hospice also showed sustained increase with endorsed maturity status of the POLST program over time.

Conclusions: Continued implementation of the POLST program may be helpful in ensuring NH residents can die in place or in hospice should they desire. More research is needed to examine the impact of such programs for racial and ethnic minority NH residents.

Figure 1. Change in the probability of dying in the NH or hospice relative to the year prior to when POLST was developed



B172

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B174 Student Presentation

Differences in Patient Characteristics and Utilization of Medicare Annual Wellness Visit in a Large Group Ambulatory Practice

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Background: National studies have found low overall uptake in the Medicare Annual Wellness Visit (<25%) and differences in utilization of the AWV by ethnoracial grouping and socioeconomic status. Our objective was to assess differences in demographic and clinical characteristics between recipients of the AWV and those who were eligible but did not receive the AWV over a one-year period at a group practice with high AWV uptake.

Methods: In this retrospective analysis, we used electronic medical record data from a large Mid-Atlantic group ambulatory practice. We included 14,095 adults ≥66 years of age seen at one or more group practice locations >1 time from March 2016-March 2017. We tested for differences in characteristics between recipients and nonrecipients of the AWV using chi-square tests (race, ethnicity, sex, smoking status, secondary insurance) and t-tests (age, comorbidities index, usual provider continuity index, neighborhood income, primary care outpatient problem-based visit count). To test for the adjusted odds of receiving an AWV, we used the above covariates in a mixed-effects logistic regression model clustered by primary clinic location and primary provider to account for differences in AWV uptake.

Results: Overall, 71.5% of eligible patients received an AWV. We found differences in non-recipients vs recipients based on race (p=0.003), ethnicity (p=0.022), secondary insurance (p<0.001), age (p<0.001), comorbidities (p<0.001), continuity index (p>0.001), income (p<0.001), and visit counts (p<0.001). The adjusted odds of having an AWV were 0.65 (95% CI 0.51-0.82, p<0.001) for Asian race, 0.97 (0.86-1.10, p=0.658) for Black race, 2.82 (2.24-3.56, p<0.001) for Medicaid enrollment, 1.07 (1.06-1.08, p<0.001) for age, 0.96 (0.94- 0.97, p<0.001) for comorbidities, 1.22 (1.03-1.44, p=0.002) for care continuity index, and 1.07 (1.06-1.08, p<0.001) for visit count.

Conclusions: Our results suggest that differences in utilization of AWV are associated with patient characteristics. Future research should explore the role of race and care continuity as potential mediators of AWV utilization, particularly for patients with a high number of comorbidities.

B175

The extraordinary rise in HBMC in the setting of residential care 2012-2018

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Background: Home-based medical care (HBMC) plays a critical role in meeting the demand for health care services for older Americans, particularly those residing in care communities such as assisted livings (AL). Yet, little is known about trends in utilization of HBMC in AL. This study investigated spatiotemporal patterns in the delivery of HBMC services and the proportion of HBMC services provided in ALs across states.

Methods: We identified HBMC services from the 2012-2018 public use files (PUFs) from the Medicare Provider Utilization and Payment data. Healthcare Common Procedure Coding System codes (99341-99350, 99324-99328, 99334-99337) were used to identify the home and domiciliary care visits (i.e., AL) aggregated at the state-level and divided by the state-level FFS population. Additional state-level characteristics on HBMC providers per 10,000 FFS beneficiaries, proportion of Medicare beneficiaries who had Alzheimer's disease and related dementia, participated in Medicare Advantage, were eligible for Medicaid, and used home health were obtained from the provider, enrollment, and chronic condition PUFs. We assessed the time trend of HBMC using linear mixed models, where calendar year was treated as a continuous variable, with random intercept for state, and the model adjusted for other state-level factors.

Results: From 2012 to 2018, the median HBMC increased from 20 to 33.3 per 1000 FFS beneficiaries, and the increase was from 5.9 to 8.8 per 1000 FFS beneficiaries in home-based visits, and from 14.1 to 24.1 per 1000 beneficiaries in domiciliary services. The annual increase rate between 2012 and 2018 was 0.04 (95%CI: 0.02, 0.05) in HBMC per 1000 FFS beneficiaries, 0.01 (95%CI -0.02, 0.03) in home-based visits per 1000 FFS beneficiaries, and 0.06 (95%CI 0.04, 0.08) in domiciliary services per 1000 FFS beneficiaries.

Conclusions: The results of our analyses provides evidence for the growth of HBMC in FFS Medicare which was largely driven by a growth in HBMC occurring in residential care settings. Future research should examine state Medicaid financing policies that may contribute HBMC access.

B176 Student Presentation

Healthcare Utilization and Spending Among Homebound Older US Adults, 2011-16

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Background: Homebound older adults have complex social and medical needs, but little is known about their healthcare use and spending. The objective of this study is to characterize healthcare utilization and spending among homebound older US adults.

Methods: We used 2011-16 data from the National Health and Aging Trends Study. Observations were drawn from a nationally representative sample of noninstitutionalized Medicare beneficiaries 70 years and older and linked to Fee-For-Service claims data. We identified individuals as homebound if they reported never or rarely leaving home in the last month. We compared healthcare utilization and spending overall and for inpatient, outpatient, and emergency department care. Preventable hospitalizations were identified using the Agency for Healthcare Research and Quality's list of ambulatory care sensitive conditions. We used regression models to estimate the marginal difference in spending and utilization associated with homebound status.

Results: We find that homebound status is associated with higher annual rates of hospitalization (40% vs. 20%, $p < 0.05$), preventable hospitalization (15% vs 5%, $p < 0.05$), and emergency department visits (54% vs 33%, $p < 0.05$). Despite being more medically complex than non-homebound older adults, the homebound are less likely each year to access primary care (61% vs 72%, $p < 0.05$) and specialty care (61% vs 75%, $p < 0.05$) than the non-homebound. In adjusted models, the homebound are 11% ($p < 0.05$) less likely to have an annual primary care visit and 16% ($p < 0.05$) less likely to have an annual specialist visit. Homebound status is associated with an additional $11,345 in Medicare spending per year ($p < 0.05$). Homebound older adults in 2015 accounted for 11% of Medicare spending among those 70 and older despite making up only 6% of this population.

Conclusions: Homebound status is associated with higher inpatient and emergency department utilization and overall spending among older US adults. Lower rates of primary and specialist care utilization suggest homebound older adults may be substituting hospital-based care for ambulatory care. Expanding access to home-based primary care may be key to reducing spending for this growing part of the Medicare population.

B177

Deprescribing targets among older adults at high risk for fall: falls-related medication use and subsequent falls

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Background: Falls are the most common and costly medication-related safety event in older adults. We leveraged health system electronic health record (EHR) data to proactively identify high risk populations and prioritize medication classes for deprescribing.

Methods: Cross sectional study of adults aged ≥ 65 years followed within an academic health center between 1/1/2017-3/1/2020 who screened as high risk for falls at an ambulatory visit or with an acute visit for fall in the last year. Primary outcome was a subsequent fall-related event (encounter, diagnosis, or traumatic fracture or intracerebral hemorrhage). Active prescription(s) of a fall-related medication class (alpha blockers, antianxiety, anticholinergics, anticonvulsants, antidepressants, antihyperglycemics, antipsychotic, diuretics, hypnotics, muscle relaxants, and opioids) were identified. All variables were abstracted from the local EHR. We estimated the risk of first fall after medication use using an adjusted time varying cox proportional hazards model, with censoring at date of last visit or death.

Results: A total of 47,655 patients were identified at high risk for falls; 13% (n=6,227) had ≥1 subsequent fall-related events. The most commonly prescribed fall-related medications were diuretics (39%), antidepressants (35%), and opioids (36%). After adjusting for demographics, social determinants of health, health care utilization, and comorbidities, falls risk was highest for opioids (HR 1.72, 95% CI [1.63, 1.82]), antipsychotics (HR 1.54 [1.39-1.71]), antidepressants (HR 1.47, [1.38-1.55]), and muscle relaxants (HR 1.45, [1.35-1.57]). Diuretic use, which represented the highest proportion of use, was also associated with an 8% increased risk of falls (HR 1.08, [1.02-1.14]) compared to non-users.

Conclusion: Scalable case-finding strategies using EHR data highlight opportunities for deprescribing interventions. Patterns of falls-related medication use among older adults at high risk for falls provide additional prognostic information about future falls risk. Future work is needed to understand which combination of medications synergistically increase falls risk to better identify deprescribing medication targets.

B178

Patterns of health system use in lonely and not lonely older people: a population-based cohort study

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Background: There is growing interest in understanding how the health system can address loneliness. Studies on loneliness and health care use are mixed and examine care settings separately. We compared the risk of moving through different healthcare settings over time in lonely and not lonely older adults to understand the system-level impact of loneliness.

Methods: We conducted a retrospective cohort study of community-dwelling adults aged ≥65 years in Ontario, Canada by linking nationally-representative survey data (2008/09 Canadian Community Health Survey – Healthy Aging) with health administrative data. Loneliness was measured at baseline using the 3-item Loneliness Scale and individuals were classified as not lonely, moderately lonely or severely lonely. We used sex-stratified Markov multi-state models to estimate annual transition risks between the community and four healthcare states - inpatient, long-stay home care, long-term care (absorbing state) and death (absorbing state) - by loneliness status.

Results: In a cohort of 2,684 older adults (58.8% female, mean age 77 years), 23.8% experienced moderate loneliness and 15.7% severe loneliness. After just one year, severely lonely older adults had a higher risk of transitioning to long-stay home care (6.6%, 95% CI 5.9%-7.4% vs. 4.2%, 95% CI 3.9%-4.4%) and long-term care (2.2%, 95% CI 1.8%-2.8% vs. 1.3%, 1.1%-1.5%), but not to hospital (1.1%, 95% CI 1.0%-1.2% vs. 1.0%, 1.0%-1.1%) relative to those who were not lonely. Severely lonely older men, but not women, had a higher risk of dying (6.6%, 95% CI 5.3%-8.3% vs. 4.0%, 95% CI 3.6%-4.5%).

Conclusion: Lonely older adults in the community are more likely to need home care and long-term care. Understanding patterns of health system use can identify opportunities for a coordinated system response to this growing public health issue.

B179

How information framing affects physician decision-making around stopping cancer screening in older adults – results from a national survey

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Background: Guidelines recommend against breast, colorectal, and prostate cancer screenings in older adults with <10-year life expectancy but many of these older adults continue to be screened. Different ways of presenting information are shown to significantly influence older adults' decisions on screening cessation. How different ways of presenting patients' health information affect physicians' decisions about cancer screening cessation is unknown.

Methods: In a national mailed survey of 1800 primary care physicians (PCP) and 600 gynecologists randomly selected from the AMA Masterfile, we assessed decision-making on stopping cancer screening. PCPs were randomized to questions about breast, colorectal, or prostate cancers. Using vignettes of 2 older patients in fair and poor health respectively, we presented 4 pieces of information about each patient: 1) specific health conditions (e.g. heart failure) and functional status; 2) life expectancy, estimated using age, health conditions, functional status; 3) equivalent physiologic age, estimated using life expectancy; and 4) risk of dying from the specific cancer in remaining lifetime, estimated using life expectancy and population data on cancer-specific mortality. We asked which information was most influential towards stopping screening and whether the physician would stop screening.

Results: Excluding 583 ineligible physicians, 777 (42.8%) responded so far (data collection ongoing). Majority were men (54.5%) and white (67.0%) with mean age 51.3 years. Overall, 76.9% would stop screening in patient with fair health; 90.8% would stop screening in patient with poor health. Effect of different information varied by cancer type, patient health, and physician specialty (Table).

Conclusions: Different ways to present patient health information have different effects on physicians' decision-making around cancer screening cessation, suggesting potential variations in decisional priorities. Our results can help inform the design of physician decision support tools to improve cancer screening in older adults.

Proportion of participants who chose each information as most influential for stopping screening

	Fair health				Poor health			
	GYN-breast	PCP-breast	PCP-colorectal	PCP-prostate	GYN-breast	PCP-breast	PCP-colorectal	PCP-prostate
Health/function	42.5%	48.4%	19.6%	33.5%	28.3%	48.4%	47.9%	34.4%
Life expectancy	8.4%	8.0%	30.9%	23.0%	22.5%	19.8%	29.7%	35.0%
Physiologic age	1.7%	5.9%	4.1%	5.2%	6.9%	8.8%	5.3%	7.0%
Risk of cancer death	47.5%	37.8%	45.5%	38.2%	42.2%	23.1%	17.2%	23.7%

B180

Change over 1 year in a claims-based frailty index, mortality, and healthcare costs

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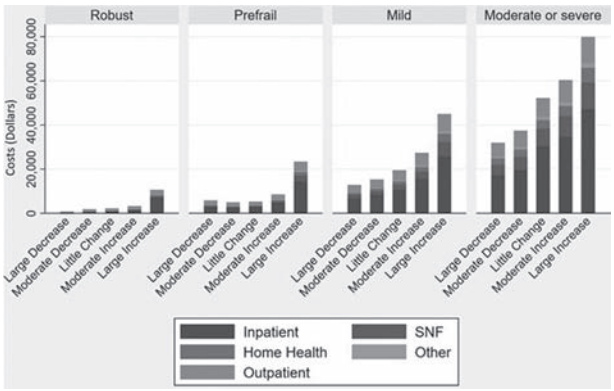
Background: Worsening frailty index (FI) has been associated with increased mortality risk in prospective cohort studies. Changes in a claims-based frailty index (CFI) have not been examined.

Methods: We used a 5% sample of Medicare beneficiaries with continuous part A and B enrollment in 1/1/2014-12/31/2015. CFI was measured on 1/1/2015 and 1/1/2016, using claims data in the prior 12 months, and categorized as robust (CFI<0.10), prefrail (0.10–0.19), mildly frail (0.20–0.29), and moderate-to-severely frail (≥0.30). Change in CFI was calculated as the change between the two measurements and categorized into large decrease (>0.05), small decrease (0.05–0.021), stable (±0.02), small increase (0.021–0.05), or large increase (>0.05). Mortality and annualized Medicare costs were measured in the following year.

Results: In our sample of 995,664 beneficiaries (mean age 77 years, 56.8% female, 87.5% white). On 1/1/2015, the proportions of robust, prefrail, mildly frail, and moderate-to-severely frail beneficiaries were 8.7%, 70.6%,16.8%, and 4.0%, respectively. Stable frailty was most common in the robust group (53.0%), whereas a large decrease was most common in the moderate-to-severely frail group (48.3%). Across all frailty groups, a large decrease in CFI over 1 year was associated with a lower risk of death and lower costs, while a large increase in CFI was associated with an increased risk of death and higher costs (Figure).

Conclusion: Changes in CFI predict mortality risk and healthcare costs. Our results suggest that a CFI is responsive over time and may be useful in longitudinal monitoring of population health.



B181

Frailty and time at home after SNF discharge to community

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Background: Older adults discharged from post-acute care at skilled nursing facilities (SNF) often experience readmissions or adverse health outcomes that negatively affect quality of life. We examined the association of frailty with home time, defined as the number of days alive and spent out of hospital and SNF, from administrative claims data.

Methods: In the 5% Medicare random sample, we identified beneficiaries who had a SNF admission in 2014-2016 and continuous part A and B enrollment in the prior 6 months. Frailty was measured with a validated claims-based frailty index (CFI) (range: 0-1, higher scores denoting worse frailty), and categorized into non-frailty (<0.20), mild frailty (0.21-0.29), and moderate-to-severe frailty (≥0.30). We measured home time in the 6 months following SNF discharge (range: 0-182 days with higher values denoting more days at home). Logistic regression was used to assess the association between frailty and short home time, defined as the lower decile, adjusting for age, sex, race, region, a comorbidity index, and the Minimum Data Set functional score on admission to SNF.

Results: In our sample of 159,267 beneficiaries (mean age, 78.5 years, 63.7% female, 84.5% white) who were discharged to community after SNF stay, the mean CFI was 0.25 (standard deviation, 0.07) and mean 6-month home time was 158.8 (43.8) days, with a lower decile of 84 days. The mean home time was 170.3 (32.1) days in non-frailty, 160.1 (42.8) days in mild frailty, 149.0 (49.7) days in moderate-to-severe frailty group. Relative to non-frail group (4.7%), the proportion of having short home time increased with mild frailty (9.3%) and moderate-to-severe frailty (14.6%) (Figure).

Conclusion: Higher CFI is associated with short time at home in Medicare beneficiaries who are discharged to the community after post-acute SNF stay. Our results support the utility of CFI in identifying SNF patients who need additional resources and interventions to prevent health decline and poor quality of life.

	Unadjusted Odds Ratio [95% CI]	Adjusted for demographics and comorbidities Odds Ratio [95% CI]	Adjusted for demographics, comorbidities, and MDS admission Odds Ratio [95% CI]
CFI 0.21-0.29	2.08 [1.96 -2.21]	1.39 [1.31 -1.48]	1.30 [1.22 -1.38]
CFI >= 0.30	3.46 [3.26 -3.68]	1.68 [1.57 -1.79]	1.42 [1.33 -1.52]

B182 Student Presentation

Deprescribing for communities of color – a literature review and synthesis

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Background: Deprescribing refers to the systematic process of identifying problematic medications and either reducing the dose or stopping these medications in a manner that is safe and effective. Deprescribing is a largely behavioral intervention that requires effective culturally competent communication with a patient. Communities of color face various barriers in deprescribing including implicit bias in prescribing practices and underrepresentation in deprescribing research. As such, the aim of our research is to determine the state of deprescribing research pertaining to communities of color.

Methods: We developed a search strategy for PubMed using MeSH terms that relate to communities of color and deprescribing. To be included in our final sample we required four inclusion criteria: (a) mention of the communities of color in the title/abstract or greater than 50% of the sample population being a community of color, (b) one or more research questions posed by the author having to do with a community of color, (c) focus on issues related to reducing the use of excessive or inappropriate medications, (d) research based out of North America or Australia.

Results: The initial PubMed search for articles related to deprescribing yielded 1,344 results. Of those 26 articles were determined to relate to both communities of color and deprescribing based on abstract review. A total of 3 articles were determined to fit within the inclusion criteria after a two-step full article review. Common themes identified among the 3 articles were the importance of patient feedback to culturally competent approaches to deprescribing, importance of establishing trust in the patient-doctor relationship, the importance of engaging caregivers, and providing direct-to-patient educational materials offered in multiple languages.

Conclusions: Only 0.2% of articles related to deprescribing within PubMed focus on communities of color. Research focused on deprescribing in communities of color is thus much needed. Understanding the needs of researchers to conduct effective deprescribing research within communities of color can allow for the development of resources and supports to encourage deprescribing research within communities of color.

B183 Student Presentation

Facilitating opportunities for greater collaboration between primary care providers and adult day centers for the management of persons living with dementia

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Background: Persons living with dementia (PLWD) have complex health and social needs and benefit from integrated interdisciplinary care. However, lack of adequate collaboration across various medical, social, and community dementia care providers, contributes to siloed, fragmented care. Primary care providers (PCPs) are reportedly challenged to meet the biopsychosocial needs of PLWD; whereas adult day centers (ADCs), who provide essential community-based services for PLWD, are rarely considered as part of the dementia health care continuum. The purpose of this study was to identify perceived barriers to collaboration with ADCs according to PCPs that need to be addressed in order to move towards integrated care.

Methods: Study participants were recruited through convenience, snow-ball sampling of PCPs across California. PCPs first completed a 30-item Qualtrics survey, followed by a 30-45 minute semi-structured interview. Interviews were recorded and professionally transcribed. Content analysis using the Braun and Clarke method was conducted using the software, Dedoose. The codebook used to analyze the interview transcripts was created in collaboration with members of the research team using an iterative process.

Results: A total of 22 PCPs were interviewed. Survey responses found that PCPs are confident in diagnosing dementia, but less confident in recommending local resources for patients and caregivers. PCPs reported barriers to collaboration with ADCs included lack of time, monetary compensation, knowledge of ADCs. PCPs honed in on strategies to facilitate collaboration such as onsite primary care visits at ADCs, grand rounds with ADCs, and interdisciplinary meetings or "Dementia Boards."

Conclusion: PCPs see the value of collaboration with ADCs, particularly for PLWD, who require significant social support and care coordination outside of the medical setting. However, PCPs have limited understanding, education, training, and experience working with ADCs. Furthermore, professional and financial constraints prohibit PCPs from investing the time to build collaborations with ADCs. Practical strategies to foster collaboration may be simpler than previous thought and include continued medical education about ADCs or onsite visits at the centers.

B184

Quantifying Incidence and Risk of Excessive Loop Diuretic Use relative to Dihydropyridine Calcium Channel Blocker Dose: a Prescribing Cascade Evaluation

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Background: Prescribing cascades occur when drug-induced adverse events result in additional treatment rather than deprescribing or de-escalating the offending agent. Although dihydropyridine calcium channel blocker (DH-CCB) – edema – loop diuretic prescribing cascade has been assessed, the exploration of a dose-response relationship of DH-CCB on the outcome is not known. We aimed to quantify the excess prescribing of loop diuretics following the initiation of a DH-CCB by dose.

Methods:

US Fee-for-Service Medicare Claims (2011-2018) was used to identify older adults initiated on a DH-CCB or active comparator (angiotensin-converting enzyme inhibitor [ACEi] or angiotensin receptor blocker [ARB]). DH-CCB use was stratified by dose (low, standard, high) as a time-varying exposure. We assessed the incidence and relative risk of loop diuretic initiation of DH-CCB by dose relative to ACEi or ARB with adjusted Cox Models.

Results: Overall, 83,577 and 188,887 patients were initiated on DH-CCB and ACEi or ARB, respectively. The unadjusted incidence of the stratified DH-CCB doses and ACEi or ARB are listed in Table 1. After adjusting for covariates, patients on high-dose or standard-dose DH-CCB were 32% and 2.3 times more likely to be initiated on a loop diuretic, respectively, compared to ACEi or ARB (Table). There was no difference in low-dose DH-CCB vs. ACEi or ARB.

Conclusion: There is a positive dose-response association for the DH-CCB – edema – loop diuretic prescribing cascade. This dose-response association may suggest that DH-CCB dose de-escalation may be an option for patients who develop edema and DH-CCB deprescribing may not an option if there is a lack of antihypertensive alternatives.

Incidence and Risk of Excessive Loop Diuretic Use by Dihydropyridine Calcium Channel Blocker Dose vs. an Active Comparator

Medication	Loop Diuretic Initiations per 100 PYs (95% CI)	Adjusted HR (95% CI)
ACEi or ARB (Active Comparator)	3.02 (3.01-3.03)	1.00 (reference)
Low Dose DH-CCB	3.07 (3.05-3.11)	0.99 (0.91-1.08)
Standard Dose DH-CCB	4.36 (4.34-4.38)	1.32 (1.25-1.40)
High Dose DH-CCB	6.28 (6.24-6.33)	2.28 (2.13-2.44)

B185

The utility of online chatbot on social media platform for COVID vaccine hesitancy in older adults

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Background: Vaccine hesitancy is an enormous global public health threat and a barrier to controlling the COVID-19 pandemic. Reasons for vaccine reluctance include safety concerns, poor health literacy, and public misinformation. An online chatbot is a potential strategy to mitigate vaccine hesitancy; however, few studies have assessed its utility and efficacy, particularly in older adults. We evaluated whether a chatbot implemented on social media alters self-reported COVID-19 vaccine hesitancy in Japan.

Methods: We developed and integrated a free online chatbot, a conversational computer program that allows humans to interact with technology, in LINE, which is the most commonly used messenger app in Japan. The chatbot provided automated answers to frequently asked questions regarding COVID-19 vaccines, covering more than 100 questions selected from Japanese government websites and the United States CDC website. A cross-sectional survey to assess COVID-19 vaccine hesitancy was administered via the app during April 5-12, 2021, when Japan experienced its first wave of COVID-19 cases.

Results: A total of 75,806 persons used the chatbot between Feb 6 and Oct 31, 2021, and 3443 older adults (≥60 years old) out of 10,192 respondents (33.8%) completed the survey. The older adults averaged 66.9 (range 60-97) years old and 62% were female. The rate of vaccine hesitancy, defined as a response of "unsure or no to vaccines," decreased from 34.0% (1172/3443) to 12.5% (429/3443) after using our app. In these older adults, increased vaccine intent after app use was associated with the presence of chronic respiratory diseases or immunocompromised state and having received influenza vaccination the prior year. Factors associated with a lack of change in vaccine hesitancy were female sex, having no significant past medical history, and previous vaccine side-effect.

Conclusions: In Japan, many older adults used an online chatbot to obtain COVID-19 vaccine information in the midst of a pandemic. Preliminary evidence suggests that use of chatbot may influence vaccine hesitancy. More studies are needed to better understand the effects of online platforms on health behavior, such as vaccine hesitancy in older adults.

B186

Healthcare Utilization in Home-Based vs. Clinic-Based Primary Care: A Matched Difference-in-Difference Analysis

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Background

Home-based primary care (HBPC), an alternative care model for homebound older patients, may decrease acute care utilization through intensive follow-up in the home. Yet, evidence remains mixed. HBPC programs have been integrated into healthcare systems and pragmatic approaches to evaluate their impact on utilization are needed. A matched-comparison group design was applied in the present study.

Methods

Patients were enrolled in an HBPC program at an academic medical center from Oct 2018 to Jun 2020 and followed for 1 year. 1 to 3 matched controls were identified for each patient based on age, comorbidities, dementia diagnosis, frailty risk, and baseline acute care utilization from university-affiliated primary care clinics. Acute care utilization (hospital admissions, ED visits, and observations) and outpatient primary and specialty care office visits were captured between 1 year prior (baseline) and 1 year post-enrollment for HBPC patients and matching periods for the controls. A difference-in-differences analysis was used to determine if changes in utilization from baseline to 1 year differed between the groups.

Results

HBPC patients (N=117) were similar to controls (N=328) on matched variables but differed in race and geographic location. From baseline to 1 year, acute care encounters decreased in both groups by 40% from 2.5 to 1.5 encounters but did not significantly differ between groups. Outpatient care utilization increased by 70% (from 10.2 to 17.2) for HBPC patients while control group had 26% decrease (14.2 to 10.5) from baseline to 1 year ($p<0.01$). HBPC had 3 times more primary care encounters during the follow-up period than matched controls ($p<0.01$) and 20% of the encounters were with a social worker.

Conclusions

Compared to matched controls, HBPC patients experienced an increase in primary care encounters, but change in acute care utilization did not differ between the groups. Frequency of outpatient encounters for matched controls may have been impacted by COVID-19 restrictions, meanwhile HBPC patients received a more intensive primary care and social work follow up even during the pandemic. Evaluating the impact of HBPC beyond acute care utilization provides insights in how patients and caregivers benefit from this resource.

B187 Student Presentation

Assessment of the Relationship between Cognitive Impairment and Functional Limitations and the Moderating Effect of Race

R. Alam. *University of Illinois at Urbana-Champaign, Urbana, IL.*

Background: Cognitive impairment is known to be associated with functional limitations, however, the racial influence on this relationship has yet to be explored.

Objectives: This study examined the association between cognitive impairment and different domains of functional limitations and the moderating effect of different races in this association.

Methods: Cross-sectional data from the National Health and Nutrition Examination Survey (NHANES) 2011-2014 on 2,972 older individuals [M_{age}=69.49(6.79) years, Female%=51.38] was examined. The assessment of functional limitations included three domains: activities of daily living (ADL), instrumental activities of daily living (IADL) and leisure and social activities (LSA). Digit Symbol Substitution Test (DSST) was used as the neuropsychological test to assess cognitive function. Race variable included Hispanics, Non-Hispanic Blacks (NHB), Non-Hispanic Asians (NHA) and Non-Hispanic Whites (NHW).

Results: Logistic regression analyses were used to evaluate the association between cognitive function and each domain of functional limitations and the moderating effects of different race in this association. A greater proportion of older adults having cognitive impairment were males with lower health insurance coverage. Adjusted models suggested that the participants with cognitive impairment had 2.09 (CI 1.65-2.63) greater odds for ADL difficulties; as for IADL difficulties 2.15 (CI 1.72-2.70); while for LSA difficulties 1.92 (CI 1.51-2.45) after controlling for covariates such as age, sex, health insurance, routine healthcare, income to poverty ratio, body mass index, and education. A significant interaction effects between Hispanic race and cognitive impairment (OR 0.34; CI 0.26-0.45) and NHB and cognitive impairment (OR 0.58; CI 0.45-0.74) were discovered.

Conclusion: Cognitive impairment was associated with different domains of functional limitations and Hispanic and Black races negatively moderate the association. Future researchers should investigate the link of racial differences in life expectancies among cognitively impaired individuals with the moderating effect of Hispanic and Black races in cognitive function-functional limitation relationship.

B188 Student Presentation

TDP-43 aggregate generation to investigate ALS pathogenesis

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Background

Amyotrophic Lateral Sclerosis (ALS) is a progressive neurodegenerative disease characterized by motor neuron dysfunction. Among the ~30,000 Americans currently living with ALS, the average age of diagnosis is 64 years, demonstrating a disproportionate toll on aging populations. The hallmark feature in over 97% of ALS patients is cytosolic aggregation of regulatory protein TAR DNA binding protein-43kDa (TDP-43). Previous TDP-43 studies have utilized brain homogenates or bacterial-produced aggregates, limiting scale and applicability to human disease. To better evaluate consequences of TDP-43 inclusion formation, we developed a human cell-derived model that is amenable to TDP-43 purification to generate ALS-relevant aggregates.

Methods

HEK-293T cells were transfected with a GFP-tagged TDP-43 mutant that we previously showed was highly aggregate-prone (dNLS-2KQ), and intracellular aggregation was examined via fluorescent microscopy before lysate collection 48h post-transfection. Cell lysates were treated with DNase I and Sarkosyl detergent and purification was performed using well-known TDP-43 antibodies applied overnight at 4C. Isolated TDP-43 was pulled down with magnetic agarose beads followed by washing and elution using either NaCl or a glycine pH 2.5 solution. We confirmed GFP-expressing aggregates using fluorescent microscopy, while quantity of TDP-43 was assessed using SDS-PAGE and Western blot. Protease resistance of the aggregates was also examined through treatment with a serial dilution of proteinase K.

Results

Fluorescent microscopy, SDS-PAGE and Western blot confirmed TDP-43 aggregates in the final product, demonstrating a clear band at the expected weight of the GFP-dNLS-2KQ construct around 74 kDa. Additionally, protease resistance, and therefore less accessibility, was demonstrated using proteinase K treatment, indicating an aggregated TDP-43 core.

Conclusion

By combining human-derived protein production, detergent extraction, and immunoprecipitation, specific TDP-43 aggregates were successfully generated and purified for future use. Furthermore, the elevated protease resistance is consistent with aggregates present in human disease. Application of this optimized method at the bench expands the avenues of ALS pathogenesis research to help elucidate effective means for combating disease progression.

B189 Student Presentation

Differences in brain microstructure by alcohol consumption in older adults

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Background: Previous imaging studies assessing effects of moderate drinking on brain aging have been inconclusive and may not have used the most sensitive measures of brain health. Restricted spectrum imaging (RSI) is an advanced diffusion MRI technique that is sensitive to microstructural tissue features that can be undetectable by conventional diffusion tensor imaging. We tested the hypothesis that older adults who drink moderately would have better microstructural integrity, demonstrated by higher restricted diffusion and lower free water, compared to non-drinkers and heavy drinkers.

Method: Participants included 146 community-dwelling older adults (age 77±8 years, 61% women). Based on self-reported alcohol intake, participants were classified as: non-drinkers (n=22), moderate drinkers (<1 drink/day for women and <2 drinks/day for men; n=93), or heavier drinkers (≥1 drink/day for women and ≥2 drinks/day for men; n=31). All participants underwent RSI, and three diffusion measures were analyzed: Isotropic free water (reflecting cerebral spinal fluid), hindered isotropic diffusion (extracellular space or large cell bodies), and restricted isotropic diffusion (intracellular). Analysis of covariance assessed how brain microstructure differed by alcohol intake, adjusting for age and sex.

Results: Gray and white matter microstructure differed by alcohol consumption. Isotropic free water was significantly higher, and hindered diffusion was lower in heavier drinkers than in moderate drinkers across cortical gray matter. Restricted isotropic diffusion was higher in moderate drinkers than in heavier drinkers in the frontal cortex. Within white matter, restricted isotropic diffusion in the inferior-frontal superior-frontal tract was higher in nondrinkers than in moderate and heavier drinkers. Isotropic free water was higher among heavier drinkers than moderate drinkers in the uncinate fasciculus and the striatal inferior frontal tract.

Conclusion: Among this sample of older adults, we did not observe protective associations of moderate drinking with brain microstructure; however heavier drinking was associated with evidence of microstructural damage in gray and white matter.

B190 Student Presentation

Social support, mental health, and vaccine willingness in Asian American older adults during the COVID-19 pandemic

K. A. Kokame,[2,1] L. N. Doàn,[2] A. Saw,[3] A. J. Yellow Horse,[4] B. Wu,[5] S. C. Kwon,[2] S. S. Yi.[2] *1. University of Hawai'i at Manoa, Honolulu, HI; 2. Department of Population Health Section for Health Equity, NYU Langone Health, New York, NY; 3. Department of Psychology, DePaul University, Chicago, IL; 4. School of Social Transformation, Arizona State University, Tempe, AZ; 5. Rory Meyers College of Nursing, New York University, New York, NY.*

Background: Asian Americans have experienced increased mental health challenges since the onset of the COVID-19 pandemic. Substantial research documents the salubrious effects of social support on mental and overall health among Asian Americans. However, the role of social support in mental health and health behaviors like vaccine willingness for Asian American older adults during the pandemic remains underexplored despite the importance of social support for health and quality of life in this population.

Objective: This study examines the relationship between social support, mental health, and COVID-19 vaccine willingness among Asian American older adults during the pandemic.

Methods: The Asian American, Native Hawaiian, and Pacific Islander COVID-19 Needs Assessment Survey was a national survey administered between January 18 – April 9, 2021 (n=3,736). Adults aged 50 years and older who self-identified as Asian American were included. Logistic regressions were conducted to analyze associations among depression symptoms, anxiety symptoms, COVID-19 vaccine willingness, and social support types (receiving or providing emotional and instrumental support).

Results: The sample (n=654) was 59% East Asian, 22% Southeast Asian, 10% South Asian, and 9% Multiethnic/Other. About 12.5% screened positive for depression symptoms, 16.7% for anxiety symptoms, 20.6% for depression or anxiety symptoms, and 75.2% were willing to get the COVID-19 vaccine. Compared to adults not receiving emotional support, adults who received emotional support were less likely to have depression [0.42 (0.25, 0.70)] and anxiety [0.56 (0.35, 0.90)], and they were more likely to get the COVID-19 vaccine [1.63 (1.00, 2.64)]. Adults who provided emotional support to others were also less likely to have depression [0.54 (0.31, 0.95)].

Conclusions: Receiving emotional support was not only associated with better mental health outcomes but also COVID-19 vaccine willingness. This may have implications for developing supportive programming for this population that not only includes instrumental or practical support, but also emotional support.

B191 Student Presentation

Identifying sex differences in aging with diffusion MRI

M. Pang,[1] J. Chen,[2] B. Ades-Aron,[2] T. Shepherd,[2] R. Osorio Suarez,[2] E. Fieremans.[2] *1. University of Hawai'i at Manoa John A Burns School of Medicine, Honolulu, HI; 2. New York University Grossman School of Medicine, New York, NY.*

Background: There is no current consensus on sex-related white matter (WM) changes in aging. This study aims to characterize WM microstructure across the lifespan and identify sex differences in the onset of decline.

Methods: Patients 25-75 years old who underwent brain magnetic resonance imaging (MRI) for clinical indications of headache or dizziness at the NYU Center for Biomedical Imaging from October 2014 to March 2020 were retrospectively enrolled. Diffusion weighted MRI was processed using DESIGNER to extract parametric maps of mean diffusivity (MD), then average over two regions of interest (ROI): genu, splenium, and plot as a function of age. Linear and quadratic regression models were compared with adjusted R^2.

Results: Of all patients (n=878), n=324 were excluded for MRI abnormalities (n=115), lack of data in the electronic health record (n=46), history of neurologic disease (n=125), or poor image quality (n=38). The final sample was age- and sex-matched, resulting in 302 females 45.6±14.2 years old and 151 males 45.6±14.3 years old. In both ROIs, MD initially decreased, then increased with age, and was better described by quadratic than linear curves based on adjusted R^2. At younger ages, males had higher MD than females, but the MD-increase with age began about 5 years earlier in females in both genu (minimum at 31.2 yrs in females, 36.7 yrs in males) and splenium (minimum at 34.9 yrs in females, 39.6 yrs in males).

Conclusion: The higher MD in males may reflect protective effects of premenopausal female sex hormones on myelination. Interestingly, the earlier increase of MD in females suggests sex-differences in the onset of age-related neurodegeneration.

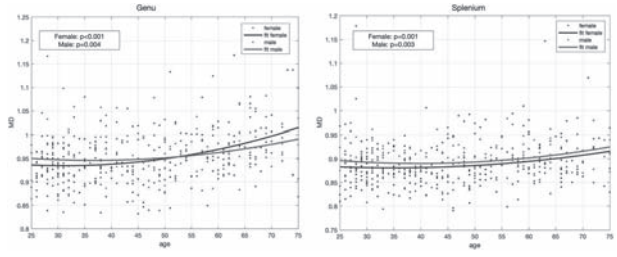

Figure 1. Plots of MD versus age with best fit lines showing non-monotonic changes over lifespan

B192

Natural Language Processing to Identify Dementia and Mild Cognitive Impairment from Electronic Health Record

M. Yang,[1] A. Bhandari,[2] K. Callahan,[1] E. Kirkendall,[2] K. M. Lenoir,[2] N. M. Pajewski,[2] U. Topaloglu.[2] *1. Internal Medicine/Geriatrics, Wake Forest Baptist Medical Center, Winston-Salem, NC; 2. CTSI, Wake Forest Baptist Medical Center, Winston-Salem, NC.*

Introduction: An estimated half of the patients with dementia have not been correctly diagnosed [1]. Even fewer are coded in the Electronic Health Record (EHR) as billing codes or discrete data elements. Machine learning of non-structured clinical notes could potentially identify patients with undiagnosed dementia and Mild Cognitive Impairment (MCI).

Methods: We retrospectively identified Wake Forest EHR Progress and History & Physical notes for patients who have been diagnosed in the Wake Forest Geriatric Consult Clinic from 2017 to early 2020. Out of 707 patients with complete diagnoses, 19,053 clinical notes were extracted prior to date of consult evaluation. Over half (56.7%) of patients were diagnosed with dementia, 23.0% were diagnosed with MCI, and 20.3% with either normal cognition or other geriatric syndromes. Two separate classification models were created for Dementia and MCI. After note cleaning, Term Frequency- Inverse Document Frequency (TF-IDF) was applied to each note to create a feature vector weighing how significant a word in a document was relative to the other documents. These feature vectors were randomly split (80/20) into a training and a test set. Several Machine Learning approaches including Naïve Bayes, Random Forest, Neural Networks, Logistic Regression and Support Vector Machines (SVMs) were tested.

Results: For both dementia and MCI, Neural Networks had the highest accuracy of predicting memory diagnoses compared to dementia specialists' "gold standard" diagnoses. The Dementia model accuracy (88.7%), MCI model accuracy (92.3%), and the Area Under the Curve (AUC) were high for Dementia and MCI models, 95.7% and 95.8% respectively.

Conclusion: Future directions include further refining the model on general primary care population of older adults who may not have had subjective memory complaint as well as validating the Neural Network's learning prediction prospectively.

References: [1] Alzheimer's Association. 2019 Alzheimer's disease facts and figures. *Alzheimers Dement.* 2019;15(3):321–387.

B193 Student Presentation

Longitudinal analysis of cognitive function in patients with multiple myeloma

A. S. Yusuf,[2] A. Deal,[1] H. Heiling,[1] B. Heikke,[1] C. Jensen,[4,3] N. Mangieri,[1] K. A. Nyrop,[1,4] E. Lichtman,[1,3] S. Rubinstein,[1,3] S. J. Grant,[1,3] S. Tuchman,[1,3] Z. M. Nakamura.[1,5] *1. University of North Carolina Lineberger Comprehensive Cancer Center, Chapel Hill, NC; 2. Northeastern Ohio Medical University, Rootstown, OH; 3. Medicine, Division of Hematology, University of North Carolina at Chapel Hill Department of Medicine, Chapel Hill, NC; 4. Medicine, Division of Oncology, University of North Carolina at Chapel Hill Department of Medicine, Chapel Hill, NC; 5. University of North Carolina at Chapel Hill Department of Psychiatry, Chapel Hill, NC.*

Background: Cancer-related cognitive impairment (CRCI) refers to deficits in memory, concentration, and executive function, resulting from cancer and its treatments. CRCI has been largely unstudied in patients with multiple myeloma (MM). This study characterizes and evaluates predictors of incident CRCI and cognitive decline over time in patients with MM.

Methods: Participants enrolled in a registry which assessed physical and cognitive function, psychosocial health, and medical variables at study entry, and 3 & 6 months (m) after entry. Cognitive function was assessed using the European Organization for Research and Treatment of Cancer Quality of Life of Cancer Patients Core 30 Cognitive Function subscale (EORTC-CF), with CRCI defined as EORTC-CF <75. Fisher's exact tests compared proportion of patients with CRCI depending on the presence/absence of certain patient characteristics.

Results: Sixty-five adults with MM had mean age of 67 years, and 31% identified as Black. Sixty-eight percent completed their first survey at time of diagnosis. CRCI was present in 17% of participants at baseline, 22% at 3m, and 31% at 6m. Higher rates of CRCI at baseline were reported in those with impaired physical function versus without (30% (9/30) v 6% (2/35), p=0.02), iADL impairment v without (33% (7/21) v 9% (4/43), p=0.03), depression versus without (63% (5/8) v 11% (6/55), p=0.003), and current smokers versus previous or

never smokers (75% (3/4) v 13% (8/61), p=0.01). Of those without CRCI at baseline, higher rates of incident CRCI during the next 6 m were seen in patients with depression versus without (100% (3/3) vs 22% (11/49), p=0.02) and anxiety versus without (47% (7/15) vs 16% (6/38), p=0.03).

Conclusion: This is one of the first studies to describe CRCI and longitudinal changes in cognitive function in patients with MM. Psychosocial factors, such as depression and anxiety, increase risk for adverse cognitive outcomes.

POSTER SESSION C

Friday, May 13
12:30 pm – 1:30 pm

C1

A Moral Dilemma; The Challenges of Advanced Care Planning

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BACKGROUND: Advanced Care Planning (ACP) is the process by which a patient's values are elicited to inform their future medical care. It promotes patient centered care, decreases unwanted interventions and eases the burden on decision makers[1]. However it does not account for the non-linear trajectory and emotional impact of serious illness[2]. **CASE:** A 78 year old female with a PMH of lupus, seizure disorder, depression and mild cognitive impairment presented with weakness secondary to an aspiration pneumonia. Imaging revealed a hiatal hernia for which she underwent surgical repair. Her course was prolonged by encephalopathy with concern for seizure requiring intubation. Due to continued hypoxia and encephalopathy she underwent placement of a tracheostomy and PEG tube. Her course was complicated by GI bleed, Afib with RVR, DVT, renal failure and possible chest wall abscess. Previously, the patient had expressed not wanting interventions including a tracheostomy or PEG tube to her healthcare proxy (HCP) and primary care doctor however did not complete a MOLST form. Multiple family meetings with an interdisciplinary team were held in which family had conflicting sentiments as to what the patient would want. They ultimately chose to continue treatment and she was discharged to a long term facility after a 3 month admission where she soon passed away. **DISCUSSION:** Our patient underwent multiple interventions that were discordant with her wishes resulting in caregiver moral injury. This signifies the challenge of navigating scenarios in which health care proxies are unable to advocate for patients and pursue undesirable interventions. We felt that involving an ethics committee would not have changed outcomes however a MOLST form may have assisted in avoiding this difficult hospitalisation. **CONCLUSION:** This case displays the dynamic and complex nature of advanced care planning. It highlights the importance of legal documentation and the need for a multidisciplinary approach to ease the burden on patients, families and providers. **REFERENCES 1.** Houben CHM, Spruit MA, Groenen MTJ, Wouters EFM, Janssen DJA. Efficacy of advance care planning: a systematic review and meta-analysis. *J Am Med Dir Assoc*. 2014;15(7):477-489. doi:10.1016/j.jamda.2014.01.008; **2**. Morrison RS, Meier DE, Arnold RM. What's Wrong With Advance Care Planning? *JAMA*. 2021;326(16):1575-1576. doi:10.1001/jama.2021.16430

C2

Quick evolution of acute polyarticular gout to chronic tophaceous gout in an a nonagenarian in a SNF

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Background:

Acute and Chronic Gout:

Gout is caused by deposition of monosodium urate crystals in cartilage, bursa and synovium. Gout in older adults has a more equal gender distribution, a more polyarticular presentation and increased risk of tophi.

Case: 98 year old woman with prior HTN, CKD stage 3, OA, Hypothyroidism, Right knee and bilateral hip replacement was admitted to our Skilled Nursing Facility (SNF) after a hospital stay for a fall and long lie. Hospital stay was remarkable for E Coli UTI and a R putamen hemorrhage on an MRI managed conservatively. She arrived to our SNF one year ago and after failure to progress in PT and uncovering of moderate cognitive deficits, she became a long term resident

She had several episodes of polyarticular gout in R knee, R wrist and L 3rd digit over the ensuing 5 months. No prior history of gout. Because of her age and the goals of "comfort care" by her family, her treatment was empiric. No joint was ever tapped. An x-ray of L knee showed severe OA and chondrocalcinosis. Each episode responded to a short course of prednisone 30 mg. She was placed on Allopurinol in late spring 2021 and has not had any flare up of gout. She however has developed tophi in her distal fingers over last few months.

Conclusion:

Our case illustrates that acute polyarticular gout can quickly evolve into chronic tophaceous gout even in older adults without prior history in the SNF setting. In this case because of "comfort goals" the patient had a very limited work up but did respond each time to prednisone and her acute flare ups ceased after Allopurinol started.

C3

COVID19 Vaccine Obscuring Breast Cancer in an Elderly

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Introduction: Inflammatory breast cancer contributes 2-4% of all breast cancers with 7% mortality in USA. Clinical suspicion should remain high in patient presenting with breast erythema, warmth, skin change. Mammogram has low sensitivity, MRI biopsy has highest sensitivity for detecting IBC. Neoadjuvant chemotherapy, modified radical mastectomy with skin removal and radiation therapy decrease recurrence while improving survivability.

Case Presentation: 78 y/o female with h/o COVID pneumonia and post COVID vaccine presented to clinic. After second vaccine in right arm developed right breast, right axillary lymph node enlargement and Rt breast edema. Mammogram showed diffuse skin

thickening of right breast and large right axillary lymph nodes. Breast U/S showed Rt sided irregular 15 x 13 x 14 mm density. BiRADS 3 probably benign likely due to inflammation from recent COVID vaccine. Chest CT showed right axillary lymphadenopathy and right breast edema with skin thickening. CXR correlated with 14.4mm nodule in the left lung. Diagnostic mammogram and biopsy indicated BiRADS 4 suspicious of malignancy with an irregular mass on right breast on U/S. Pathology revealed grade 3 invasive ductal carcinoma. Lymph node biopsy showed high grade ductal carcinoma. Surgery and oncology was consulted for Right modified radical mastectomy and further management.

Discussion: Incidence of IBC is related to variations in diagnosis criteria. There may be a positive correlation with high BMI, chronic inflammation and viral infection. Mammogram may indicate the presence of a mass, calcifications or changes in breast but has low sensitivity for detecting it at 68%. PET CT, MRI or U/S have higher sensitivity for diagnosing and staging with breast MRI biopsy having the highest sensitivity at 98%. After the diagnosis, PET CT and bone scan are useful to establish cancer staging and metastasis. Neoadjuvant chemotherapy is appropriate to decrease tumor burden before surgery. Following chemo modified radical mastectomy and axillary lymph node dissection is recommended. Chemotherapy is associated with increasing the overall survival, while surgical excision and radiation decrease recurrence without improving survivability.

Conclusion: IBC is a rapidly progressing condition often masked by other condition like a recent vaccination in this patient. It should remain in differential diagnosis for any breast skin changes. Early detection and treatment is vital to improve survival in elderly patients.

C4

The Importance of Dopamine Deficiency Evaluation in Alzheimer Disease Related Dementias

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Background: Dementia with Lewy Bodies (DLB) is the second most common cause of dementia after Alzheimer's disease (AD). Giving the high similarities between the symptoms of the two types, a lot of patients were misdiagnosed initially as having Alzheimer Disease. To increase the sensitivity of the current DLP guidelines, the DLP Consortium published its fourth revised report in 2017 with increased diagnostic weighting given to Dopamine Transporter (DAT) uptake in basal ganglia demonstrated by SPECT or PET imaging.

Our objective was to describe the role of DaT scan in evaluating dopamine deficiency in patients with overlapping symptoms of AD and DLP.

Methods: We evaluated twelve patients presented with memory impairment. Nine of the patients were not included in our study due to known long standing history of Parkinson Disease, Supranuclear Palsy diagnosis, unavailability of DaT scan or minimal dopamine transport deficit in DaT scan. The remaining three patients who presented with memory impairment, overlapping signs of Alzheimer Disease and varying degrees of Dementia with Lewy bodies underwent DaT scans evaluation to identify any significant dopamine deficiency.

Results: DaT scans showed severe dopamine transporter deficit in the bilateral corpus striatum in our three patients consistent with probable DLP as per current revised report of the DLP consortium. All three patients received treatment with carbidopa/levodopa and showed benefit with increased energy and improved overall function.

Conclusion: Our three cases showed the role of DaT scan in evaluating dopamine deficiency in patients with overlapping symptoms of Neurodegenerative Dementias. A positive DaT scan will provide evidence for management and specific treatment options related to dopamine replacement. It will also help with prognostication of dopamine deficiency syndromes and assist the providers in counseling the patients and caregivers.

C5

Guns, pot, and pain

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Chronic opioid therapy is useful for refractory neuropathic pain and has been shown to improve quality of life. A 62-year-old African American man was seen in the Geriatric Emergency Department for a flare-up of chronic leg pain and abdominal pain. He had a diagnosis of Complex Regional Pain Syndrome (CRPS) resulting from a gunshot wound in 1991 from which he suffered organ damage and had been on disability ever since. He underwent spine surgery in 2020 to remove the bullet fragment and was getting monthly medication infusions (propofol, ketamine, ketorolac, and lidocaine) through pain management. After infusion, the medications were effective for only 2 weeks. His physicians were able to prescribe periodic oxycodone for breakthrough pain. The patient was using his son's medical marijuana card to obtain edible marijuana to provide additional pain relief. His physicians were reluctant to prescribe higher doses of opioids due to concurrent marijuana use. In the ED, his vital signs and laboratory studies were normal. His physical exam showed abdominal distention. Abdominal CT revealed moderate to large amount of colonic feces. Intravenous hydromorphone was given with pain relief. Pain management was discussed. It was found that he is a gun owner with a concealed gun permit. The idea of giving up his concealed gun permit was raised so he could apply for a medical marijuana card (as per state law, he is not eligible for a medical marijuana card because he has a concealed gun permit.) He declined to give up the gun permit due to concern for personal safety. He was discharged with a short supply of oxycodone and a bowel regimen. Marijuana is a Schedule I drug under the Federal Controlled Substances Act of 1970. The Gun Control Act of 1968 bans the ownership of guns by people who possess a controlled substance. Though medical marijuana is legal in 36 states through state laws, federal laws override and conflict with state laws and programs involving marijuana use and possession. Thus, a gun owner who uses medical marijuana violates federal laws and is subject to penalties. The ongoing opiate epidemic has sensitized the physician community towards opiate prescription practices, and for patients with chronic pain syndrome, conflict between federal and state laws is a barrier to the potential benefit from medical marijuana. Providers should be aware of federal and state laws while discussing chronic pain therapies and ask about gun ownership during routine assessment.

C6

From Tardive Dyskinesia to Parkinsonism : An Avoidable Journey

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BACKGROUND

Tardive dyskinesia (TD) and Parkinson's Disease (PD) are debilitating disorders in elderly caused by multiple drug classes. We present a case of drug induced TD that ultimately led to drug induced PD.

CASE

74 year old female who suffered hypertension, depression, gastroparesis, chronic insomnia, restless leg syndrome(RLS), presented to clinic for establishing care. Her main concern was uncontrollable shaking of feet, slowly worsening over 8 years. It was labelled as RLS. She was on valsartan, duloxetine, domperidone, omeprazole, nortriptyline and ropinirole. Neurological exam showed stereotypical non rhythmic involuntary movements in toes, feet, fingers and hands along with lip smacking. There was no tremor, bradykinesia or rigidity. Speech was fluent and gait was normal. TD was suspected from domperidone and duloxetine[1]. Further inquiry into past revealed chronic use of metoclopramide 1year prior to the onset TD, which likely was the inciting drug. Not recognized early on, over the years, she was prescribed promethazine, fluoxetine, duloxetine,

aripiprazole, nortriptyline and domperidone, all potentially making her TD worse [1][2]. Brain imaging was non diagnostic. Neurology team confirmed TD and Tetrabenazine (TBZ), a dopamine depletor, was started. Duloxetine, domperidone, nortriptyline and ropinirole were stopped. TD improved over a year, but her depression worsened due to TBZ. Brexpiprazole was tried for depression, that made her TD worse. Deutetrabenzine (DTBZ) was started as the next option. In due course, she started to become stiffer and slower. Decreased facial expression, slow speech, bradykinesia in hand movements, slowing of gait and increased rigidity were noted on exam. Drug induced PD was suspected from TBZ and DTBZ. Dopamine transporter scan showed decreased activity in caudate nuclei suggestive of atypical PD.

DISCUSSION

TD is a well-known complication of typical antipsychotics [1]. Antiemetics, antidepressants and newer generation antipsychotics can lead to TD in elderly after prolonged use [1][2]. Treatment can be challenging. Close attention to drug side effects, patient education and closer exam could have potentially avoided this debilitating course.

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C7

From Tardive Dyskinesia to Parkinsonism: An Avoidable Journey!

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Background: Tardive dyskinesia (TD) and Parkinson's disease (PD) are debilitating disorders in the elderly, and can be caused by multiple drug classes. We present a case of TD that ultimately led to drug-induced PD.

Case: A 74 year old female who suffered hypertension, depression, gastroparesis, chronic insomnia and restless leg syndrome (RLS), presented to the clinic for establishing care. Her main concern was uncontrollable shaking of feet, which was labelled as RLS, and had slowly worsened over the past eight years. She had been prescribed valsartan, duloxetine, domperidone, omeprazole, nortriptyline and ropinirole. Neurological exam showed stereotypical non-rhythmic involuntary movements in toes, feet, fingers and hands, along with pursing of lips. There was no tremor, bradykinesia or rigidity. Speech was fluent and gait was normal. TD was suspected from domperidone and duloxetine. Further inquiry into her past revealed chronic use of metoclopramide one year prior to the onset TD, which likely was the inciting drug. Over the years, she was then subsequently prescribed promethazine, fluoxetine, duloxetine, aripiprazole, nortriptyline and domperidone, all potentially making her TD worse. Brain imaging was non-diagnostic. The neurology team confirmed TD, and started Tetrabenazine (TBZ), a dopamine depletor. Duloxetine, domperidone, nortriptyline and ropinirole were stopped. TD improved over the next year, but her depression worsened due to TBZ. Brexpiprazole was tried for depression, however it made her TD worse. Deutetrabenzine (DTBZ) was started as the next option. In due course, she started to become stiffer and slower. Decreased facial expressions, slow speech, bradykinesia in hand movements, slowing of gait and increased rigidity were noted on exam. Drug-induced PD was suspected from TBZ and DTBZ. Dopamine transporter scan showed decreased activity in caudate nuclei, suggestive of atypical PD.

Discussion: TD is a well-known complication of typical antipsychotics. Antiemetics, antidepressants and 3rd generation antipsychotics can also lead to TD in elderly patients after prolonged use. Close attention to drug side effects, patient education and more thorough examinations may have potentially avoided this debilitating course.

C8

Lung Herniation Case Presentation

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An 88 year old Caucasian male presented to clinic, with spouse and daughter, reporting one week history of right chest wall bulge present while coughing. Patient reported bulge developed during a two-week history of productive cough. He described yellow sputum production without chest pain, shortness of breath or wheezing. There were no associated systemic or typical upper respiratory symptoms. Past medical history was significant for cerebral vascular accident (CVA) in 2013 with residual right sided hemiplegia, aspiration pneumonia, and sarcoidosis in remission, remote right thoracotomy through the 5th intercostal space (2003), obstructive lung disease with subsequent 1L NC home O2 at night.

On clinical examination, bulging was absent with normal respirations and during forced cough in a sitting position. Fine bibasilar rales were present in lower mid fields on auscultation and there was mild chest wall tenderness to palpation along prior bulge location. Considering these findings chest radiography was obtained which revealed linear perihilar scaring vs atelectasis but otherwise unremarkable. Subsequent Computed tomography (CT) of the chest revealed post-surgical changes of right lung with bulging of chest wall fat inward in same location with residual intercostal hernia defect.

Patient's family submitted a video of this chest bulge.

Pulmonary hernia is an uncommon condition in which a part of the lung pushes through a weak spot in the chest wall. In the majority of reported cases, this is a result of trauma or injury to the chest area. Lung herniation has been reported in postsurgical patients after surgery introduces a weak spot in the intercostal muscles. Many case reports note weakness as a result of poliomyelitis. No reviewed reports noted hemiplegia as a result of stroke contributing to the lung herniation. Risks of pneumothorax appear to be low with greatest risk being strangulation.

Treatment may be conservative or surgical. In our patient, his goals of care are to limit interventions and maintain comfort. Therefore, the treatment has been to address the cough. In addition, he has been instructed to sit up hug a pillow when coughing and is using a binder.

C9

Age is just a number-a case of late-onset hereditary spastic paraplegia.

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Background: Hereditary spastic paraplegia (HSP) is a genetic, length-dependent axonopathy of upper motor neurons (UMN) with an incidence of 1-10 per 100,000. It affects all ethnicities & can occur at any age with 2% diagnosed after the age of 65. HSP typically presents with slowly progressive lower extremity spasticity & weakness, gait impairment, urge incontinence, UMN signs, & sensory deficits. It has 2 subtypes: *pure* HSP, characterized by spastic paraparesis, impaired vibratory sense, & neurogenic bladder, & *complicated* HSP, characterized by cognitive impairment, cerebellar ataxia, optic neuropathy, & peripheral neuropathy.

Case: A 59-year-old previously functional woman of Turkish descent without significant medical or family history developed progressive bilateral leg stiffness with back & hip pain after falling on slippery ice three years ago. This led to significant limitation of ambulation over time. She also had urge incontinence but did not have upper extremity symptoms or any sensory or vision changes. Oral steroids & anti-inflammatory medication did not help but cannabidiol relieved pain.

She was alert & cognitively intact on exam. No spasm or point tenderness in the back. Hips & knees with limited range of motion due to spasticity with modified Ashworth score 2-3 at hips, 2 at knees, & 0 at ankles. Motor strength was 5/5 in both upper extremities & 2/5 in both lower extremities. Fine motor coordination was normal. Deep tendon reflexes were brisk & symmetrical in all extremities with clonus in the ankles. Babinski, Bing, & Hoffman's were positive bilaterally. She could sit & stand independently but walked with a rolling walker with slow, stiff, narrow-based gait with scissoring & forefoot weight bearing with slight bend at the knees. MRI spine showed mild degenerative disease at cervical & L3-S1 levels; insufficient to explain her symptoms. MRI brain was normal. Genetic testing, HTLV1&2, & anti-GAD antibodies are pending.

Discussion: HSP should be considered in older adults with unexplained neurological symptoms that persist after a common event such as a fall. In the elderly, HSP can progress rapidly to dependency on assistive devices. Progression can be slowed considerably using a team approach with early physiatry involvement to minimize fall risk, focusing on pain & incontinence management, using orthotics, & treating spasticity & contractures. Geriatrics teams are uniquely qualified to evaluate & treat HSP with a focus on maintaining function.

C10

A Rare Manifestation of Mantle Cell Lymphoma

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Introduction:

Mantle cell lymphoma is a distinct type of mature B cell non-Hodgkin's lymphoma. Mantle cell lymphoma is an aggressive variety that typically presents as lymphadenopathy characteristically spreading to extra nodal sites like gastrointestinal tract, liver and bone marrow. Involvement of the skin is rare and there have been few reported cases. We present a case with biopsy proven cutaneous manifestation of mantle cell lymphoma.

Case Presentation:

A 79-year old female with past medical history of HTN, Zenker's diverticulum s/p diverticulectomy,

initially presented with fever, night sweats and weight loss. She was found to have leukocytosis with lymphocytes of 58% and flow cytometry showed CD5 positive B cell NHL, suggestive of mantle cell lymphoma and diagnosis was confirmed on bone marrow biopsy. Initial PET scan showed abnormal uptake of multiregional lymph nodes and spleen suggesting lymphoma. Patient was treated with BR (Bendamustine and rituximab) and rituximab. A repeat PET CT revealed no abnormal uptake suggesting malignancy.

Patient relapsed again within one year after completion of maintenance rituximab and A repeat bone marrow biopsy showed 90% involvement of BM with mantle cell lymphoma cells and repeat PET CT showed Intense abnormal uptake in moderately enlarged spleen and uptake of multiple lymph nodes at various locations suggesting likely recurrent lymphoma. She was started on ibrutinib plus Rituximab and allopurinol, but she developed a rash initially involving arms that worsened involving face, back with streaks and progressive swelling. A punch skin biopsy showed infiltration by mantle cell lymphoma. She was started on an aggressive regimen consisting of obinutuzumab plus venetoclax and ibrutinib.

Discussion:

MCL is an extracutaneous lymphoma with cutaneous involvement seen only secondarily and usually in widespread disease. We could only find a few cases of MCL with cutaneous involvement in our literature review. Overall, the incidence of cutaneous involvement is rare. This widespread disease pattern is a poor prognostic factor despite the aggressive chemotherapy. As seen in our patient, there was diffuse lymph node involvement and the course culminated into poor patient outcome.

C11

A Hidden Gastro-Vascular Etiology of Abdominal Pain; A Case Report of Cast Syndrome.

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Introduction:

Superior mesenteric artery (SMA) syndrome or Cast syndrome is an uncommon clinical entity characterized by compression of the transverse portion of the duodenum between the aorta and the superior mesenteric artery. This condition typically affects the population with age ranges from 10 to 30 years, and the incidence varies from 0.1% to 0.3%.

Case:

A 51-year-old female with a medical history of Hodgkin lymphoma status post radiation and chemotherapy and breast cancer, presented with complaints of recurrent abdominal pain and nausea/vomiting. The patient had ERCP, multiple upper endoscopies, and abdominal ultrasound over the course of the last three years, but no definitive diagnosis was made, and symptoms were attributed to gastritis. On examination, the patient was cachectic looking with a BMI of 15 and had mild epigastric tenderness. An abdominal CT scan showed a severely dilated stomach and duodenum with the abrupt transition at the point where the duodenum passes between the superior mesenteric artery and aorta. This finding was consistent with SMA syndrome in this patient who has little to no intra-abdominal fat. The patient was admitted, and gastric decompression was done with a nasogastric tube. The gastroenterology, general surgery, and nutritionist were consulted, and the patient was started on total parenteral nutrition. The patient was thought to be a poor candidate for definitive surgery to treat SMA syndrome due to very poor nutritional status. After a multidisciplinary team discussion, the decision was made to place a gastrostomy tube for decompression of the stomach and a jejunostomy tube for feeding to improve the patient's nutritional status.

Discussion:

SMA syndrome poses a diagnostic dilemma and is usually a diagnosis of exclusion. Common etiology is loss of retroperitoneal fat from rapid weight loss resulting in narrowing of the aortomesenteric angle to approximately 6-25° (normal angle 45°) and causes entrapment and compression of the third part of the duodenum. Cast Syndrome is a rare but potentially fatal condition, and physicians should be cognizant of this dreadful gastro-vascular condition when evaluating a patient with recurrent abdominal symptoms.

C12

Recurrent UTI and pelvic exam in elderly females

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Introduction: Elderly females can present with symptoms concerning for urinary tract infections (UTI) that are due to underlying dermatologic problems of the vagina, such as lichen sclerosis. In patients with UTI symptoms, it is crucial to do a pelvic exam to avoid additional lab tests and antibiotics. Lower urinary tract symptoms have been reported more frequently among lichen sclerosis patients than patients without lichen sclerosis.[1]

Case:

A 79-year-old female with a history of pelvic floor myofascial dysfunction, endometriosis, total abdominal hysterectomy, vaginal lichen sclerosis, history of recurrent UTIs and urinary incontinence was complaining of itching and dysuria that was worse at the beginning of urination. She denied fever, nausea, and abdominal pain. She was noncompliant with clobetasol cream that was prescribed for lichen sclerosis.

A pelvic exam showed vulvar scar tissue from prior dermatologic biopsies, and an edematous, sclerotic and pale perineum. Urinalysis was negative for white blood cells, nitrites and leukocyte esterase. Urinary culture was unremarkable. A vaginal lichen sclerosis flare was diagnosed and treated with topical clobetasol.

Discussion:

Urinary disorders significantly impact morbidity and mortality in the elderly population. Elderly females seem to be more affected from urinary disorders. Moreover, pelvic exam in elderly females may be cumbersome due to patient unwillingness and provider underestimation. Vaginal dermatologic disorders can be misdiagnosed as recurrent UTIs, which can lead to inappropriate antibiotic usage and delayed consequences like irreversible vaginal scarring. Lichen sclerosis is a multifactorial skin condition that affects the anogenital skin of elderly women. It usually presents with itching and has a characteristic appearance on physical exam as well as on biopsy exam. Early diagnosis and treatment are vital which includes topical corticosteroid ointments.[2]

Conclusion: Pelvic exam should be done by providers for the differential diagnosis of recurrent lower urinary tract symptoms in elderly females before ordering lab tests and prescribing antibiotics.

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C13

71 year-old male with Lewy Body Dementia develops altered mental status

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Introduction: This case demonstrates the importance of a full evaluation of altered mental status in a patient with established Lewy Body Dementia.

Case Discussion: 71 y/o male with LBD, prostate cancer, hyperlipidemia, and nephrolithiasis was admitted due to AMS for 2 days. Patient had previously been an avid gardener until recent decline due to LBD. Recently, patient had been having sleep walking episodes and was found attempting to urinate in the closet. At home, patient had fever of 102.5. On arrival to the EC the patient was afebrile, HR of 54 bpm, and normotensive. Physical exam findings: GCS 9, opens eyes, groans with sternal rub, nuchal rigidity, warm, diaphoretic, mild suprapubic tenderness, withdrawal to painful stimuli, does not follow commands. CT head w/o contrast showed no acute changes but overall chronic atrophy. CT abdomen with 3 mm non-obstructing renal calculus. CBC with leukocytosis both neutrophilic and lymphocytic. CMP normal. Negative flu or covid. UA positive for ketones, moderate blood, specific gravity 1.029, cloudy, WBC 4, neg for leukocyte esterase or nitrites; subsequent culture without growth. Lumbar puncture was done given nuchal rigidity, leukocytosis and altered mental status. CSF positive for lymphocytes 85, glucose 56, protein 60 consistent with aseptic meningitis. CSF was sent for viral PCR and resulted 2 days after admission, positive for EBV IgG. Minimal CSF fluid was obtained, therefore a full viral panel, could not be done. Blood studies included viral PCR panel. WNV IgM was positive. Other blood tests negative for syphilis and HIV. The patient was initially started on empiric antibiotics and antiviral. Once labs revealed positive WNV, broad spectrum antibiotics were discontinued. Patient was continued on acyclovir for a total of 14 days. Patient was discharged to a skilled nursing facility for continued rehab given generalized weakness and overall decompensated function. Patient initially improved in his physical and mental statuses, however, overal baseline has declined.

Case Discussion: The complexity of older adults with progressive dementia leads to difficulty diagnosing underlying etiology of AMS. This patient's acute change in mentation from baseline led to a full evaluation and diagnosis of aseptic meningitis due to West Nile Virus. This diagnosis reinforces the importance of a complete assessment of AMS even in patients with recent decline due to underlying dementia.

C14

Mortality within a Dementia Support Program during the COVID-19 Pandemic

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Background: Healthcare systems have increasingly implemented programs to support persons with dementia (PWD) and their caregivers. During the COVID-19 pandemic, the Alzheimer's Association reports a 16% increase in deaths due to Alzheimer's disease and related dementias. Here, we describe the context and circumstances of deaths of PWD within a caregiver support program during COVID-19.

Methods: Retrospective data was collected on decedents enrolled in Care Ecosystem, a multidisciplinary team model for dementia care at University of California San Francisco, Ochsner Health, and UCHealth Seniors Clinic. Information was provided by the care team navigator (CTN), who is a trained clinic member in dementia caregiver support, to provide quantitative and qualitative data on factors related to the deaths of PWD between March 1, 2020 and February 28, 2021. Using mixed methods, we analyzed the data using descriptive measures and team-based thematic analysis to understand the end-of-life experience of PWD-caregiver dyads during the pandemic.

Results: Twenty-nine PWD died while enrolled in Care Ecosystem across three sites. Almost half (45%) were between ages 70-79 and 12 (41%) were women. Eighteen (62%) died at a private residence; two died in the hospital. Hospice was involved for 22 (76%) patients at time of death. There were known causes of death for 15 (53%) patients, two were directly related to a COVID-19 infection. Social isolation was perceived to have a high or very high impact for 12 (41%) decedents. Six qualitative themes were found: (1) physical separation of dyad during end of life, (2) changes in dementia support occurred by choice and by external systems, (3) perceived decline during isolation, (4) impact on goals of care decisions and coordination, (5) increased caregiver distress, and (6) altered and isolated bereavement after death.

Conclusions: Among PWD and caregivers enrolled in a dementia support program, the COVID-19 pandemic likely had direct and indirect influences on the mortality and end-of-life experiences of PWD. The caregivers' experiences of caring, decision making, and bereavement were also affected. By understanding how COVID-19 has impacted PWD and their caregivers' access to medical care, support services, and social environments, we may be better equipped to respond to the needs of these vulnerable dyads within other public health emergencies.

C15

The Unusual Case of the Fung-Eye presenting with Encephalopathy

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Introduction: This is a rare case of encephalopathy associated with painful red eye and vision loss in an immunocompromised older adult, revealing disseminated aspergillosis. **Case Description:** An 81-year-old SNF resident with CLL on Acalabrutinib and recent COVID-19 pneumonia, presented with altered mental status.

Evaluation noted AKI and urinary retention. CT head was negative for acute changes. Renal function and mentation improved with hydration. On hospital day 4, he reported left eye pain with vision loss, with exam revealing conjunctival hyperemia. Ophthalmology noted choroidal effusion and lesion, with anterior uveitis. MRI of brain and orbits demonstrated numerous intracranial lesions with peripheral enhancement and possible choroidal involvement. Differential included ocular lymphoma and infectious etiologies. Lumbar puncture revealed elevated protein, but no other abnormalities. Serum 1, 3 beta-D-glucan (Fungitell) was positive. He was empirically started on Amphotericin B, which was discontinued due to new renal injury. Definitive diagnosis with brain or ocular biopsy was recommended by Hematology and Infectious Disease. Following goals of care discussion, he opted for ocular biopsies, which revealed invasive aspergillosis. He was started on voriconazole with plan for a 12-month duration, in addition to intravitreal voriconazole injections. He improved and was discharged back to SNF. **Discussion:** Disseminated invasive aspergillosis, including endophthalmitis, is an unusual cause of painful vision loss. Invasive aspergillosis can manifest as pulmonary aspergillosis, CNS infection, endocarditis, cutaneous aspergillosis, or gastrointestinal aspergillosis. A major risk factor for invasive disease is immunosuppression. Biologic agents, including Bruton tyrosine kinase inhibitors (ex, Acalabrutinib) are associated with invasive fungal infections. COVID-19 has also been associated with pulmonary aspergillosis. Invasive aspergillosis is treated with voriconazole, with addition of Echinocandin for severe disease. Overall prognosis is guarded. Clinical suspicion should be maintained for invasive fungal diseases in immunocompromised older adults.

C16

"This is not my father": Polypharmacy leading to multiple geriatric syndromes

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Introduction: Polypharmacy can be defined as a certain number of medications, commonly five or nine, or as medications without an indication or where the harms outweigh the benefits. It can have many negative effects on older adults, perhaps most notably an increased risk of geriatric syndromes.

Case Description: An 83-year-old man presented to clinic for a recent diagnosis of dementia. His family reported months of cognitive decline, crying spells, and frequent falls, which had worsened since the dementia diagnosis. Everything had started "falling apart" six months earlier. Prior to this, he went to the gym daily, and he was independent in all activities of daily living, including driving and managing his family's finances. He had a lifelong anxiety related to insomnia, which had recently worsened, so his psychiatrist started him on trazodone. When this was not effective for managing his anxiety, he was started on quetiapine. Over the next several months, he had several falls, one resulting in a compression fracture. He was in a "fog" after waking, typically lasting until noon. He stopped going to the gym, driving, and managing his finances. He was forgetful and had multiple crying spells daily. At this point, he was told that he may have dementia. Following this, he had a panic attack and was taken to the emergency department and referred to our clinic. At the time, he was taking trazodone 200 mg, quetiapine 25 mg twice daily, desvenlafaxine 25 mg, bupropion 300 mg, and clonazepam 1.0 mg nightly. Given the abrupt decline and these medications, it was most likely that his presentation was related to polypharmacy, so we discussed a gradual tapering. Over the next several months, he stopped quetiapine, reduced trazodone to 50 mg, and reduced clonazepam to 0.5 mg nightly. His desvenlafaxine was switched to mirtazapine. With these changes, he had improved anxiety and sleep, had a steadier gait, no longer experienced crying spells or morning "fog," started going to the gym everyday, and resumed driving and management of his finances.

Discussion: This vignette highlights the importance of deprescribing in older adults. In the actual clinical setting, it can be quite challenging and requires extensive shared decision making. It is also very time intensive, requiring multiple patient visits and follow up calls. In the busy primary care setting, this can be prohibitive and require involvement of interprofessional team members.

C17

A Challenging Case of Postoperative Delirium

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Introduction: Delirium is defined as a disturbance in attention, awareness, and cognition that develops acutely and fluctuates throughout the day. It is a common postoperative complication occurring in 5% to 52% of older adults and is associated with adverse outcomes including cognitive and functional impairment, prolonged hospitalization, institutionalization, and death.

Case: A 73-year-old man with a history of hypertension, obstructive sleep apnea, and chronic hyponatremia presented for acute altered mental status with agitation, irritability, inattention, hallucinations, paranoia, and pressured and tangential speech. He underwent lumbar spine surgery for severe spinal stenosis which was complicated by urinary retention requiring prolonged foley catheter placement, then prostate photovaporization. Shortly after his lumbar surgery, he had numerous emergency visits and admissions with similar presentations. His encephalopathy was thought to be related to urinary retention and possible urinary tract infections, and he was treated with multiple antibiotics but no improvement. CT and MRI of the brain, lumbar spine, lumbar puncture with spinal fluid encephalopathy autoimmune and paraneoplastic evaluation, electroencephalography (EEG) were unremarkable except for nonspecific generalized intermittent polymorphic delta slowing on video EEG. Due to his impulsive behaviors with potential self-harm, he was treated with trials of psychiatric medications including aripiprazole, quetiapine, haloperidol, lorazepam, and buspirone, requiring multiple changes secondary to adverse effects of worsening agitation, urinary retention, and constipation. With clinical improvement, he was discharged on valproate, guanfacine, trazodone, and melatonin. After 4 weeks of therapy, valproate was tapered off over a week. Unfortunately, his symptoms returned shortly after discontinuing valproate, and he required another hospitalization for reinitiation of valproate and risperidone.

Discussion: The progress and time course of delirium varies due to its heterogeneous etiologies and presentations. The pharmacological management of hyperactive delirium can be seen be in a wide range of practices, although little information is available on the guidance of medication choice, dosage, and deprescribing. Further studies are needed to determine optimal pharmacological management.

C18

Development of Type I Diabetes Mellitus in an Older Patient with Gastric Cancer

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While nivolumab is associated with several side effects, including cytopenia, the development of autoimmune type I diabetes mellitus occurs in less than 1% of patients.

Our patient is an 85-year-old male patient with history of long-standing difficult-to-control type II diabetes mellitus and metastatic gastric cancer on nivolumab, a PD-1 inhibitor used to treat cancer, for the past 3 years. His diabetes was relatively uncontrolled for the past year, with glycohemoglobin ranging from 9.8 to 11.6. Dulaglutide had been started 3 months prior. His diabetes regimen included dulaglutide, empagliflozin, insulin detemir, and metformin. On presentation to clinic for malaise and weakness, laboratory evaluation was remarkable for euglycemic diabetic ketoacidosis. Therefore,

patient was admitted with and treated for DKA. During hospitalization, Endocrine was consulted and thought that while he was a type II diabetic initially, he had now developed a component of type I diabetes mellitus due to the PD-1 inhibitor he had been on for his gastric cancer. Patient's type I diabetes mellitus was revealed at this time because of the addition 3 months ago of dulaglutide. Patient's treatment plan was then adjusted to only insulin therapy. There was concern that patient may not be retaining the diabetic education of insulin use and therefore, son was asked to now be involved with diabetic care.

Our case highlights the development of type I diabetes mellitus resulting as a complication of immunotherapy in a geriatric cancer patient. Nivolumab can breach immunologic tolerance, in which a violent immune attack can lead to complete destruction of pancreatic beta cells. While much remains unknown regarding the time course and dose relationship of nivolumab leading to type I diabetes mellitus, it is known that the PD-1 pathway plays a crucial role in autoimmune diabetes. This case also highlights key points of the '5 M's of Geriatrics'. The patient's mentation was important as it related to his ability to manage his own insulin therapy and his future compliance of a more complicated treatment plan. It is also important to consider what matters most to the patient. He wanted to simplify his medication regimen, even stating to his primary care physician that he would like to be off immunotherapy. Given his newly discovered type I diabetes mellitus and wishes, patient's medication regimen was simplified to insulin therapy only.

C19

A Case of Misdiagnosed Tardive Tourette's Syndrome

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We present a case of tardive Tourette's syndrome (a rare extrapyramidal symptom which appears after long-term neuroleptic use) initially misdiagnosed as worsning dementia in a 78 yo woman with a PMHx of MDD with psychotic features who presented to the ED with weeks of declining mental status. Per daughter, her main caregiver, patient (pt) was calling out at all times of the day and night with little sleep and becoming more aggressive. Daughter was overwhelmed.

Daughter revealed that schizophrenia and dementia had been considered in the past; however, pt was never formally diagnosed with either. Pt was on a home regimen of Haldol 1mg qAM, 3mg qHS, Duloxetine 60mg qAM, Depakote 500mg qHS, Melatonin 3mg qhs PRN, Risperdal 1mg q6hrs PRN. Daughter admitted to giving doses of Risperdal and Haldol at home beyond prescribed amounts.

Physical exam demonstrated psychomotor retardation, with jaw, tongue, and sporadic shoulder movements with facial grimacing. A&O to self only. Repetition of "ow!" dominated her vocalizations. Behavior was consistent with tardive dyskinesia (TD) in a pt with a history of excessive use dopamine antagonists - with a vocal component.

When seen by Geriatrics, pt's exam differed from classic behavior disturbance seen with dementia. Because of concern for TD related tics, psychiatry recommended holding Haldol and Risperdal; valproate was stopped to prevent over sedation and trazodone was prescribed qHS PRN for agitation and improved sleep cycle, duloxetine was continued for MDD. These changes did show improvement of the vocal and physical tics, but not resolution, so further intervention was pursued.

For moderate-severe TD without dystonia that persists despite stopping or restarting the offending agent, current recommendations include starting valbenazine or deutetrabenazine (MOA inhibiting vesicular monoamine transporter type 2); there are no studies directly comparing the two. Geriatric dosing is that of adult dosing. Valbenazine dosing is 40 mg daily, titrated up to 80 mg and deutetrabenazine dosing is 6 mg daily, titrated up to 12 mg. In studies they have fared better than placebo but to which extent they provide clinical benefit is unclear. These medications are quite costly, roughly $4,000-7,000/month.

This case illustrates the importance of considering tardive Tourette's syndrome in a differential diagnosis of dementia with behavior changes or worsening schizophrenia when TD movements and vocal outbursts are present.

C20

A Unique Cause of Nausea and Vomiting in an Elderly Man

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Case

A 65-year-old man was seen in the emergency department with persistent nausea and vomiting for one day. The patient had not seen a doctor in several decades and did not take any medications. Family history was unremarkable and he reported no known drug allergies. Patient quit smoking 30 years ago and did not drink alcohol. He also denied any illicit drug abuse. He was independent in all his activities of daily living. He denied any fever, chills, sick contacts, abdominal pain, constipation, diarrhea.

On exam, vitals were temperature 36.4, pulse 78, respirations 16, blood pressure 144/87, saturating 98%. Head was atraumatic, the mucosa was dry. Lungs were clear. Heart rate was regular. Abdomen was soft, non-tender, non-distended, with multiple well healed surgical scars.

Labs showed WBC 11.5, hemoglobin 13.9. Chemistry showed a slight metabolic alkalosis with an elevated CO2 and raised creatinine. A chest x-ray showed herniation of what appeared to be abdominal contents into the mediastinum without evidence of consolidation. CT abdomen/pelvis redemonstrated herniation of large bowel into the anterior mediastinum.

The patient was treated conservatively with intravenous hydration and antiemetics. Symptoms improved rapidly and the next day, an esophagram was performed. This showed delayed transit of barium through the herniated large bowel which was the conduit for the bolus to pass from the pharynx to the stomach.

After speaking with relatives of the patient it was revealed that he underwent esophagectomy at age 16 due to ingestion of a caustic agent. He had been living with an ileocolonic transposition for the past 49 years without significant complications.

Discussion

Complications are frequent in these patients who have undergone ileocolonic transposition. Clinicians should be aware of this procedure and that in elderly patients, complications may occur even decades later.

Some patients can expect to experience acid reflux symptoms and increased risk of aspiration. Chronic inflammation and even Barrett's esophagus have been reported years after esophagectomy with colonic transposition. Peristalsis is generally absent and accounts for increased risks of aspiration and reflux. This can lead to dysphagia and difficulty swallowing. Nausea and vomiting have not been specifically studied in this population. However, given the unique anatomy post esophagectomy elderly patients should be assessed for aspiration in this circumstance.

C21

One Too Many – A Case of Polypharmacy

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BACKGROUND: Polypharmacy is simply defined as the use of multiple medications. The minimum number of medications used to define "polypharmacy" is variable but ranges from 5-10. The prevalence of inappropriate drug use in older adults is 11.5-62.5%. It is associated with adverse outcomes such as falls, frailty, disability, and mortality. Symptoms of polypharmacy can mimic normal aging including fatigue, constipation, loss of appetite, confusion, falls, depression, tremors, hallucinations, anxiety, and/or dizziness.

CASE PRESENTATION: Robust, cognitively intact, 77- year-old female with history of hypothyroidism, came to discuss issues of having 3-4 loose watery bowel movements daily from past several months. She had negative workup including a normal colonoscopy. She reported only taking Levothyroxine 88 mcg. On asking about over the counter (OTC) supplements, she reported taking 35 pills, including Vit A, C, D, E, K, B1, B2, B3, B6, B7, B12, Vitamin B complex, Folate, Zinc, COQ-10, Selenium, Chromium, K2, N-acetyl-L-tyrosin, Alpha Lipoic acid, Turmeric, Black pepper, Camu Camu, Cat Claw, Acopa Mnieri, Cinnamon, Saffron, C 36, Astaxantin, Rhodiola, Spirulina, Chlorella, Omega3, few different brands of Magnesium Oxide. Reason to take supplements was to prevent dementia and maintain good health. She eats well balance diet and exercises 30 minutes daily. After discussing potential harm and drug interactions, she discontinued them. Her symptoms resolved after a week of stopping the OTC drugs.

DISCUSSION: The prevalence of OTC medications and dietary supplements in older adults is increasing. Older adults are at a greater risk for adverse drug reactions (ADRs) due to metabolic changes and reduced drug clearance associated with ageing. Use of multiple drugs and supplements can lead to prescribing cascades (when signs and symptoms of ADR is misinterpreted as a disease and new treatment is added to treat the condition). It inherits the potential to develop more side-effects.

CONCLUSION: Evaluation of polypharmacy is important in older adults to avoid all the possible ADRs. Comprehensive medication review and risk assessment should be carried out to identify polypharmacy and its adverse effects. Comprehensive Geriatric Assessment is effective in reducing the number of drugs and dosing by facilitating discontinuation of unnecessary or inappropriate medication. Identifying and avoiding the polypharmacy can lead to better outcomes in older adults and helps improve quality of life.

C22

Use of Tablets to Improve Telehealth Services Among Older Adults

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Background: Loneliness, social isolation, and lack of technical literacy are factors associated with negative quality of life and poorer health outcomes, especially among homebound older adults. To support improved social connection during the pandemic, Nova Southeastern University's South Florida Geriatric Workforce Enhancement Program (NSU SFGWEP) partnered with primary care clinics and a local community-based organization to provide support to vulnerable older adults. The purpose was to 1) provide educational resources and 2) promote telehealth services.

Methods: SFGWEP identified 44 vulnerable older adults during the 12-month study period to participate in a pilot program through the NSU health clinics and referrals from a community-based organization. All participants were aged 65 and above and had expressed interest in telehealth support after being contacted for a wellness call. Participants were mailed internet-enabled tablets for 6 months of use. Tablets were preloaded with educational materials focused on tablet usage, COVID-19 resources, and telehealth for patients, caregivers, and their families in written and video format. Biweekly remote support was provided to each participant to aid with using the tablet, connectivity, education, and telehealth.

Results: Most participants, 89% (n=39), used the tablet in some capacity; 23% (n=10) reported using it daily. In total, 11% (n=5) used it for telehealth, 9% (n=4) research, 9% (n=4) entertainment, 7% (n=3) to connect with friends and family, and 7% (n=3) to connect with faith/ministries, with other uses including shopping, news, and apps. Among participants, 36% (n=16) found the education materials impactful. Nearly all participants reported having comfort with the availability of the tablet for socialization and for searching the internet for health-related information.

Conclusions: The pilot study demonstrated that homebound, older adults are able to utilize technology to connect with health care providers, friends, and faith organizations if provided guidance and support to support technology adoption. The pilot also demonstrated that distributing health education information via tablets may be an effective strategy. More robust evaluation of technology adoption interventions to homebound seniors should continue to be conducted to assess feasibility post-pandemic.

C23

An Unusual Case of Heart Failure with Amyloid Cardiomyopathy

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Introduction:

Heart Failure (HF) due to transthyretin amyloidosis (ATTR) progresses faster than other heart conditions. As many as 13%-19% of heart failure with preserved ejection fraction (HFpEF) patients may have amyloid cardiomyopathy. Due to its uncommon occurrence, it is currently underdiagnosed and undertreated. The pathophysiology of ATTR is accumulation of misfolded TTR protein that becomes unstable, disrupting the structure and function of the heart.

Case presentation:

An 85 year old male was seen at our geriatric clinic for new onset dyspnea on exertion (DOE) and edema. At that time, he was referred to cardiology and a stress test revealed no ischemia, EF of 54%. Patient continued to complain of DOE despite adequate dose diuresis. Repeat stress tests showed no clear evidence of ischemia with normal EF. A month later, patient underwent a cardiac cath which concluded no coronary vessel occlusion and EF 56%.

Over the next several months, patient continued to have intermittent worsening DOE and an echocardiogram showed increased relative wall thickness, severely dilated atria, and higher pulmonary pressures. A right heart cath was performed, revealing elevated pulmonary capilary wedge pressure, moderate pulmonary hypertension and severely reduced cardiac output. A sleep study was recommended to rule out Sleep Apnea which the patient declined. A few months later he was diagnosed with Atrial flutter, and NYHA class III HF given his symptoms of DOE. In addition, his B-type natriuretic peptide was up trending and markedly elevated.

Patient's clinical symptoms along with the severe left ventricular hypertrophy, biatrial enlargement as well as the atrial arrhythmias warranted further investigation for infiltrative cardiomyopathy. He eventually underwent Pyrophosphate Scintigraphy scan which revealed ATTR.

Cardiology initiated therapy with Tafamadis and the patient's DOE and edema continued to improve.

Discussion:

HFpEF associated Amyloid Cardiomyopathy often impacts the quality of life, functionality and life expectancy of patients, due to the progressive nature of the disease.

The TTR stabilizers have shown to maintain the serum TTR concentrations that lead to improved clinical benefit in ATTR patients.

This case illustrates the importance of diagnosing ATTR in HFpEF patients and initiating appropriate medications to help slow the cardiac disease progression.

C24

Amiodarone toxicity: Impact on quality of life and frailty

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Background: Amiodarone is associated with various adverse effects including potentially life-threatening pulmonary toxicity. Older age is a known risk factor for pulmonary toxicity. Other adverse effects, including weight loss, can be debilitating for older adults (OA) with significant impacts on quality of life.

Methods: A 78-year-old female with no prior lung disease presented to clinic with several months of dyspnea on exertion (DOE), dry cough, nausea, poor appetite, and ten-pound weight loss in past year. Patient took 11 medications, including Amiodarone 200mg daily for atrial fibrillation for 3 years. Vitals were unremarkable. She appeared frail and underweight but non-toxic. Cardiac exam noted regular rate and rhythm. Lungs were clear. Clinical suspicion for amiodarone toxicity was high given no evidence of infectious respiratory etiology and the constellation of gastrointestinal symptoms. Amiodarone was discontinued. Work-up included labs, electrocardiogram (ECG), CT chest, and cardiology referral.

Results: ECG showed sinus bradycardia with heart rate of 54. Lab abnormalities included mild hyponatremia of 130 mmol/L, and creatinine of 1.39 mg/dl. Chest CT showed: patchy indeterminate ground glass opacities; subcentimeter nodules in peripheral lungs; increased liver attenuation secondary to either iron and/or iodine deposition from amiodarone ingestion. Cardiology evaluation revealed echocardiogram with preserved ejection fraction and mild concentric left ventricular hypertrophy. At 2-month follow-up, patient's cough, nausea, and vomiting had resolved, DOE and appetite improved, and she had gained 3 pounds.

Conclusion: Patients on amiodarone must be monitored for adverse symptoms, which can affect quality of life. Pulmonary toxicity can arise at any time and presentation may be subclinical with normal exam findings. Weight loss should prompt discontinuation as low body mass index in OA is associated with frailty, increased mortality, and adverse outcomes. Through comprehensive geriatric assessment and deprescribing, deleterious effects from polypharmacy can be mitigated leading to improved outcomes and a positive impact on quality of life.

C25

An Ounce of Prevention

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Background

It is often difficult to delineate dementia with delirium from a rapidly progressive dementia. Both have high morbidity/mortality and the mainstay of treatment is prevention and supportive care. The following case highlights the difficulty of differentiating these two conditions and harms that occur when there is not a robust focus on holistic interventions to prevent decline.

Case

An 81-year-old man with history of coronary artery disease, hypertension, and hyperlipidemia was admitted to a medicine floor for significant cognitive impairment and fall. Family noted he was "fully functional" until 2 months prior when he developed sudden onset progressive memory problems and mobility deficits. However, a more complete geriatric history suggested that the declines (both cognitive and functional) may have been more chronic. Thus, differential included rapidly progressive dementia vs progression of a more chronic dementia with superimposed delirium.

Extensive diagnostic workup was done including Pan CT, 2 MRI Brains, MRA Brain, EEG, Lumbar Puncture, CSF Encephalitis Panel, and Tau Panel (pending), as well as autoimmune, infectious, endocrine, and metabolic workup. Workup was unrevealing other than chronic microvascular ischemia on imaging and a mildly elevated CSF protein, ESR, and CRP. A mildly elevated TSH corrected with treatment without improvement. He received an empiric course of IVIG followed by high dose methylprednisolone without improvement. On his 4th day of steroids, he suffered what appeared to be a seizure and was admitted to the ICU. Given guarded possibility of recovery to previous cognitive status, family decided to transition to comfort care. He was discharged to hospice and died 3 days later.

The geriatric consultation team followed his 24-day admission noting his cognition waxed and waned and gave recommendations for delirium prevention. Despite education, the patient received several antipsychotics, was in restraints for 60%, bed bound 88%, and lacked any documented visitors 64% of his stay.

Conclusions

This case highlights the diagnostic difficulty of rapid cognitive decline. However, regardless of underlying pathology, this case also shows how lack of robust delirium prevention worsens quality of life, morbidity, and mortality. This supports a call to action to increase educational programs aimed at improving delirium recognition and developing robust quality improvement programs for inpatient care of delirium and dementia.

C26

Chronic Itching and non-specific rash as a clinical presentation of Bullous Pemphigoid.

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BACKGROUND

A 92 years old male presented with a long history of generalized pruritus for many years worse at night and sometimes accompanied by non-specific rash. The patient has a history of chronic eczema since childhood and history of sensitive skin and allergies to ibuprofen and sulfa drugs.

CLINICAL COURSE

Over the course of one year the patient presented with progressive itching and multiple incidents of non-specific pruritic rash on the back, then buttock area and anterior belt line and later on upper thigh. 6 months ago the patient developed intense itching most prominent at night with no response to oral loratidine or triamcinolone cream. Gabapentin was prescribed to control itching but with little benefit. The patient later presented with a 2 cm fluid-filled blister on his right arm, also with multiple excoriations and red papules over the back and anterior trunk. On urgent dermatology referral, punch biopsy results confirmed the diagnosis of bullous pemphigoid. The patient was started on prednisone 40 mg taper, doxycycline and betamethasone cream; 4 weeks later there were no skin rashes or itching and no new vesicles. The patient developed recurrent pruritus with dose reduction of prednisone from 10 to 5 mg daily and now on trial of a long slow taper of his lowest prednisone dose.

CONCLUSION

Bullous pemphigoid is an autoimmune blistering disease that most commonly arise in older adults. The classical clinical findings in bullous pemphigoid are tense, fluid-filled bullae on skin, however, approximately 20 percent of patients with bullous pemphigoid present with nonbullous manifestations as well as pruritus without any primary skin lesions in older adults. In such cases, the diagnosis is based upon consistent laboratory findings. Progression to blistering disease eventually occurs in some patients.

This case illustrates a non-classical presentation of Bullous Pemphigoid in elderly patients which can run a prolonged course affecting their quality of life before finally being diagnosed and properly treated. Thus the diagnosis should be strongly considered when patients over the age of 60 years present with unexplained pruritus or non-specific pruritic skin eruption.

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C27

Haloperidol for Hiccups in a Geriatric COVID-19 Patient

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Background

Persistent hiccups is defined as repetitive involuntary spasms of the diaphragm and intercostal muscles lasting more than 48 hours. It is an atypical symptom of COVID-19 infection and affects quality of life. We present a case of persistent hiccups in an elderly COVID-19 patient who found relief with use of haloperidol after failing multiple therapies.

Case

A 76-year-old male with hyperlipidemia and prostate cancer presented for acute hypoxic respiratory failure. He was previously admitted with COVID-19 pneumonia 5 days earlier and discharged on day 3 on room air. He developed severe persistent hiccups and resultant poor oral intake 2 days before the current presentation, in addition to fever, dyspnea, and vomiting. Chest x-ray showed worsening bilateral opacities. The patient had an oxygen saturation of 85% on room air initially, which was dropping to 80% with hiccups. He required BiPAP due to his work of breathing. His hiccups worsened his dyspnea, and limited use of BiPAP. His family was more concerned about hiccups than other symptoms. Pantoprazole, baclofen, gabapentin, metoclopramide and chlorpromazine were trialed without success. A trial of 2 mg oral haloperidol resolved the hiccups. The patient ultimately passed peacefully from his infection on comfort measures with haloperidol continuing to palliate this disturbing symptom.

Discussion

Persistent hiccups are an atypical COVID-19 symptom that is posited to occur due to irritation of the phrenic nerve or neurotropism of the virus. This symptom may not respond to conservative treatments like drinking water or Valsalva. Pharmacological treatment of hiccups can be particularly challenging in elderly patients and can include trials of multiple medications on Beers Criteria with anticholinergic or CNS depressant properties. Ultimately low-dose antipsychotics might be used. Chlorpromazine is often described to help but our patient's hiccups responded only to oral haloperidol without excess sedation.

Conclusion

Pharmacological management of hiccups in the geriatric population can be challenging due to the side effect profile of commonly used therapies. COVID-19 pneumonia can be associated with severe hiccups that can worsen the sensation of dyspnea and limit oral intake. Haloperidol should be considered in managing persistent hiccups especially if chlorpromazine is not helpful

C28

Best practices for geriatric patients in the ED: To admit or not admit?

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Geriatric patients in the Emergency Department (ED) highlight the difficult reality that admitting an older patient can be just as dangerous as discharging them prematurely. A Geriatric Emergency Medicine (GEMs) team can assist in decision making for vulnerable older adults in the ED.

Case: An 88 y/o female with mild cognitive impairment and severe osteoarthritis of the hips presented to the ED after her 2nd fall in two weeks. She lives alone, uses a walker and receives 3 hours of help a day for ADL. Due to her severe hip pain, she is prescribed opioids daily and a muscle relaxer as needed. She first presented to the ED 10 days ago after tripping on her walker and discharged home after a negative medical workup. She returned to the ED after a 2nd fall with a head strike while going to the bathroom after taking her pain medications.

Her medical workup in the ED was negative, apart from new pain at the impact site. After assessing the patient and collecting collateral to learn what mattered most to her and her family, GEMs decided that before discharge further plans needed to be put in place to optimize the patient's safety.

Discussion: GEMs is utilized in this ED assisting with complex older adults who require special consideration in evaluation and planning. Each patient's care is structured using the 4Ms of geriatrics: mentation, mobility, medications and what matters most to the patient. The team assesses for delirium and dementia, if appropriate. They also review medications that could be detrimental to patient safety. Depending on the situation, the team facilitates home services such as social work, therapy, home safety evaluations and post-discharge delirium prevention. The plan is guided by the patient's goals in their care.

If our patient is admitted she is at high risk for iatrogenic hospital complications including multifactorial delirium. However, if discharged, she is still at risk for delirium at home and additional falls. Her home has not undergone a home safety evaluation and her daughter works full-time, so supervision is not guaranteed until family and case management can coordinate home support. GEMs ultimately decided that the risks vs. benefits in this case favored admission until home safety and monitoring could be optimized. While admitted, specific recommendations were made to optimize her medications while implementing strict delirium and fall prevention protocols.

C29

Pembrolizumab induced diabetes mellitus type 1 presenting as diabetic ketoacidosis

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Pembrolizumab is an immune checkpoint inhibitor that acts via binding to programmed cell death 1 (PD-1) receptors on T-cells, allowing for the constitutive activation of T-cells to fight malignant tumor cells. Anti-PD-1 antibodies can cause immune-related adverse events, including Type 1 diabetes mellitus. This case highlights a rare complication of pembrolizumab that warranted discontinuation of the therapy.

88 year old woman with a past medical history of hypertension, hypothyroidism, advanced dementia, non small Cell lung cancer on pembrolizumab presented to the emergency department with altered mental status. The patient was alert and oriented times one, mumbling incoherently. She was normotensive on presentation and saturating above 92% on room air. Her cardiorespiratory examination was normal. Her laboratory workup revealed blood glucose 928 mg/dl, sodium level 127 mmol/L, potassium 7.4 mmol/L, bicarbonate level 10 mmol/L, and Beta Hydroxy-butyrate 11.10 mmol/L. Her HbA1c was 9.4%. There was no leukocytosis on presentation. The patient had an acute kidney injury with creatinine elevation to 2.35 mg/dl from 1.06 mg/dl at baseline. The patient had been on pembrolizumab for the past 4 years. No infectious source was identified for diabetic ketoacidosis. Her blood culture and urine culture came back negative. Pembrolizumab was identified as the most likely etiology of this patient's diabetic ketoacidosis. The patient was started on insulin and electrolytes management protocol and her ketoacidosis resolved.

Further workup revealed C peptide levels below normal and negative GAD antibody level, IA 2 antibody, and zinc transporter 8 antibody. The patient was discharged to a nursing home for rehabilitation but she continued to have brittle blood glucose control for the next 4 weeks after discharge.

Pembrolizumab is novel immunotherapy for advanced cancers. It is associated with multiple endocrinopathies. This case highlights sudden onset type 1 diabetes mellitus as a rare complication of pembrolizumab. The absence of detectable C peptide levels on presentation suggests a fulminant course of type 1 diabetes mellitus. It is important for clinicians to recognize this side effect, and patients should receive education regarding signs and symptoms to monitor for the development of diabetes or diabetic ketoacidosis. Regular monitoring of glucose levels and hemoglobin A1C levels may be beneficial.

C30

Seizures in Alzheimer's Disease: A Diagnostic Challenge Leading to a Rare Adverse Reaction

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Background: Hispanics are the second ethnicity with the highest prevalence of Alzheimer's disease (AD). It is essential for jurisdictions with this demographic, to have the competent staff and tools to manage patients with dementia.

This is a case study of a 77 y/o Hispanic female with hypertension, Sjogren syndrome, and neurocognitive disorder (NCD), suspected after multiple ER visits due to behavioral changes. She was admitted for atrial fibrillation with fast ventricular response, which resolved. Slow mentation persisted; thus, a brain MRI was performed. It revealed advanced brain involution and hippocampal atrophy, typical of AD. EEG showed slowness of tracing (awake state), suggesting NCD.

Methods: The findings, along with a history of acute behavioral changes, rhabdomyolysis, and an increased risk of seizures in patients with NCD, led to suspect temporal lobe epilepsy with preserved consciousness. Consequently, levetiracetam was started.

Results: Treatment with levetiracetam resulted in non-immune hemolytic anemia, requiring prompt discontinuation of therapy, which led to an evident improvement in the patient's condition.

Conclusion: This case highlights the challenge that seizures represent in AD. This patient was started on anticonvulsive treatment based on a low pre-test probability of seizures. The contributing factors for this diagnostic challenge were: the worrisome, limited resources of a regional healthcare facility, and the lack of a pre-test probability standard calculation of seizures in AD. Treatment with levetiracetam after a questionable diagnosis of seizures provoked a rare adverse reaction of non-immune hemolytic anemia. Implementation of tools to properly diagnose seizures, could assist clinicians in evaluating the risks and benefits of anticonvulsive therapy.

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C31

Melanoma the Masquerader

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Background: The COVID-19 pandemic has impacted all areas of daily life and medical care, including screenings and management of patients with cancer or suspected cancer. In the United States, melanoma is the 5th most common cancer in men and women. Advanced age and disease stage are associated with a worse prognosis. Annual screening is recommended in high-risk patients for early diagnosis. **Case Presentation:** A 75 year-old fully independent and ambulatory female with a history of Parkinson's disease, former smoking, and multiple cutaneous melanoma excisions during the 2000-2010's presented to the geriatrics clinic in 2021 to establish care. During the patient's second clinic visit, she mentioned an abnormal chest x-ray in the past year at another facility without recollection of the report details or follow-up. She was also lost to follow-up by dermatology. Repeat chest x-ray demonstrated a left lower lobe mass, followed by CT, MRI and PET/CT imaging which showed multiple liver and brain masses with vasogenic edema in addition to the lung mass, consistent with metastatic lung cancer. Bronchoscopy with biopsy of the lung mass revealed metastatic melanoma (stage IV). The patient was referred to oncology and due to good functional status, began immunotherapy with nivolumab/ipilumumab. The patient tolerated the first 2 doses of immunotherapy. Her course was then complicated by acute aphasia due to hemorrhage from the brain lesions requiring admission to the intensive care unit. She subsequently developed immune-medicated hepatic toxicity requiring steroids, delirium, failure to thrive and rapid deterioration of her functional status. While hospitalized, she underwent stereotactic radiosurgery for the brain metastases. Following goals of care discussion, the patient and family chose to pursue home hospice. The patient died at home 1 week after hospital discharge. **Discussion:** Melanoma remains on the rise, especially in the elderly. While most cases of malignant melanoma are diagnosed at an early stage, patients can present with metastatic disease. As we slowly return to the "new normal" following the introduction of COVID-19 vaccination, a high index of suspicion for melanoma is warranted in geriatric patients with disseminated metastatic disease and unknown primary site. We need to encourage routine screenings and timely follow-up of abnormal findings.

C32

Recurrent Dizziness and Hand Swelling: An Atypical Presentation of Systemic Lupus Erythematosus in a Nonagenarian

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Introduction

Systemic lupus erythematosus (SLE) is a chronic disease that can affect any organ in the human body. Mortality in SLE follows a bimodal pattern but onset of disease above the age of 65 is unusual. Symptoms range with regard to organ system and severity. Some patients may present with cutaneous involvement and others may develop life threatening hematologic, nervous system, or renal disease. This case highlights a nonagenarian with no prior history of autoimmune diagnosis that presented with atypical remitting and relapsing symptoms of dizziness and unilateral hand swelling. He underwent workup that led to a diagnosis of SLE and was initiated on proper treatment with resolution of his symptoms.

Case Description

A 92-year-old male with a history of normal pressure hydrocephalus s/p VP shunt, hypertension, and hyperlipidemia had reported longstanding symptoms of dizziness. All workup for cardiac and neurologic etiologies had been unremarkable and the dizziness had not responded to treatment modalities including a trial of meclizine,

compression stockings and vestibular rehabilitation. The patient then developed recurrent right-hand redness, swelling and pain. The swelling was initially thought to be related to CPPD arthropathy and he was initiated on colchicine and oral steroids. Upon follow up, he reported resolution of his hand pain and mentioned improvement in dizziness. The symptoms of dizziness returned on stopping the steroids and the patient continued to have recurrent episodes of right-hand pain and swelling. A rheumatologic workup was pursued after the third episode of acute arthropathy of the right hand. He was found to have a positive ANA and dsDNA. He was evaluated by Rheumatology, diagnosed with SLE and was started on hydroxychloroquine. There was complete resolution of right hand pain and dizziness. The patient has continued to remain asymptomatic on this regimen.

Discussion

The onset of SLE above the age of 65 years is unusual. While there is a wide range of clinical manifestations of SLE, arthralgia is a more common complaint when SLE presents in geriatric patients. Although most cases of Lupus are diagnosed before the age of 45, clinicians should have a low threshold for autoimmune workup when treating geriatric patients with arthralgia, especially when these symptoms are recurrent and associated with other symptoms, as was chronic dizziness in our patient.

C33

Hypernatremia from Severe Adipsia in Dementia

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Background

Hypernatremia is a common disorder in older adults, associated with morbidity and mortality. Due to age-related physiologic changes such as decreased thirst drive, lower urine concentration ability, and reduced total body water, older adults are more likely to develop hypernatremia with minimal insults. Residents in long-term care have multi-morbidities such as dementia, stroke and feeding difficulties, rendering them prone to hypernatremia.

Case

86 years old African American female long-term care resident with a history of hypertension, hypothyroidism, stroke and advanced dementia, developed adipsia resulting in chronic hypernatremia, sodium (Na) range 145 - 160 mEq/L over past 2 years. The patient was typically refusing food and water intake, the latter being more profound. Over months, hours of encouraging her to consume water did not yield a sustained response. On several occasions, she would block her oral cavity with her tongue if water was offered to her. She was managed with intermittent D5 0.45 % saline infusions every 2 weeks to normalize her Na but the problem recurred when fluids were held, resulting in many hospitalizations due to dangerously high Na levels. MRI brain excluded hypothalamic lesions. Medication review ruled out iatrogenicity. Goals of care meeting resulted in a percutaneous endoscopic gastrostomy (PEG) placement that helped provide free water. Na levels normalized, range 140 -145 mEq/L.

Discussion

Adipsia is the absence of thirst even in presence of water depletion or salt excess. Adipsia is congenital or acquired from a head injury, metastatic brain lesions or stroke. Thirst, arginine vasopressin (AVP), and renin-angiotensin-aldosterone system play a role in Na and water homeostasis. Thirst is a potent stimulant for water intake even with mild hypernatremia; hence prolonged hypernatremia never occurs unless the thirst mechanism is impaired or access to water is restricted. Hypernatremia in the old is typical with altered sensorium, febrile states or lack of access to water. Thirst impairment is a known physiological change with aging. In many older people with hypernatremia, thirst may be impaired or absent. Furthermore, in patients with dementia, such as our resident, thirst is difficult to assess.

Lessons Learnt

* Dementia may be associated with hypodipsia and poor water intake; typically this is addressed by supervised fluid intake.
* Rarely, PEG is needed to provide fluids.
* No medications exist to treat hypo or adipsia.

C34

Can we CefTRI something else?

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Background: Ceftriaxone is a broad-spectrum third-generation parenteral cephalosporin antibiotic. It is commonly used to treat infections among older adults.

Case: An 89 year old woman with bilateral total hip arthroplasties presented with increased left hip pain. Arthrocentesis revealed prosthetic joint infection with *Parvomonas micra*. After 1 month on doxycycline suppression, she developed increasing left hip pain and drainage from a cutaneous sinus tract. She underwent resection of left hip arthroplasty with placement of an antibiotic spacer. Intraoperatively, there was visible evidence of chronic infection; however 1 of 6 cultures grew coagulase negative staphylococcus. Judged to be a contaminant, she was transitioned to empiric ceftriaxone (CTX) and vancomycin for 6 weeks.

Within the first 2 weeks of CTX therapy she had 3 episodes of confusion, dysarthria, and right-sided facial droop. These were initially concerning for transient ischemic attacks. Sequential CT and MRI/MRA head imaging were negative for acute abnormality. Echocardiogram, telemetry, and lipid panel were all unremarkable. Her confusion became more persistent. She developed a petechial rash on her bilateral lower extremities, followed by a precipitous drop in platelets from 246 to 138. She was transitioned from CTX to ertapenem due to concern for drug reaction. After CTX discontinuation her rash improved within 4 days and she had mild improvement in encephalopathy such that she was able to state that she no longer wanted to pursue aggressive measures for treatment of the joint infection. Ultimately the family opted for transition to comfort-focused care and pursued hospice.

Discussion: Neurotoxicity is a rare but serious side-effect of third generation cephalosporins including CTX. Cephalosporin neurotoxicity may manifest as encephalopathy, dysarthria, tremor, myoclonus, and seizures. The proposed mechanism of toxicity is via decreased gamma-aminobutyric acid release and resulting hyper-excitability of neurons. The unique pharmacologic properties of CTX including albumin binding, mixed renal and biliary clearance, and extended elimination half-life, in combination with aging-related changes in physiology such as low albumin, decreased renal function, and pre-existing CNS disease place older adults at increased risk of cephalosporin neurotoxicity.

C35

Improving Resiliency in Nursing: Using a Focus Group Approach to Inform Interventions

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Background: 30% of nurses experience burnout at any given time. Burnout is comprised of emotional exhaustion, depersonalization of clients, and feeling ineffective. COVID has exacerbated this already prevalent problem through longer shifts, shortages of resources, disrupted sleep, altered work/life balance, lack of child care, lack of personal protective equipment, fear of contracting/spreading COVID, social isolation, incivility, vaccine hesitancy, and the perception that providers are being asked to provide care that exceeds their level of comfort. Many in healthcare describe these added stressors as robbing them of the very sense of purpose that drives their sense of duty to their professions. Some of the usual buffers against burnout, such

as family and social support, have been upended during the COVID pandemic. There is a well-established link between burnout and negative outcomes for providers including suicide, mental health issues and substance abuse. Ultimately, burnout leads to poor patient outcomes, decreased patient safety, lower productivity and increased medical errors. COVID-associated burnout has resulted in significant increases in staff turnover and provider shortages.

Methods: Our team sought to build effective interventions to impact burnout. Interventions to address burnout are often decided at high level administration levels and often miss the mark. We interviewed frontline nurses for their perspectives to inform effective interventions.

Results: Administrators focused on monetary rewards and short-lived staff appreciation efforts. Interventions recommended by the nurses included: offering free resiliency training classes as part of a weekend "retreat", conducting educational sessions for healthcare administrators to impact culture change at healthcare institutions, survey all staff for their input into concrete methods to impact burnout on-site, offer support groups with ensured staff anonymity, build on-site stress relieving interventions, improve teamwork, lessen staffing shortages, equalize compensation with traveling nurses, and sustain interventions to demonstrate appreciation.

Conclusions: Obtaining input from intended intervention recipients can help avoid ineffective interventions while promoting interventions expected to have the greatest impact. Asking for input alone can improve staff's sense of being valued and decrease burnout.

C36

I'm Still Breathing

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Case: A 76-year-old female with a history of CKD, HTN, and peptic ulcer bleed one month prior to presentation presented to the Emergency Department after two days of cough, pleuritic chest pain, fever, and faint hemoptysis. In the ED, she was afebrile, hemodynamically stable, but with an oxygen saturation of 80%. Noninvasive bilevel positive airway pressure ventilation was initiated. Labs were notable for WBC 17.4, stable anemia, slight creatinine increase to 4.0 from baseline 3.3. Chest x-ray revealed bilateral multifocal patchy airspace opacities concerning for multifocal infection. Influenza, Sars-Cov-2, and RSV testing were negative. Ceftriaxone and Azithromycin were administered for community acquired pneumonia and she was admitted to the ICU. While in the ICU, her hypoxia worsened requiring temporary intubation. On day 3 of admission, her hemoglobin dropped from 8.0 g/dL to 6.5 g/dL, her creatinine peaked at 5.64, and she was started on intermittent hemodialysis. Bronchoscopy showed evidence of diffuse alveolar hemorrhage (DAH). In setting of respiratory and renal failure, patient underwent renal biopsy. She received six sessions of plasmapheresis and high dose steroids with clinical improvement. Autoimmune workup was unremarkable and kidney biopsy results were consistent with advanced chronic kidney disease. Patient improved and she discharged home on a prednisone taper, and atovaquone for PJP prophylaxis. Ultimately, the etiology of the patient's DAH was never elucidated.

Discussion: DAH is a clinical syndrome with a wide array of causes, characterized by hemoptysis, acute hypoxemic respiratory failure, and acute drop in hemoglobin. However, DAH can be difficult to recognize as the volume of hemoptysis is relatively small or sometimes not present.[1] In our geriatric population in which anemia and acute respiratory failure due to pneumonia are prevalent, early recognition of DAH is vital as in-hospital mortality ranges between 25-50%.[2]

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C37

When Treatment of Hypertension Becomes Burdensome

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A 75-year-old gentleman with medical history of essential hypertension and Lewy body dementia who was being comanaged by neurology and geriatric medicine complained of progressive fatigue over the preceding several months. He also had intermittent constipation that was responsive to laxatives. His appetite was preserved, and he did not have diarrhea or weight loss.

Significant findings on physical examination were hypokinesis and tremors. There was no pallor or swelling. Blood pressure was within goal, but he was bradycardic with heart rate of 51 beats per minutes.

At the time, he was on carbidopa-levodopa 75/300mg four times daily, metoprolol succinate 400mg daily and aspirin 81mg daily. He had been taken this dosage of metoprolol for about 3 years.

Laboratory studies including thyroid function tests, complete blood count and comprehensive metabolic profile were mostly within normal limits.

A decision was made to taper down beta blocker and metoprolol was reduced to 200mg daily. Two weeks later he was seen in the clinic, and he reported that fatigue had improved, and he felt more energetic. At this point, he was taken off metoprolol and commenced on amlodipine.

He was again seen in the clinic after three months. At that time, he was even more energetic and had no fatigue. His BP remained well controlled.

Conclusion:

This case emphasizes the need for caution with the use of high dose beta-blockers in older adults because of age-related degeneration of the sinus node with a propensity towards bradycardia. Furthermore, the symptomatology of patients with dopamine deficiency states, such as Parkinson's disease, is likely to be worsened with the use of beta-blockers.

C38

Severe Walking Hyponatremia, Thiazide induced

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Background

Hyponatremia (serum sodium < 136mEq/L) is often unnoticed in older adults, until they present with seizures, coma, falls or neurological syndromes. Several causes exist, a major category being medications. Thiazide diuretics, widely used for hypertension, commonly cause hyponatremia. We present a case of severe hyponatremia where the patient walked into our geriatrics clinic, prior to hospitalization.

Case

77 yr old male presented with history of hypertension, type 2 diabetes mellitus, hyperlipidaemia, prior stroke, chronic kidney disease stage 3. Blood pressure was managed with amlodipine, carvedilol and losartan. He was on furosemide 20 mg for mild pedal edema, which was switched to hydrochlorothiazide (HCTZ) 12.5 mg daily for hypertension control. Prior to thiazide initiation sodium (Na) was 139. Weeks later, the patient walked into our clinic with mild occipital and neck stiffness, which worried him of stroke recurrence.

The neurologist ordered neuroimaging, negative for new stroke. Next day, he was lethargic, with staggering gait; wife took him to the emergency department, where hyponatremia (Na 119 mEq/L) was diagnosed as the etiology of his complaints. Withdrawal of HCTZ + saline, corrected Na levels and symptoms over 48 hours.

Discussion

Thiazides are the most common cause of drug induced hyponatremia; 1 in 4 hospitalizations due to hyponatremia are thiazide related, mostly in first month of initiation. The number declines with the drug use, but not to normal. The syndrome is more pronounced in the old because: they are prone to higher water intake; age related decline in glomerular and tubular function; propensity for polypharmacy and drugs that cause hyponatremia (thiazides, selective serotonin reuptake inhibitors, NSAIDs etc); hyperglycemia, hypothyroidism or hypoadrenalism; neoplasms and syndrome of inappropriate antidiuretic secretion. A diagnostic approach helps establish the underlying cause for low Na. Treatment includes judicious combinations of water restriction, Na containing fluids such as normal or 3% saline based on manifestations, at appropriate rate to avoid osmotic demyelination syndrome. Correction is done slowly over days, rather than hours.

Lessons learnt

Medications, especially thiazides, can cause severe hyponatremia even in ambulatory patients.

Prudent clinical / laboratory evaluation is warranted when new drugs are initiated

For new syndromes, consider drug initiation or withdrawal a possible etiology

C39

Running as a Coping Strategy in an Older Veteran with PTSD

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Introduction

Polypharmacy plagues older adults and this is prevalent in older veterans with PTSD. As geriatricians, we deprescribe medications and implement behavioral interventions such as exercise. The benefits of physical activity are well-known, and there is an increasing body of evidence proving its role in decreasing PTSD symptoms. The purpose of this case presentation is to showcase how running was instrumental in reducing polypharmacy and the severity of PTSD symptoms in a 72 year-old veteran.

Case Presentation

The patient is a 72 year-old male Vietnam Veteran. Upon returning from war, he began feeling angry and used cocaine to suppress his anger. He experienced nightmares related to combat, avoided memories and external reminders of his experience, and became hyper-alert. After years of suffering, he began working with psychiatry in 2009 at the age of 59. He was prescribed paroxetine, zolpidem, and prazosin. He became sober in 2011 and in 2013, when he was 63, he began working with recreational therapy to help with social isolation. He started power walking, which over time led to sprinting and he began competing in the National Veteran Golden Age Games.

During a meeting with his geriatrician in November 2021, he completed a PCL-5. The PCL-5 is a validated 20-item self-report measure that assesses the 20 DSM-5 symptoms of PTSD and is widely used within the VA healthcare system. The patient was asked to answer the questions based on both his current symptoms and his recollection of his symptoms prior to starting to run. His score improved from 59/80 to 17/80 points. Clinically significant change is generally considered to be a reduction of 10-20 points. His 42 point change is therefore highly significant and he reports greatly improved quality of life. He stopped taking prazosin in 2018 at the age of 69 and continues to deny frequent nightmares. He also requested to stop paroxetine, but was encouraged to continue this medication by his care team.

Conclusion

Studies have shown that physical activity is beneficial in reducing severity of PTSD symptoms. This case introduces the idea that aerobic exercise can also be instrumental in reducing polypharmacy in older adult veterans with PTSD.

C40

Medication Beliefs and Provider Interaction Associated with Medication Adherence among Culturally Diverse Older Patients with Chronic Disease

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Background: Our study assessed the association between beliefs about medication as well as patient communication with their healthcare provider/pharmacist and medication adherence among culturally diverse older patients with chronic disease at a community health center.

Methods: We analyzed data for older adults (≥ 65 years) in the RxHL project. Study participants were prescribed at least one chronic medication for depression, diabetes, dyslipidemia, and/or hypertension, and belonged to one of five cultural groups: African-American, Latinx, Russian-speaking immigrant, Vietnamese refugee/immigrant, or White Amer Medication adherence was determined by pill counts, and the Beliefs about Medicine Questionnaire (BMQ) assessed necessity, concern, harm, and overuse beliefs.

Results: Of 459 participants in the RxHL study, 130 (28.3%) were older with mean age 71 years and 63.1% female. Although overall mean adherence differed significantly by cultural group, it did not differ by age. Older patients reported higher necessity beliefs about medications than younger patients (Mean 3.93 (SD 0.58) vs. 3.71 (0.66), $p<0.0009$), while younger patients reported higher concern (M 2.83 (0.69) vs. M 2.65 (0.65), $p=0.009$) and harm beliefs (M 3.12 (0.67) vs. M 2.92(0.58), $p=0.002$). Beliefs about medication overuse did not differ by age. Older adults who regularly talked with their provider about medications had significantly lower concern score ($p=0.02$), whilst younger patients who talked with their provider had higher mean necessity score ($p=0.017$). Older participants who talked with a pharmacist about their new medications had lower concern score compared to those who did not ($p=0.056$), though no difference was found in younger participants. The older patients with adequate adherence (≥80%) had significantly lower mean harm score compared with those with inadequate adherence ($p=0.017$).

Conclusion: Older patients with diverse cultural backgrounds reported higher perceived necessity of medications compared with younger patients. Older participants who talked with their provider and/or pharmacist about their medications had lower concern scores. Lower perceived harm was associated with higher adherence in older adults.

C41

Quality Metrics & Cancer Screening in Frail Older Adults: Is the Electronic Health Record Leading Us Astray?

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Background:

Older adults identified as frail are unlikely to benefit from cancer screening due to limited life expectancy.

In 2020, the Centers for Medicare and Medicaid Services (CMS) developed Frailty and Advanced Illness Diagnoses that exclude frail older adults from clinically inappropriate preventive care metrics.

In clinical practice, however, older adults who meet criteria for exclusion may continue to have preventive care metrics flagged by the Electronic Health Record (EHR).

This study was developed to assess the number of patients in a small physician panel who meet criteria for exclusion from the Healthcare Effectiveness Data and Information Set (HEDIS) Preventive Care Metrics but continue to be misclassified by the EHR.

Methods:

Patient panels of 2 Geriatricians at our academic geriatrics clinic were reviewed.

Patients > 65 with outstanding breast and colorectal cancer screenings were assessed and the 2020 HEDIS Preventative Care Metric exclusions for patients with Advanced Illness and Frailty was used to determine whether patients met criteria for exclusion from cancer screening metrics.

Patients > 65 with an outstanding Medicare Annual Wellness Visit (AWV) were excluded as the AWV is an opportunity for individuals to be identified as frail and excluded from cancer screening flags.

Results:

Provider 1 had 39 patients flagged by the EHR as being due for breast cancer screening;

7(18%) met criteria for exclusion and were therefore inappropriately misclassified by the EHR.

28 patients were flagged as due for colorectal cancer screening; 5(18%) met criteria for exclusion.

Two patients were due for the AWV and were therefore not included in the above exclusions.

Provider 2 had 17 patients who were flagged by the EHR as being due for breast cancer screening; 6(35%) met criteria for exclusion. 26 patients were flagged as due for colorectal cancer screening; 4(15%) met criteria for exclusion.

One patient was due for the AWV and was excluded.

Conclusion:

Despite the 2020 Frailty and Advanced Illness Diagnoses that exclude frail older adults from clinically inappropriate preventive care metrics, we identified that a significant number of older adults may be misclassified by the EHR as needing inappropriate cancer screening. Coding for frailty may help physicians to limit cancer screening that is unlikely to benefit and may lead to harm for frail older adults.

C42

Transitioning an In-Person Geriatric Memory Clinic to a Virtual Care Model for Rural Clinics

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Background. Dementia is a progressive, neurodegenerative disease that results in a decline in cognitive functioning. The Atrium Health Senior Care Charlotte Memory Clinic (MC) is a geriatrician-lead team-based clinic, dedicated to the diagnosis and treatment of dementia. This study aims to describe how we used telehealth to expand our in-person, team-based memory care model to patients living in rural settings.

Phase 1: Memory Clinic with Navigator. Our MC team includes a nurse, geriatrician, and dementia care navigator (i.e., licensed social worker). Visits to this in-person navigator program include a detailed interview with the patient and caregiver(s), medication reconciliation and review, comprehensive geriatric and functional assessment, health literacy appraisal, depression and cognitive screening, goals of care discussion, social support, and caregiver education. The 2-year evaluation showed high levels of satisfaction from caregivers and referring providers, suggesting opportunity to mitigate caregiver burden and improve quality of life of persons with dementia. However, access to clinic location was identified as a major barrier.

Phase 2: Expanding to Rural Sites Using Virtual Care. In 2019, we expanded the MC into a Virtual Memory Clinic (VMC) program via partnership with primary care clinics (PCC) in two rural counties. The VMC program has the same components as the in-person MC, except patient/caregivers meet with the memory clinic team through video conferencing at their local PCC. Prior to implementing the VMC program, we met with key clinical stakeholders at the participating sites to get input on virtual care infrastructure, clinic workflow, and scheduling and billing logistics Primary care providers identified patients with cognitive concerns and then sent referrals via the electronic medical record for the MC to schedule. VMC is an ongoing program and beginning to assess satisfaction and outcomes.

Lessons Learned. Communicating the value of a VMC to primary care providers while providing guidance on the referral process are crucial at the planning stage. Furthermore, flexibility in enrollment strategy is important as our enrollment was significantly impacted by the COVID-19 pandemic.

C43

Relative vs Normative Cognitive Decline and Associations with Self-Management Skills: An Exploratory Analysis

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Background: Relative changes in cognition not reaching thresholds for 'impairment' may still have an impact on adequate health self-management. Yet, within primary care such changes may not be adequately captured in current clinical practice. New opportunities for annual cognitive screening as part of Medicare wellness visits in the U.S. offers a means to longitudinally monitor cognitive change, using a patient's own baseline, and not solely relying on normative performance. We sought to explore whether relative cognitive declines not previously captured using normative thresholds impacted the ability to self-manage personal health.

Methods: We conducted an exploratory analysis from a longitudinal study of independently-living older, primary care adults, known as 'LitCog'. We included 108 participants 1) ≥65 at baseline, 2) completing baseline and follow-up assessments 3 years apart, and 3) identified as cognitively impaired according to Mini Mental Status Exam (MMSE) age- and education-adjusted norms at either time point or cognitively normal per normative data but declining from baseline to follow-up. One-way ANOVA using Bonferroni post-hoc comparisons was used to assess differences between normative and relative decline groups on the Comprehensive Health Activities Scale (CHAS).

Results: 45 participants were cognitively impaired per normative data; 63 screened normal at both timepoints but declined from baseline: small (1 point decline, n = 39), medium (2 point decline, n = 14), large (3 - 5 point decline, n = 10). CHAS scores were lowest for those with large MMSE relative declines (M = 39.0, SD = 18.4), and comparative to the normatively impaired group (M = 41.3, SD = 17.6; p=1.00). Individuals with small (M = 59.6, SD = 19.4) and medium declines (M = 64.8, SD = 19.4) had higher CHAS scores compared to those with larger declines (both p's = 0.01) and normative impairments (both p's < 0.001).

Conclusions: Meaningful declines on cognitive tests that would not be detected using normative cutoffs were associated with poorer health self-management skills. Associations were similar to those meeting normative criteria for impairment. This exploratory study suggests there may be opportunity with annual cognitive screening for the earlier detection of impactful cognitive changes.

C44

Advance Care Planning in a Geriatric Veterans Primary Care Clinic During COVID-19

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The VA Advance Directive (AD) is an official legal document completed when Veterans have the capacity to make their own decisions in which Veterans specify their treatment preferences and surrogate decision-makers for future medical care.

About 75% of COVID-19 deaths in the US have been adults 65 years or older. An AD can ensure that the Veteran's choice regarding treatments such as hospitalization, ventilation or other life sustaining interventions is clear.

At the start of the COVID-19 pandemic, the Geriatrics team identified initiated a quality improvement project to update ADs for Veterans in the Geriatric Primary Care clinics. With the reduction in face-to-face encounters during this pandemic, alternative approaches to AD completion were needed to support this vulnerable population.

Methods: The Geriatric LPN identified all the Veterans who did not have AD or one that had not been updated in the last 5 years. 59 patients were identified that either needed an updated AD or did not have one in their chart.

The LPN mailed a letter explaining the need for an updated or new AD, included a blank AD and a return envelope. The Geriatrics SW called the veterans and addressed possible questions and assisted in AD completion.

Results: Between July and December 2020 the status of AD was evaluated in 106 patients. Only 45% of patients had an updated AD, 59 had either no AD (11) or one that was older than 5 years (48). By utilizing letters followed by phone calls from the GSW or LPN, 37 of the 59 patients (63%) either completed or updated their AD.

COVID-19 pandemic reduced face-to-face visits, which can inhibit the quality and type of care with patients. Advanced care planning is a discussion that feels most important to perform in person. Our group utilized a combination of an informative letter and follow-up phone calls to improve the rates of AD in this VA Geriatric Primary Care Clinic. After this project, ~90% of primary care geriatric patients have an updated AD in their chart.

C45

Implementing an Educational Model for the Direct Frontline Staff: A Non-Pharmacological Intervention for the Care of Cognitive Impaired Long-Term Care Residents with Underlying Neuropsychiatric Disorders

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Background: More than 98% of patients with major neurocognitive disorder (MND) develop neuropsychiatric symptoms (NPS), which are not recognized by 90% of caregivers. Research has shown that staff training on MND and behaviors significantly reduces psychotropic drug use. However, there is not a comprehensive educational model to teach front-line workers how to effectively interact with MND patients. Our aim is to implement an educational program to improve front-line workers' understanding and approach to cognitively impaired patients with neuropsychiatric symptoms, promote reasonable expectations, and improve quality of care.

Methods: Ongoing project at the Long Island State Veterans Home, a 350-bed facility, that provides long-term care to mostly males with history of combat training. We provided an anonymous survey to front-line workers (RN, LNP, CNA) to identify common NPS and perceived competence. Those who volunteered will receive 4 structured 20-minute educational sessions by a certified psychologist, to understand their challenges (week 1), educate on the disease process and NPS recognition (week 2), promote realistic expectations, verbal/non-verbal communication skills (week 3), and to obtain feedback from the participants (week 4). We will provide an anonymous post-intervention survey to assess changes in performance, understanding of MND and NPS and likelihood of applying the recommendations given.

Results: Participants are mostly females (64%), ≥40 years (44%), high school graduates (28%) with ≥4 years of experience (24%). Irritability (14%), physical (14%) and verbal aggression (13%) were the most common symptoms noted. Participants reported having moderate to no knowledge of MND and NPS (52%), feeling 'somewhat affected' by these behaviors (44%), feeling 'somewhat prepared' to approach these patients (32%), and 96% considered important to improve their understanding on MND and associated NPS.

Conclusion: Early findings suggest that structured and educational program may be associated with improved front-line workers' knowledge and confidence in managing cognitively impaired patients with behaviors.

C46

Assessing Barriers to Medicare Chronic Care Management Enrollment in a Primary Care Geriatric Clinic

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Background: In January 2015, the Centers for Medicare & Medicaid Services instituted Medicare Chronic Care Management (CCM) billing codes to allow providers to receive reimbursement for care provided to Medicare beneficiaries with multiple chronic conditions. In our academic primary care geriatric medicine clinic, we identified low rates of Medicare CCM enrollment. Limited data exist on patient CCM enrollment and implementation within the primary care geriatric clinic setting.

Methods: We performed a qualitative analysis using semi-structured online and print surveys to assess clinical staff perspectives on barriers to Medicare CCM enrollment. Survey results helped inform quality improvement interventions using Plan-Do-Study-Act Models of Improvement. Monthly CCM enrollment rates were prospectively collected to assess the impact of these interventions. This study was performed at a single academic primary care geriatric medicine practice.

Results: In July 2021, 2,311 clinic patients eligible for Medicare CCM enrollment were not enrolled despite eligibility (69.6%). Total provider CCM time spent on caring for patients eligible, but not enrolled in Medicare CCM, ranged from 4,629-12,480 minutes per month. Survey respondents (n=27) identified lack of time in creating CCM care plans (51.9%), lack of time in obtaining CCM consent (48.2%), and not understanding the process for CCM enrollment (27.0%) as top barriers to CCM enrollment. 77.8% of respondents felt social workers should primarily be responsible for enrolling patients in the CCM program, though thematic analysis of free text responses suggest interdisciplinary approaches to CCM enrollment.

Conclusion: The Medicare CCM payment policy intends to support infrastructure needed for primary care practices to provide care coordination for chronically ill patients. However, providers may not receive adequate reimbursement for CCM services for a multitude of reasons. Our findings suggest lack of time and gaps in provider knowledge of CCM as top barriers for CCM enrollment within our practice. Ongoing quality improvement interventions focusing on interdisciplinary efforts are needed to increase CCM patient enrollment rates.

C47

Home Visit with Telemedicine Support after Emergency Department Discharge to Promote Age Friendly Care

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Background: In response to the digital divide experienced by older adults and to establish a program to identify unmet care needs in the home, the US Department of Veterans Affairs (VA) Emergency Departments (ED)s launched a pilot program, SCOUTS (Supporting Community, Outpatient, Urgent Care & Telehealth Services) at seven VA EDs. We studied the feasibility of this post ED care model in which Intermediate Care Technicians (ICT) (former military combat medics) perform in-home screenings based on the 4Ms of age friendly health systems (mobility, mentation, medication, what matters) and make telehealth connections to VA ED providers.

Methods: Older adults identified as high risk while in the ED and discharged home were eligible for follow up SCOUTS home visit within 48-72 hours. During this visit the ICT garnered trust, learned "what matters," and identified unmet care needs via open ended questions, standardized screens, and home safety check. ICTs assisted patients with telehealth visits with ED providers for post ED follow up and to promote an action plan to address unmet care needs or home safety risks. ICTs also facilitated in home physical therapy telehealth visits. Eligible patients received a VA issued tablet device for future telehealth. ICTs assisted with connecting the Veterans back to their primary care team and specialty providers.

Results: In the three months prior to SCOUTS, 20 ED based telehealth had visits occurred in patients ≥ 65 years old. In the initial 6 months of the SCOUTS pilot implementation, there were 247 home visits, all of which included telehealth visit with an ED provider. ICTs also identified neglect, acute worsening of illness, caregiver strain, and prevented return visits to the healthcare facility. In one case, a Veteran was able to avoid a 6-hour round trip for his caregiver to receive hands on urinary catheter education.

Conclusions: A post ED care model promoting 4Ms through telehealth is feasible. A combination of telehealth and home visit allows acute care providers to address what matters and identify unmet care needs.

C48

Use of Design Thinking for System Redesign of Home Health Medication Management for Elderly Veterans

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Background: Skilled home health for medication management is a frequently used service for elderly Veterans. The current process outsources this service to contracted home health (HH) agencies and is costly to the VA. This quality improvement initiative aimed to 1) understand the patient population enrolled in HH medication management and 2) utilize design thinking with a multidisciplinary team to redesign medication management within the RMR VA.

Methods: Patients with active skilled HH orders for medication management within the RMR VA Geriatrics clinic were identified. A standardized chart review process was developed to evaluate social situations, high risk medical diagnoses and details of medications. Data was analyzed and presented to a multi-disciplinary team followed by a structured virtual design workshop. A survey with Likert scale responses was sent after the design workshop to evaluate participant engagement compared to traditional meetings.

Results: Retrospective chart review of 22 patients was performed. The average patient age was 83. Ninety-five percent of patients were community-dwelling and a third of patients had identifiable family or caregivers living with them. Patients had an average of 10 actively managed high-risk medical diagnoses, were prescribed an average of 10 scheduled medications, and 45% of the patients were on a high-risk medication. During a structured, virtual, design thinking session, a multi-disciplinary team worked together to further understand the current process and propose a new internal process for medication management. Eight multidisciplinary respondents indicated they were more engaged (100% vs 12.5%), had improved interprofessional perspective (100% vs 12.5%), used creativity (100% vs 37.5%) and had a platform to share their ideas (100% vs 25%) in the design workshop as compared to traditional meetings.

Conclusions: Our work supports that elderly Veteran patients receiving skilled home health for medication management are medically complex and living independently. Use of design thinking was found to improve engagement, interprofessional collaboration and creativity as compared to traditional meetings and may be an effective way to perform process redesign.

C49

Feasibility and Efficacy of an Asynchronous Deployment of an mHealth Advance Care Planning Tool

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Background: With only 7% of Medicare beneficiaries having completed Advance Care Planning with their physicians, engagement in Advance Care Planning in the clinical setting has been historically low. The Koda Health Advance Care Planning software platform is a video-driven, web application that guides patients through advance care planning concepts, including values and quality of life exploration, surrogate decision maker selection, life-support treatments, and advance directive completion. This study investigated the feasibility and efficacy of an asynchronous deployment of the Koda platform for patients with advanced illness and complex care needs.

Methods: The study was completed over a 10-month period for patients at Houston Methodist Coordinated Care (HMCC), an Accountable Care Organization affiliated with Houston Methodist. Inclusion criteria were English-speaking, capacity for medical decision making, and enrollment in one of HMCC care pathways. HMCC nurse navigators screened patients and introduced interested patients to the Koda ACP platform by electronically sending them a link to the platform to complete at home. Care navigators from Koda Health provided ongoing guidance for patients to navigate the platform.

Results: 120 patients met eligibility criteria and were enrolled in the pilot. The enrolled patients had an average age of 74 (range 28-97), and 57% were Caucasian, 34% were African American, and 7% were Asian, which is representative of the local community. All participants were offered the platform, and 70 (58%) created an account and began planning for their care. Of the patients that created an account, 86% completed all ACP steps on the platform and 82% identified a surrogate decision maker. 46% of African-American and 50% of Caucasian patients, and 50% of male and 50% of female patients completed all ACP steps on the platform. The median number of days to complete all ACP steps on the platform was 16 days and the median time spent on the platform was 35 minutes.

Conclusions: The Koda platform appears to be a useful tool to improve equitable access and engagement in advance care planning and improve surrogate decision maker identification. Further research is needed to understand whether the Koda platform aids in providing goal-concordant care.

C50

Age Friendly Health Systems: Pharmacists Role in What Matters Most

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Background:

One significant role of a health-system pharmacist is to provide education to patients to promote medication adherence, control chronic comorbid conditions, and improve the quality of life. The traditional approach to pharmacy education involves providing medication information and assessing patient understanding. The "What Matters Most" approach focuses on engaging in patient-specific goals to improve health outcomes. The aim of this project is to assess if the "Matters Most" approach yields increased opportunities for patient-centered pharmacy interventions.

Methods:

Between January 21st and February 9th, 2021, patients on an acute care medical/surgical unit were visited by a pharmacy intern and asked if they felt any of their home medications interfered with daily life or what matters most to them in concordance with their health goals. Patients were chosen through a convenience sampling method, and were included if they were alert and oriented, had been admitted for at least 24 hours and did not have an active discharge order. Positive responses were addressed through patient education and/or discussion with the physician to make changes to the medication regimen. Patients with negative responses were provided with pharmacy contact information.

Results:

A total of 31 patients were visited for a median time of 5 min (range 5- 45min). The median patient age was 68 years (range 39- 93). Eight (25.8%) patients responded "yes" to the question asked. Of the patients who responded "yes", 5 (62.5%) resulted in a pharmacist-initiated intervention, either through patient education or a change in medication therapy. Two patients received additional follow-up for a medication-related concern.

Conclusion:

This pilot suggests there may be value in utilizing patient interests and values to encourage medication adherence and optimize medication therapy. The "What Matters Most" approach allows patient medication concerns that may have otherwise gone unnoticed to be addressed prior to discharge, which could lead to reduced readmissions and increased patient-satisfaction. Pharmacists may utilize this technique to identify and overcome barriers or medication-related misconceptions that lead to non-compliance.

Next steps include replicating the pilot on a larger patient population, evaluating pharmacist-led interventions, patient satisfaction and readmission rates.

C51

A quality improvement project to boost uptake of the age-friendly health systems 4Ms in convenient care clinics

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Background: MinuteClinic is transforming convenient care and implementing the Age-Friendly Health Systems (AFHS) 4Ms Framework into the 1,100 MinuteClinic locations nationwide. The goal is to incorporate assessing and acting on What Matters, Medication, Mentation, and Mobility as a set, for all individuals 65 years and older. Six months into adoption, performance plateaued, and a quality improvement (QI) project was instituted in response.

Methods: The QI project included two regions (N=99 providers) led by managers and champions. Interviews and focus groups provided data on barriers and facilitators that were used to target interventions. The implementation strategies incorporated into the providers' processes were morning team huddles, post huddle recap, review of 4Ms performance metrics, and weekly meetings. Using a logic model, evaluation included formative and summative pre-and post-survey questionnaires. Key implementation strategies were a team approach, coaching, audit and feedback, communicating the goal, and mitigating myths.

Results: A significant increase in the completed 4Ms assessments and act-on's as a set was noted during the project (1,107, 1.99%) when compared to baseline performance (defined as the first 7-weeks of the year) (1,508, 0.60%). There was increased uptake of each 4Ms during the pilot compared to baseline: baseline (What Matters (1,508, 3.32%), Mobility (1,508, 0.93%), Medication (1,508, 2.79%), Mentation (1,508, 0.60%)); project (What Matters (1,107, 13.19%), Mobility (1,107, 5.96%), Medication (1,107, 9.76%), Mentation (1,107, 2.35%)). The two regions showed a positive trajectory in 4Ms Framework (1,107, 1.99%) compared to the national performance (22,234, 1.62%). Survey questionnaires indicated that the interventions were acceptable and effective.

Conclusions: The QI project revealed the value of additional implementation strategies that addressed perceived barriers and the need to learn how to facilitate the trajectory of early adopters. The QI project in the 2 Regions led to the formation of a more extensive booster implementation, demonstrating the need for ongoing quality improvement projects to ensure that adults age 65 years of age and older reliably receive 4Ms care during convenient care visits.

C52

Debriefing Sessions: An Intervention to Support Wellness in Trainees While Caring for Patients with Advanced Illness

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Background: Health care professionals experience grief when caring for persons with serious and advanced illness. The opportunity to process personal and professional responses to a patient's suffering seems to be important yet lacking. We created an action plan to support health care professionals. The intervention – debriefing session – was specifically aimed at providing emotional support and increasing one's ability to engage. The purpose of debriefs are to promote wellness and provide support during an elective that can be emotionally taxing, especially to those who have not yet entered clinical practice.

Methods/ Results: A semi structured format for conducting debriefing sessions was developed, Interdisciplinary debriefs are done bi-weekly for trainees during their 2- or 4-week palliative care elective rotations and led by palliative care attendings and chaplain. Trainees included students, residents, and fellows within medicine and pharmacy. Various questions are asked to stimulate discussion and assess coping; Several open-ended questions are then posed to invite the participants to express their personal and professional responses "What was it like taking care of this patient?" elicited responses about the experience of providing physical care or coping with emotional and spiritual stress. Inquiring about the most distressing and the most satisfying aspect of the case enabled participants to review both positive and negative experiences in caring for the patient/family. At the conclusion of the debrief sessions, an image titled "Emotions" done by Douna Montazeralghaem, MD is shared with trainees. This image of an oil painting serves to demonstrate a physician's emotional experience in today's culture of medicine. Self-report evaluations revealed that health care professionals found the sessions helpful. Responses to the most satisfying aspects of the case included elements related to team collaboration, end of life care, and the relationship with the family. Responses to the most satisfying aspects of the case included elements related to team collaboration, end-of life and the relationship with the family

Conclusions: Debriefing sessions are an effective approach to support health care professionals in managing their grief while caring for persons with life-threatening conditions

C53

Building Community-Based Advance Care Planning (ACP) Engagement with Black, Chinese, and Latinx Communities in San Francisco (SF)

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Background: ACP is influenced by community context, yet few interventions to increase ACP in underserved populations have fully engaged community stakeholders. In this community engaged pilot, we present results of a co-developed ACP initiative led by Black, Chinese, and Latinx communities in SF.

Methods: The SF Palliative Care Workgroup, comprised of clinicians, government officials, and community-based organizations serving older adults, developed the Learning Journeys (LJ) project with a goal of reducing disparities in ACP. LJ consists of 3 community groups (Black, Chinese, Latinx) led by community members who conducted asset mapping, community surveys, and focus groups. LJ community groups then designed and implemented pilot ACP events in their communities. We assessed comfort attending events, likelihood to recommend events, and changes (using t-tests) in pre vs post readiness to engage in ACP using the validated 4-item ACP Engagement survey (score 1-4; 4=most ready).

Results: 114 people attended 6 events in the Black Community, 195 attended 10 events in the Chinese Community, 97 attended 5 events in the Latinx Community. Among attendees of the Black Community events, mean age was 57 (SD 17), 80% were Black, 8% Spanish-speaking, 55% women; 96% were comfortable attending, 91% would recommend the events. Among Chinese Community events, mean age was 62 (SD 20), 98% were Asian, 96% Chinese-speaking, 82% women; 95% were comfortable attending, 83% would recommend the events. Among Latinx Community events, mean age was 59 (SD 19), 86% were Latinx, 55% Spanish-speaking, 63% women, 63% heterosexual; 96% were comfortable attending, 98% would recommend the events. ACP Engagement scores increased from 3.0 (SD 1.0) to 3.1 (1.0; P=0.23) among attendees of the Black Community events, 1.7 (0.9) to 2.1 (0.9; P<0.001) for Chinese Community events, and 2.6 (1.0) to 3.0 (0.9; P=0.03) for Latinx Community events.

Conclusions: ACP events designed and implemented by and for Black, Chinese, and Latinx communities were well attended by a diverse group of community members and were highly acceptable. Chinese and Latinx Community events significantly increased readiness to engage in ACP. These findings underscore the benefits of culturally appropriate, community engaged methods to meaningfully increase ACP engagement.

C54

Improving access to care for older adults during the COVID pandemic

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Background: Memory disorders clinic is a multi-disciplinary clinic that provides comprehensive evaluation of patients for cognitive problems. After the COVID pandemic started, face-2-face (F2F) visits were halted completely for some time and reduced to less than 50% later. Patients with comorbidities were hesitant to come in for F2F visits due to heightened risk of infection. To improve patient access and provide the necessary care without increasing the risk of infection a brand-new Telehealth clinic was developed, the Veteran Video Connect (VVC) Memory clinic. Patients were seen virtually by the providers in the Memory clinic. The objective was to assess if the VVC clinic improved access to care for older adults during the pandemic.

Methods: Retrospective chart review was completed from July 2018 to Nov 2021. Number of patients seen 20.5 months before the pandemic (07/01/2018 – 03/15/2020) were compared to 20.5 months during the pandemic (03/16/2020 – 11/30/2021). Data was collected on number of visits completed via F2F and virtual visits from pre-pandemic to pandemic months.

Results: There was a 14% increase in the number of patients seen in the Memory Clinic during the pandemic (N=516) compared to pre-pandemic (N=453). During the pre-pandemic period, all patients were seen F2F. During the pandemic, 257 patients were seen F2F and 259 (55%) patients were seen via VVC visit. Compared to the pre-pandemic level, there was 100% increase in the virtual visits during the pandemic. Patients were able to complete their appointments from the comfort of their home and also without the fear of getting COVID. This prevented no shows and delays in patient care. Providers were able to see the patients in their home setting which helped them to gather more information about their living situation. Patient satisfaction improved and their cognitive and behavioral problems were addressed in a timely manner. Providers were able to interact more with the caregivers whenever they were available for the appointments.

Conclusion: We conclude that patients with cognitive impairment can be successfully seen over the virtual visits. We were able to improve access to patient care during the pandemic. This has further helped in running the clinic at or above its full capacity.

C55

Optimizing Delirium assessment, documentation, and multi-disciplinary communication – A Quality Improvement study

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Background: Delirium is associated with poor hospital outcomes including increased morbidity and mortality. Despite worse outcomes, it is under-diagnosed and under-documented. Confusion Assessment Method (CAM) is a validated tool for delirium assessment that has been in clinical use for more than two decades. To facilitate appropriate detection of delirium, the workflow needs to be evaluated to enhance delirium assessment and management. A collaboration of geriatric hospitalists and nursing team occurred at Mayo Clinic, Rochester, to further study the problem of delirium under-detection.

Methods: DMAIC (Define, Measure, Analyze, Improve and Control) model of quality improvement was utilized. A retrospective chart analysis was performed to identify delirium diagnosis. To capture delirium in this retrospective study, three different modalities were utilized 1) Clinician diagnosis of delirium and its equivalents, 2) Nursing documentation of CAM and 3) Validated natural language processing delirium tool. We studied each nursing unit completion of CAM. Stakeholder interviews were performed and reviewed by the workgroup to understand barriers for compliance.

Results: The overlap between the three modalities of diagnosis capture was small (about 22%), with a significant proportion of patients identified independently of each other modalities. Each nursing unit compliance of delirium assessment was noted to be about 40-50%. Barriers identified included a) Complexity of CAM tool documentation in electronic health record (EHR), b) Insufficient awareness about appropriate assessment methods, and c) Lack of integrated electronic communication between nursing and clinician teams. We developed a brief educational module for nursing staff, to augment CAM assessment and documentation in EHR. An alert to the clinicians, prompting acknowledgement of delirium identification by nursing, while facilitating addition of delirium as a symptom to EHR.

Conclusion: Despite longstanding clinical use of validated tools, a self-evaluation of delirium assessment and documentation process in very much needed in the hospital system to optimize and enhance the care of patients, related to delirium. Collaboration of nursing and clinician team is key to a successful implementation of this delirium quality improvement process.

C56

CARIÑOS Model of Care - Integrating the care of seriously ill Hispanic underserved popuations into primary care - home based primary supportive care.

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Hispanic & underserved disparities result in lack of trust regarding their care. Expressed concerns are cost; lack of alignment with cultural norms; fraught relationships between communities, health professionals, and the trade-off between knowing risk and treatment benefit. The CARIÑOS (Spanish fondness, affection, tenderness, love) model of care is a patient- and family-centered care that results in patient-driven, value-based care and improved outcomes.

Objectives:

List the elements of the CARIÑOS model

Describe strategies that can be used to implement this model of care for underserved and Hispanic families

The practice serves ~3,000 older adults patients 50-107 each year. 92% meet underserved criteria, 65% are Hispanic and 45% with functional impairments. The complexities of care led to the development of a team-based, community-outreach model the CARIÑOS.

Comprehensive, coordinated, compassionate care across clinical settings.

Advocating for patients and families - collaborative relationships with health care partners.

Respecting what matters most (5M's).

Intentional activities and processes specific to meet needs

Nurtured relationships with families, virtual team

Older adults are wise, know what they want, Listen.

Supportive Care for quality of life

"Promotores" or community health workers, in a bridging role, establish trust and engage the community for culturally congruent care. This model has decreased the costs of care (Table) with improved outcomes.

The CARIÑOS model of care is an innovative, model of to care culturally congruent for seriously ill underserved patients in any clinical setting.

Table comparing the HCC scores and Costs of Care among 7 ACO practices in the region including the CARINOS

Practice and HCC Score	Average Costs
CARINOS En Su Casa 1.45	$45,705
ACO Practice 1 1.29	$52, 811
ACO Practice 2 1.17	$51,236
ACO Practice 3 1.11	$66,656
ACO Practice 4 1.11	$47,309
ACO Practice 5 1.11	$44, 482
ACO Practice 6 1.11	$39,871

Sicker patients (Higher HCC Scores) Lesser Costs - Effect of the CARINOS Model

C57

Implementation of a new model of telemedicine in Montana: GRECC Connect

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The Department of Veterans Affairs (VA) Office of Geriatrics and Extended Care (GEC) and the Office of Rural Health (ORH) established the Geriatric Research, Education, and Clinical Centers GRECC Connect project in 2014. Its mission is to improve the health and well-being of rural Veterans through research, innovation, and the dissemination of best practices by using tele-health technologies available at the VA. This program provides specialized consultative support to rural primary care providers. Here, we present a unique model of care developed between the SLC VA GRECC Connect (GC) and the Montana VA Mental Health (MH) Team and describe this project's structure and activities.

The SLC GC team consists of two geriatricians, one research assistant, a geropharmacist, and a neuroradiologist. The Montana VA MH Clinic team consists of a neuropsychologist, a geropsychologist, a psychiatrist and a social worker. Together they comprise a multidisciplinary team that provides recommendations and referrals to older patients with complex medical problems. Referrals to GC are channeled through Montana VA MH. The support is provided by asynchronous telehealth and VVC or phone consultations completed in Veterans' homes. The GC team performs a detailed chart review and discuss cases with Montana VA MH Clinic via Teams. The services and recommendations provided by GC consultations include appropriate use or discontinuation of medications, transitions of care, caregiver support, and specialized management of geriatric syndromes and dementia with behavioral disturbance.

The GRECC Connect/Montana MH panel by the end of the fiscal year 2021 included 34 patients, of which 32 patients are male and 2 patients are female. The mean age is 77 years old. Forty-eight percent of these patients are service-connected. Sixty-one percent of the Veterans referred to the program reside in mid to western Montana counties. Mean rurality is 87%. The referred patients often have multiple reasons for referral. The most common reason for referral was medication review (n=19), followed by cognitive complaints (n=8) and other behavioral disturbance/psychiatric concerns (n=7). It is estimated that the program has saved 58,978 miles of travel to referred veterans.

The GC and Montana MH Clinic collaboration demonstrates how the ORH mission is being carried out to serve older rural Veterans in Montana and Utah by improving access to geriatric care.

C58

"Perceptions of Chiropractic Services in the management of older adults with musculoskeletal pain and mobility disorders."

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In the United States one of the most common causes of pain in older adults is related to Musculoskeletal diseases (MSDs), which are major cause of disability, reduced function and increase in morbidity and mortality.

Chiropractic treatment may serve as a nonpharmacological intervention for pain and contribute to older adults' ability to overcome activity limitations imposed by MSDs and pain. However, it is unknown whether providers working with older adults are likely to make referrals for chiropractic treatment. We aimed to identify (1) the likelihood of physicians to refer to chiropractic services; (2) barriers for referral to chiropractic services; and (3) providers' interest to learn about chiropractic services.

Methods

A survey was conducted among providers caring for older adults with MSDs and pain in two health care institutions to examine the likelihood of referral for chiropractic treatment. Twenty-five providers were invited to respond; 19 completed the survey (76%). Participants included 15 physicians, 2 nurses and 2 psychologists/social workers.

The survey presented 2 clinical scenarios (low back pain; neck pain). Participants were asked through a Likert Scale 1-5, their likelihood to refer these patients to chiropractor services. If they were unlikely to refer, through open ended responses, they were invited to explain why. Participants were also asked about their interest in learning about chiropractor services.

Results

Most providers (8=42%) have never referred to chiropractors. Most providers were somewhat unlikely (4=21%), (3=16%) and very unlikely (5=26.5%), (7=37%) to refer patients with low back pain and neck pain to chiropractors; respectively. Most providers were unlikely to refer due to concerns for manipulation, safety, and lack of familiarity with chiropractic services. Remarkably, 95% of participants have interest in learning about chiropractor services.

Conclusions

Most participating providers are unlikely to refer to chiropractors, but willing to learn more about this discipline.

Thus, there is a window of opportunity to inform providers of different treatment modalities for older adults with pain and MSDs.

C59

Self-Reported Barriers to Osteoporosis Treatment among Geriatricians

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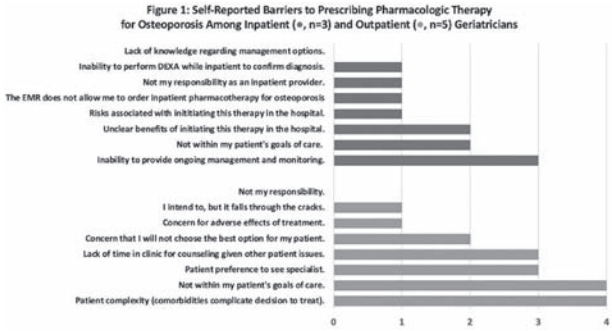
Background: While osteoporosis is a common cause of morbidity in older adults, it is undertreated. At the University of California San Diego (UCSD), rates of pharmacologic treatment for all clinic patients with osteoporosis aged 50-90 were 35% (466 of 1351 females) and 29% (45 of 158 males) from April 1 through September 30, 2021. Little is known about geriatrician-reported barriers to pharmacologic treatment of osteoporosis.

Methods: To understand root causes for osteoporosis care gaps, we used the COM-B model to design a survey to identify capability, opportunity, and motivational barriers to pharmacologic treatment of osteoporosis. We administered the anonymous survey to a convenience sample of nine UCSD geriatricians. The survey included multiple choice questions, a 5-point Likert scale, and the opportunity for free text input.

Results: Eight of nine geriatricians responded to the survey with five reporting to practice primarily outpatient and three to practice primarily inpatient. Of the outpatient geriatricians, four responded that the primary care provider (PCP) is responsible for treating osteoporosis diagnosed in the outpatient setting, but only one geriatrician felt the PCP is responsible for initiating treatment for osteoporosis diagnosed in the hospital. Of the inpatient geriatricians, all three reported they typically defer management to a patient's PCP if a diagnosis of osteoporosis is made in the hospital. Self-reported barriers are described in **Figure 1**.

Conclusions: In a single institution survey, geriatricians held varying views regarding osteoporosis treatment initiation and management responsibilities.

References: Freedman KB, et al. Treatment of osteoporosis: are physicians missing an opportunity? J Bone Joint Surg Am. 2000 Aug;82(8):1063-70.



C60

Qualitative Health Assessment from Affordable Housing

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According to the Rural Health Information Hub, by 2030, 1 in 5 Americans is projected to be above 65 years old. The Geriatric Workforce Enhancement Project's (GWEP) purpose is to improve health outcomes for older adults by developing a healthcare workforce that maximizes patient and family engagement by integrating geriatrics and primary care. GWEP uses the 4M Framework to develop care plans for older adults to achieve objectives in areas of mentation, medication, mobility, and what matters to them. This project's goal is to create interprofessional teams involving undergraduate and graduate students from various disciplines to work with older adults and help them age better. **Methods:** This project is an ongoing effort to address needs in affordable housing in Egg Harbor City, NJ with 102 residents. For this study data were analyzed from March to November 2021. For pre-intervention, students completed Health Risk Assessments for the following outcome measures: the Mini-Cog for cognition, the TUG for mobility, the Patient Health Questionnaire (PHQ9) for depression, and the Katz Index for activities of daily living (ADLs). Initial evaluation also included interviews to determine medication management techniques, instrumental activities of daily living (IADL) performance, and previous medical history for 30 residents. After the initial assessment, individualized care plans were developed for 10 residents based on their area of concern. Group sessions ran every week on identified areas for residents and post-intervention sessions evaluated the results. **Results:** Content-based analysis was done on Qualitative data for 10 residents based on the above measures. Major themes identified through descriptive data were technological support, increase in exercise, improved sleep quality, better nutrition needs, and increased social interaction. Outcomes were assessed post-intervention individually for all ten residents. The frequency of participation increased from 2 people per session to 8 and 10 per session and significant improvements were noticed in their quality of life including eating habits and participation in social and physical activities. **Conclusion:** Through the implementation of group activities and individualized care plans there is an increase in social participation, exercise, and technology use. Affordable housing communities would benefit from programs that focus on individualized needs and monitoring the outcomes over regular intervals to gauge the impact of these programs.

C61

Effect of home comprehensive geriatric assessments on hospital utilization by home-bound seniors with dementia.

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Background:

Home-bound seniors often suffer from complex comorbidities. A diagnosis of dementia increases hospital utilization. Comprehensive geriatric assessments (CGAs) improve health outcomes of seniors. We aimed to find out whether incorporating a home CGA impacted hospital utilization among home-bound seniors with dementia.

Methods:

A retrospective chart review was done for 50 patients on our home-bound panel to identify those with dementia. Our house call team: a doctor and a social worker performed a CGA including medical history, medication review, examination, functional assessment, and cognitive screening using an MMSE or MoCA. 37 had dementia. Patients, families, and caregivers were educated about the course of dementia, associated behaviors, and potential complications. Data collected included ER visits and hospitalizations 18 months before and after CGA intervention. We calculated the difference in ER visits and hospitalizations pre and post-CGA. We used a paired t-test to look for statistical significance.

Results:

37 out of the 50 patients were diagnosed with dementia. There were 25 ER visits before and 25 visits after CGA (p-value=0.5). There were 42 hospitalizations before and 36 after the CGA (p-value=0.27). There was no statistically significant difference in our findings.

Conclusions:

Seniors with dementia utilize the healthcare system frequently. Their families often feel vulnerable and take their loved ones to the ER for any change in baseline. The causes for admission are however not always preventable. It was our hope that identifying patients with dementia and educating families or caregivers about its course would reduce unnecessary ER visits and hospitalizations. Our small population sample limits the statistical significance and power of our results. Future studies would help in studying whether a CGA can be a quality improvement tool in reducing hospital utilization for home-bound senior patients with dementia. We also want to expand our database to compare seniors with dementia against a control group without dementia and their respective admission diagnoses.

C62

Osteoporosis or Low Bone Mineral Density in Elderly Population.

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Introduction: Osteoporosis is characterized by low bone mass, architectural disruption and skeletal fragility resulting in decreased bone strength and increased risk of fracture. Low Bone Mineral Density (LBM) is when the DXA scan shows T-score between –1.0 and –2.5 mean. Early diagnosis and quantification of bone loss and fracture risk are important because of the availability of therapies that can slow or even reverse the progression of osteoporosis and reduce the risk of fragility fractures.

Methods: We reviewed a sample of 119 patients (33% of *GERIATRIC PACT* Veteran administration (VA) clinic) from 1/1/2018 thru 8/30/2021 to assess the frequency of screening for osteoporosis, and treatment considerations. From chart review, we collected sociodemographic characteristics, biochemical measures, imaging data and medications.

Results: Our patients mean age ± SD was 83±7 years-old, 90% were male with average BMI of 27± 6 kg/m^2 and Hb A1c median (IQR): 5.9% (5.5%, 5.9%). In our sample, 59% of patients did not have any screening for osteoporosis. Out of those who had screening, 55% had osteoporosis, 39% had LBM and 6% had a normal DXA scan. Those diagnosed with Osteoporosis or LBM tended to have lower BMI (26±5 vs 28±6 kg/m^2, p=0.06) compared to those not tested or with normal DXA scan. No difference in HbA1c was seen among the groups (p=0.8). 44% of the patients who were diagnosed with osteoporosis and 26% of those with LBM have been receiving treatment with antiresorptive or anabolic therapy. Most of the patients were on alendronate (24%), followed by zolendronic acid (6.5%), denosumab (4.3%) and teriparatide (2.2%).

Discussion: In our patient sample, 59% of patients have not had their DXA scans. Multiple factors could have contributed to this low screening rate. Clinical reminder per national VA guidelines is only present for females aged 65 and above. COVID-19 pandemic possibly contributed to reduced priority in patients completing their DXA scans. Only half of those diagnosed with osteoporosis are on treatment, highlighting the need for practice improvement.

Conclusions: In our geriatric population, when bone density screening was done, a high percentage of osteoporosis and LBM was diagnosed. Additional steps to improve osteoporosis screening in this high risk population such as clinical reminders and adequate management could reduce fragility fractures and improve the quality of life.

C63

Guiding Post-Hospital Recovery by 'What Matters:' Implementation of Patient Priorities Care in Two VA Community Living Centers

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Background: Patient Priorities Care (PPC) is an effective Age-Friendly Health Systems (AFHS) approach to aligning care with goals derived from 'what matters' for persons with multiple complex conditions. Community Living Center (CLC)s are VA-based skilled nursing and rehabilitation units caring for post-hospitalized Veterans. Identifying and aligning treatment options with 'what matters' is not systematically incorporated into the care plans of Veterans in the CLC. The purpose of this project was to incorporate PPC into two separate VA CLCs by applying the Plan-Do-Study-Act (PDSA) models for implementation.

Methods: A multidisciplinary performance improvement team at both VA CLC sites guided identification and training of PPC facilitators and opportunities to document and integrate 'what matters' into interdisciplinary care. PDSA model guided local improvement processes for implementation. Regular meetings occurred between leaders at each CLC to share implementation strategies between sites. Structured meeting notes from weekly discussions with site teams, bi-monthly discussions between sites and key informant interviews were analyzed to inform the PDSA process and determine the acceptability and feasibility of PPC in the CLC. PPC encounters were counted prospectively from the electronic medical record.

Results: Over six months, the performance improvement team completed two PDSA cycles, with successful implementation of PPC into CLC admissions, resident assessments and interdisciplinary team discussions. Nine facilitators completed 30 PPC conversations across both sites. CLC documentation and team processes were adapted to better reflect patient priorities. Informant interviews suggested that PPC is appropriate for the CLC, benefits patient care and is not burdensome to workflow.

Conclusions: Through successful application of PDSA, our team implemented PPC into current CLC workflow to elicit and align care with 'what matters,' consistent with AFHS principles. Future PDSA cycles will devise a scalable model for integrating PPC and AFHS into other CLCs nationwide.

C64

Improving Functional Status Documentation in a Geriatrics Clinic: A Quality Improvement Study

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Background

There is an increasing recognition of the importance of documented functional status assessments (ADL, IADL) within the field of geriatrics. Identifying concerns and decline in functional status early can assist in delaying nursing home placement, prevent falls, and aid in caregiver support. As this documentation is now monitored by Medicare, EMR like Epic has now created standardized methods to record information. Most providers ultimately recognize the significance of functional status assessment, but there's a caveat - barriers remarkably curb a provider's ability to have easy access and consistently log functional status. This project was designed to understand potential roadblocks and improve functional status documentation.

Methods

This quality improvement initiative is conducted at a geriatrics clinic of a New York City academic hospital that utilizes the Epic EMR system. Within Epic, there are three separate "flowsheet" options that document functional status in a way that is recognized by the Health System. A provider must only complete one of these flowsheets annually for each patient to receive credit for completion. An Epic report of "Geriatric Functional Status Assessment" was generated, and gave a one-year summary of each provider's completed functional status documentation as a percentage of the provider's total patients seen that year.

Results

The results of the report yielded a large range of 0% to 77% completion across all providers with a clinic average of 39%. Most notably, geriatric fellows in the clinic had lower rates of completion overall with an average of 32% completion when compared to the attendings' average of 42%. Interestingly, most individual providers documented in a different flowsheet (of the three) per patient instead of adhering to a single flowsheet to document in consistently.

Conclusions

Given the wide range of functional status documentation rates among providers and an overall clinic rate of <50% completion, there is an immense opportunity to implement a quality improvement approach to improve these rates. We plan to carry out strategies targeting clinician education on appropriate documentation and a simplification of the documentation process itself may remove potential barriers to documenting functional status, thus improving patient care.

C65

The Current Landscape of Acute Care for Elders (ACE) Units in the United States

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Background

Evidence regarding the benefits of Acute Care for Elders (ACE) units has been published in the literature for over 25 years, but little is known about how many exist and the variations in implementation. This study aims to identify the prevalence of ACE Units in the United States and describe the variations in the implementation.

Methods

We conducted a cross-sectional observational survey study involving all hospitals in the United States using the Definitive Healthcare Database. To identify potential survey respondents' from each hospital, we used: (1) purposeful sampling of clinicians known to the study team (2) snowball sampling methods (3) publicly available information. All identified responders were sent an online survey and results were summarized using descriptive statistics.

Results

There were 3692 eligible hospitals, and respondents from 2055 (56%) hospitals confirmed the presence of an ACE Unit or not. We identified 68 hospitals (3.3%) with an existing or previous ACE unit. Of these 68 hospitals, 50 respondents completed our survey where we found that 43 ACE units were currently open and 7 had been closed. The majority of the 43 open ACE units were in an urban area (42, 98%); 29 (67%) had academic affiliations, 8 (19%) were in community hospitals, 3 (7%) were in integrated health systems, and 3 (7%) were in public or safety net hospitals. There is variable implementation of the five essential ACE components: 41 (95%) had patient-centered care assessments, 26 (69%) had a medical care review, 30 (70%) had a specialized prepared environment, 31 (72%) had early mobilization and physical rehabilitation, and 42 (98%) had early discharge planning.

Conclusions

There are 68 known ACE units in the United States (7 of which have closed). Open ACE units report variable implementation of the five essential components of an ACE unit. Further studies are needed to determine which implementation elements are critical to important outcomes.

C66

POLST Training for Nurses at Nursing Homes

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Background: The Physician Orders for Life Sustaining Treatment (POLST) form is a medical order that is used in end-of-life care planning, especially for frail older adults, in hospitals, hospices, and nursing homes across the United States. According to the CDC, approximately 1.5 million people currently live in nursing homes. There is great variability in nurses' abilities to administer and interpret POLST forms. This study was designed to assess the effectiveness of a focused presentation in increasing nurses' familiarity and comfort with POLST forms in the nursing home setting.

Methods: A training on the POLST form was created and presented to nurses at community nursing homes in Los Angeles. Before and after the presentation, they were given a survey to assess their knowledge and importance of, quality of training of, level of confidence to complete, and need for additional training regarding the POLST form. Statistical analysis was done on the survey results in order to evaluate the effectiveness of the POLST form training for the nurses.

Results: Based on our preliminary data, the majority of the 27 nurses who received the POLST training were 31 to 50 years old (70%), Asian (37%) or Hispanic (22%), and female (70%). Among the 27 nurses, 24 completed the pre-survey and 25 completed the post-survey. The objective POLST competency quiz, consisting of 8 multiple choice questions, revealed improvement in their knowledge of the POLST form (+19.75%, 95% CI: 5.68%-33.82%) after the training. There was also a statistically significant increase in participants' perception of the quality of POLST training received (+32.9%, $p<0.05$) and level of confidence to interpret and explain POLST forms (+18.4%, $p<0.05$).

Conclusion: By providing a presentation on the POLST form, there was an increase in objective and subjective metrics of the nurses' ability to complete and implement the POLST form at the nursing home setting. This ongoing study will aim to collect more data to show that the POLST form, as an important part of advance care planning, can be utilized more effectively in the nursing home with increased nursing staff POLST training.

C67

Advance Care Planning and Health Equity: Pursuing Quality Improvement in a Family Medicine Residency Clinic

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Advance Care Planning (ACP) is discussion and documentation of patient care preferences, as might be included in a living will, advance directive, or health care durable power of attorney (HC-DPOA). The COVID-19 pandemic highlights the value of preemptive ACP discussion and documentation. Furthermore, we must seek to identify where disparities exist in access to care, including in ACP, among patients of different ethnic and racial backgrounds. As a common point of access to care, it is vital for primary care physicians to adeptly facilitate and document ACP conversations. This project explored various approaches to improving ACP in the academic primary care setting.

A Family Medicine (FM) residency clinic in a large urban setting conducted a learner-led QI project consisting of multiple rolling PDSA cycles and involved clinic support and nursing staff, residents, fellows, and faculty. The electronic medical records (EMR) of patients aged 65 years and older enrolled at this clinic were surveyed for ACP surrogates (Advance Directive, Living Will and/or HC-DPOA). From September 2020 to April 2021, a Geriatrics Fellow led two interventions: faculty development sessions to improve faculty coaching of both ACP and EMR documentation, and small group ACP teaching sessions with residents. From April to September 2021, resident-led ACP QI initiatives broadened the scope of the intervention. Monthly PDSA cycles during this time involved targeted ACP goals discussion during team huddles, posting ACP information in exam rooms, adding ACP headings to clinic progress notes, and clinic-wide ACP teaching from the Institute of Human Caring. In September 2021, quality metric values were evaluated in comparison to pre-intervention values from September 2020.

Pre-QI, 27.1% of studied patients met ACP quality metrics. Post-QI, this increased to 34.66%. While 39.11% of white patients met ACP quality metrics post-QI, only 26.81% of non-white patients met the metrics when evaluated together.

Our interventions improved ACP documentation in the studied patient population, but rates of ACP planning documentation were still disproportionately lower among non-white patients when compared to white patients. Next steps include QI work to better understand equity issues related to ACP for people of all ethnic and racial backgrounds.

C68

Establishing an Interdisciplinary Falls Clinic

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Background: 3 million older adults are treated in the ED annually for fall injuries. Over 800,000 patients a year are hospitalized due to falls. In 2015, medical costs for falls were more than $50 billion, with Medicare billed for75% of the total. Multifactorial factors contribute to falls, including ADLs, IADLs, medications, balance and patient surroundings. Evidence suggests that appropriate interventions can reduce falls and fall-related injuries.

Methods: A quality improvement (QI) project at our geriatric practice identified two barriers to better falls evaluation and prevention:(1)lack of time to evaluate patients for falls;(2)inconsistent patient compliance on recommendations. We established an interdisciplinary(IDT) falls clinic dedicated to decreasing falls by evaluating and educating patients about falls, pursuing prevention strategies, and careful follow-up until all recommendations have been met. An inter-disciplinary team (geriatrician, nurse practitioner, social worker, medical assistant) was created to address these factors, with regular meetings to discuss clinic design and process. Adjustments were made as needed.

Results: In the new clinic, patients are evaluated for fall risk factors using well established tools. The social worker assesses home situation and social circumstances. The nurse provides patient education. Prevention recommendations include physical therapy, referrals to ophthalmology and podiatry, and de-prescribing medications or starting vitamin D. Patients are contacted 2 weeks post-visit to assess if recommendations are in place. If not, contact is repeated in 2 weeks. Patients are followed in clinic 4-6 weeks after initial appointment to assess for falls and prevention follow through. The team meets monthly to discuss active patients. To evaluate the clinic effectiveness, data is being collected and will help make improvements in the clinical intervention strategy. We expect to have sufficient data to initiate a quality improvement cycle in 2nd quarter of 2022.

Conclusions: Falls are a significant contributor to morbidity and mortality in older adults. The American and British Geriatric Societies Clinical Practice Guidelines recommend a multifactorial approach to prevention which can reduce falls by 24%. Although dedicated falls clinics have not been widely established, we are confident that our clinic will reduce patients' falls rate. We plan to disseminate and publish the intervention to colleagues in the field.

C69

Care-(ful) Plans in Advanced Care Planning: Advantages of Home Based Primary Care Interdisciplinary Care Plan Review

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Background: Advance care planning (ACP) is failing to improve end of life care.[1] Treatment choices near end of life are complex and life sustaining treatment (LST) goals may change. Advance Directives (AD) may be missing or incomplete, or health care surrogates unable to interpret directives. Veterans enrolled in Home Based Primary Care (HBPC) represent a vulnerable and frail population with high risk of hospitalization or mortality. Interdisciplinary Team (IDT) Meetings are held for each veteran on a quarterly basis and offer opportunities to review ACP documentation and preferences.

Methods:

84 charts of a panel of 175 were reviewed from 9/2021 through 10/2021 during IDT meetings. Review of ACP included three key components: a.) Advance Directive discussion (AD) and identification of health care surrogate(s), b.) Life Sustaining Treatment (LST) preferences and c.) documentation of a Physicians Order for Life Sustaining Treatment (POLST). Review included which clinicians completed LST notes, and specific components such as CPR, transfers, artfifical ventilation, IV fluids or antibiotics, dialysis or blood products, and artificial nutrition.

Results:

Of 84 charts, 42% had incomplete or inconsistent ACP documentation. Social workers completed AD discussions in 100% of charts and 94% had at least one identified health care surrogate. 6% either declined to appoint a surrogate, lacked capacity, or designated surrogates were no longer available. 93% of the charts did have LST notes, but only 57% of veterans who elected for DNR orders had a POLST

to extend these orders to the community. 51% of LST documentation was completed by the PCP, 44% completed by residents or fellows, and 5% by attendings. 30% of LST notes were during hospitalizations.

Conclusions

Advance Care Planning is not static. Quarterly IDT reviews, high rates of AD completion, and opportunities to include health care surrogates in ACP discussions during home visits are unique strengths of the HBPC program. LST preferences can be reconciled in a timely manner and complete, replace, or update documentation such as ADs and POLSTs. Further study is needed, but perhaps including ACP in HBPC IDT quarterly care plans would be a step towards validating ACPs role in improving quality in end-of-life care.

Morrison, RS, "What's Wrong with Advance Care Planning?" *JAMA* 2021 Oct 26 vol 326; number 16:1575-1576

C70

Pandemic Pressures: A quality improvement project in telemedicine blood pressure management

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Background:

Blood pressure (BP) control effectively prevents cardiovascular disease in late life. However, health system responses to the Covid-19 pandemic disrupted hypertension care. One possible cause was increased telehealth (phone or video), which is challenging for older patients, and which requires providers to enter home BPs into the electronic health record (EHR) during the virtual visit. This project's objectives were to 1) determine the rates of BP documentation among virtual visits and 2) identify gaps in care process as potential targets for a Plan-Do-Study-Act cycle.

Methods:

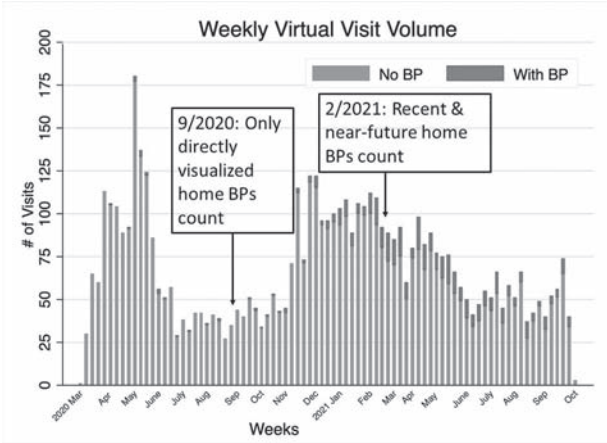
First, we accessed encounter data (Mar 2020-Oct 2021) and the hypertension registry in a multisite geriatrics primary care clinic across a system-wide attempt to improve BP control. Second, we analyzed a sample of telehealth visits among registry patients with uncontrolled HTN. The abstraction focused on whether BPs had been properly entered into the home BP field of the EHR, whether BP was otherwise documented within the visit note, or whether patients were instructed to measure their home BP after the visit.

Results:

We completed 5,675 virtual visits from Mar 2020-Oct 2021 of which only 444 (7.8%) had properly-entered BPs into the EHR. BP entry significantly improved after the EHR added a field to enter home BP for video visits (an improvement from 1.2% to 4.8%, p<0.001 [Fig 1]) and phone and portal visits (4.8% improved to 14.5%, p<.001). Among 167 visits we reviewed, most (146 or 87%) did not have properly entered BPs into the EHR, of which only 39 (27%) of those were documented in the note text only. Only 11 (6.6%) included a plan to obtain home BP after the visit.

Conclusion:

We identified a potential target for improving telemedicine HTN management, home BP entry into the EHR after virtual visits.



C71

Implementing standardized comfort care measures for End-of-Life patients in the Post-Acute and Long-term Care Setting

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Background: Medical providers at our PALTC facilities expressed interest in creating standard policies for EOL care. Root cause analysis with stakeholders revealed the need for improving clinician comfort, pharmacy processes and nursing competence in managing patients during their EOL. Focusing on clinician comfort, further investigation revealed that Geriatrics fellows providing on-call coverage for the PALTCs were not confident with initiating comfort care orders, lacked familiarity with the formularies of medications at facilities, and cited the lack of standardized EOL process.

Quality Improvement Methods: Stakeholders (faculty, fellows, advanced practice providers, nursing and pharmacy representatives) were engaged to understand site specific barriers to EOL care. This multidisciplinary team was engaged along with palliative care experts at our academic institution in creating a pocket card with detailed EOL pharmacotherapy for the sites and non-pharmacologic nursing orders to serve as a guide for clinician use. This new process was approved by the medical directors of the facilities and fellows will implement the new measures in small PDSA cycles in the next 2 months. Fellows are working on the first PDSA cycle and this will follow with nursing education about non-pharmacologic interventions. After successful implementation by the fellows, this will be expanded to other medical providers including advance practice providers and physicians. A pre survey and post intervention survey will be administered to measure the fellows' confidence in managing patients' EOL symptoms.

Results: In the self-administered pre-intervention survey, on a scale 0-100 (0 being "absolutely not" confident, 100 being "extremely" confident), fellows (n=5) on average did not feel confident starting comfort care (30) or management of symptoms at the EOL (dyspnea = 45, secretions 48, pain = 58, anxiety = 45, nausea/vomiting = 40, delirium 38, constipation 59). The first PDSA cycle following intervention implementation is in progress.

Conclusion: Fellows' confidence was low in managing patients' end of life symptoms. In our QI project, we are seeking to improve EOL care in our PALTC facilities through the implementation of a standardized EOL order pocket card. This pocket card could be modified to suit the need for other PALTC facilities in managing patients during their EOL.

C72

Guideline to reduce Hospital Acquired Respiratory device related pressure injuries

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Background: We have an interdisciplinary skin system committee (SSC) in place actively working to manage and reduce hospital acquired pressure injuries (HAPI). Data compiled by our Quality Department provided detailed information on pressure injuries occurring in the hospital particularly in geriatric patients. In 2020,62% of all HAPI were medical device related pressure injuries (MDRPI); 70% of all MDRPI were respiratory device related. An opportunity existed to reduce respiratory device related HAPI.

Methods: Evidence-based care guideline was developed by the interdisciplinary SSC to prevent avoidable device-related pressure injuries.

Regularly monitor tension of device securements, assess the skin under and around devices for signs of pressure related injury.

Respiratory Therapists and Clinical Technicians should notify the primary nurse of any skin concerns and consult Wound Ostomy Continence Nurse service.

Guideline:

-Reduce and redistribute pressure at skin and device contact points, regularly repositioning the device and patient.

-Provide physical support for devices to minimize pressure and shear, remove devices as soon as feasible, clinically appropriate.

-Apply prophylactic dressing beneath devices to reduce the risk of pressure injuries.

-When appropriate alternate oxygen delivery.

The respiratory therapist, clinical technicians and nursing staff were educated with guideline implementation.

Results: Our results did not show decrease in pressure injuries related to respiratory device. There was an increase from 62% in 2020 to 65% in 2021. Conclusions: The guideline did not decrease MDRPI. We need continued analysis and data review to assess barriers, identify confounding factors, and have effective implementation of the guidelines. Through these measures we hope to reduce respiratory device related injuries.

References: European Pressure Ulcer Advisor Panel, National Pressure Injury Advisory Panel, & Pan Pacific Pressure Injury Alliance. (2019). Prevention and treatment of pressure ulcers/injuries: clinical practice guideline. The International Guideline. (E. Haesler, Ed.). Pittman, J., & Gillespie, C. (2020). Medical Device–Related Pressure Injuries. Critical Care Nursing Clinics of North America, 32(4), 533–542.

C73

Pilot Study: Testing of the UB-CAM Delirium Screening App

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Background: Systematic screening improves delirium detection among hospitalized older adults. Previous work tested a REDCap-based UB-CAM app in 527 patients with 399 physicians, nurses, and certified nursing assistants (CNAs) showing it can be successfully completed by all three disciplines in 97% of eligible patients, taking 80 seconds on average with over 85% accuracy relative to a gold standard. To improve accessibility to the clinical setting, our research team collaborated with a computer scientist to develop and refine an iOS-based UB-CAM app for the iPhone and iPad through iterative "laboratory" testing. We describe the development and pilot testing of an iOS-based app that incorporates the Ultra-Brief Confusion Assessment Method (UB-CAM), a two-step, delirium detection protocol that combines the UB-2 (2-item screen), and 3D-CAM.

Methods: Older adults (65+), with dementia (CDR: 0.5- 1.5), enrolled in an ongoing cluster randomized control trial in a large academic medical center. Measures: Patient demographic data, cognition(AD-8 and MOCA), Clinical Dementia Rating Scale, delirium(CAM and CAM-S), UB CAM (UB2 and 3-D CAM). Analysis: descriptives of the sample, time to complete (efficiency), inter-rater reliability of UB CAM, qualitative feedback for evaluators: acceptability (evaluator and patient) and efficiency.

Results: The app was piloted by non-clinician, research testers in N=11 hospitalized older adults [age (mean) =83, SD= 8.0], all of whom had dementia [Clinical Dementia Rating Scale (mean) =1.1, SD= .30]. In 42 assessments, 64% of the assessments were delirium positive. The app demonstrated preliminary efficiency (90 seconds on average), high acceptability (100% satisfaction of users), and reliability (100% inter-rater agreement in 18 paired assessments).

Conclusions: This project underscores the need for close collaboration between researchers, clinicians, and computer scientists with iterative testing of bedside-facing apps prior to testing with patients. Next steps include testing effectiveness in a pragmatic trial with clinician users (physicians, nurses, CNAs), integrating the UB-CAM app into the routine hospital care of all older patients.

C74

Transition Care Program from Subacute Rehabilitation to Home

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Background

Veterans discharged from subacute rehabilitation stays are at high risk for acute care utilization, but few transitional care programs have been designed for this population.

Methods

We adapted the Coordinated Transitional Care Program (C-TraC), a nurse-led low-cost intervention to improve outcomes after discharge acute care, to the context of discharge from a rehabilitation stay in our Community Living Center (CLC) using the Replicating Effective Programs (REP) framework. Components of the framework include pre-conditions, pre-implementation, implementation, maintenance and evolution. Currently, the program is in the implementation phase. Criteria for program enrollment include age ≥65 and one of the following: living alone, cognitive dysfunction, or multiple hospitalizations (≥2) in the last year. On-going process evaluations are being conducted through use of the Plan-Do-Study-Act (PDSA) framework.

Results

In the pre-conditions phase, we determined that transitions could be optimized by having an RN serve as both CLC discharge planner and C-TraC RN. During pre-implementation we hired a RN with experience in CLC and homecare, and providedtraining in discharge planning and transitional care. A geriatrician and pharmacist helped train and empower the RN in the principles of geriatrics and medication reconciliation through joint calls and daily huddles. Since launch in 10/2021, 23 veterans have been enrolled in CLC C-TraC. Weekly calls or video visits to Veterans focus on identification of red flags or new symptoms, medication reconciliation, and completion of post-discharge plans. Examples of RN interventions include care coordination with various providers, leveraging community services, addressing medication discrepancies and misconceptions, exploring patientgoalsandvalues,andconnectingpatientswithadditionalresources.

Out of 23 Veterans enrolled, only 4 (17%) were re-hospitalized within 30 days of discharge, which is lower than expected; our rolling average readmission rate is 23.9%.

Conclusions

The C-TRAC program for post-acute care transitions is a promising solution to improve the care of older adults during transitions in post-acute care settings.

C75

The Loneliness Project: the Pilot to Wellness

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Background: Loneliness is a distressing state of mind with constant feelings of isolation. More than one-fourth of adults 65 years and older are socially isolated, and the prevalence of loneliness in long-term care institutions is twice that of the community (Simard & Volicer, 2020). Consequences of loneliness include a decline in cognition, emotional, and physical health leading to poor quality of life. Loneliness in the nursing homes have increased during the COVID-19 pandemic as multiple restrictions prevent socialization. This quality improvement project aims to improve the loneliness of residents at a community skilled nursing facility through the implementation of a structured activities schedule.

Method: 18 semi-structured interviews were completed among nursing home residents, ages 72-98 years old, who attended the activities program. The interviews consisted of a 10-item loneliness scale, which includes the 3-item UCLA loneliness scale, activities survey, and questions regarding the COVID-19 impact. The loneliness scale asked participants to provide their rating of loneliness before and during the nursing home stay.

Results: Among the participants, 61% were female, and 83% were Caucasian, 11% African American, and 6% Hispanic. Scale analysis demonstrated high reliability of the 3-item UCLA loneliness scale ($\alpha = .898$) and the 10-item loneliness scale ($\alpha = .907$). Data analysis revealed mean scores of 4.5 before and 5.72 during nursing home stay on the UCLA loneliness scale. Both scores indicated moderate loneliness; however, they were significantly different ($p<0.05$). The 10-item scale showed a consistent increase in loneliness during the nursing home stay compared to beforehand (mean 18.94 vs 14.22, $p<0.02$). The number of activities completed did not significantly impact loneliness but demonstrated a tendency that those who joined more than 15 activity sessions in a 2-week period were less lonely compared to those who joined less activities.

Conclusion: This project confirms an increase in loneliness in the nursing home. More activities involvement appears to reduce loneliness, although it was not significant, likely due to a short period of data collection and small sample size. The future direction of this quality improvement project is to further individualize activity care plans as part of a developing Wellness Program.

C76

So far away: Rural individuals' access to a cognitive care subspecialty program

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The prevalence of Alzheimer's Disease and related dementias in rural areas has been reported to be 11% lower compared to non-rural counties. This difference likely reflects inadequate cognitive screening, leading to fewer diagnoses of dementia and other cognitive disorders. Rural dwelling cognitively impaired individuals are less likely to have access to a highly specialized dementia specialty clinics which are primarily located in urban metropolitan areas. We hypothesized that telehealth visit options due to the Covid-19 pandemic provided increased access to cognitive subspecialty care. This study reports the impact of telehealth availability on cognitive subspecialty care for rural individuals.

In an academic based cognitive care specialty clinic based in Salt Lake City, Utah, rural-dwelling patients with cognitive impairment and a care partner were seen either in person or by telehealth for evaluation and ongoing management. They were provided with advanced neuroimaging studies, patient-centered care and management, as well as patient and care partner support.

Two hundred eleven patients aged 65 and older were seen from July 1, 2020-July 1, 2021, either in person or via video platform, of whom 14.7% (N=31) were considered rural-dwelling individuals as defined by zip code from the Office of Rural Health Policy. Thirty-nine percent of all rural patients were seen by video platform on one or more visits (N=12), compared to 42% (N=76) of non-rural patients.

Video platform based cognitive evaluations and ongoing management visits are feasible for cognitive assessments in older adult patients and their care partners. Contrary to the hypothesis, rural-dwelling individuals were equally as likely as those in non-rural areas to receive care utilizing virtual platforms. Virtual assessment may be preferred by patients and care partners for certain visit types regardless of residence location. Some barriers to virtual visit use may be patient and care partner preference, internet connectivity, and the inability to perform some portions of the neurologic exam. Future research will aim to understand patient and care partner preferences regarding visit type and to promote equal access for rural-dwelling patients.

C77

What a difference a pandemic makes! Nursing Home Stakeholder Telehealth Utilization & Perceptions During the COVID-19 Pandemic Informs Palliative Care Telehealth Intervention Development

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Background: The COVID-19 pandemic dramatically accelerated the utilization and acceptance of nursing home (NH) telehealth. It is unclear, however, how telehealth was used to provide palliative care (PC) support and education to residents, families and staff and how a telehealth PC intervention might need to be modified as a result of pivotal pandemic experiences that changed the landscape of NH care.

Methods: We administered a modified Telehealth Usability Questionnaire and conducted semi-structured interviews with NH staff (3 RNs, 2 LVNs, 8 CNAs, 3 SW, 2 Administrators); residents (n=2); and families (n=1) from 12 different NHs across 6 states regarding their experiences during the pandemic, particularly related to resident and family PC needs and use of telehealth.

Results: Preliminary results reveal substantial uptake, support and acceptance of telehealth in the NH setting as a result of the pandemic. While the majority of stakeholders had little/no exposure to telehealth prior to the pandemic, they have used it since, and over 92% believe NH telehealth will continue long after the pandemic ends. Additional data reveal specific telehealth barriers stakeholders experienced, creative solutions employed, and opinions regarding the concept and utility of our telehealth PC intervention in order to further refine our study protocols. Thus far, there is 100% support of our intervention concept, particularly the upstream PC focus of support, staff education, and family engagement – unique features highly desired, but minimally (if at all) experienced by stakeholders prior to/during the pandemic.

Conclusion: Including the perspectives of end-users (e.g., staff, residents, families, providers) in the development and evaluation of technology-based interventions enhances the relevance of the findings to the actual health decisions patients face, as well as improves future uptake and likelihood that patients will achieve the health outcomes they desire.

C78

Geriatric Palliative Care in Skilled Nursing Facilities Increases Goals-of-Care Conversations and Hospice Referrals

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Background: Geriatric palliative care (GPC) is an emerging field to deliver comprehensive, whole-person care to aging patients with serious illnesses. A growing number of institutions provide combined fellowship training for Geriatrics and Palliative Care. It is not yet known how different the care would be by the addition of palliative care training to the geriatric training.

Methods: A retrospective chart review was conducted for a total of 308 older adults who were admitted to a skilled nursing facility (SNF) for post-acute care between July 2018 and December 2019. The care was provided by seven physicians: one (author TU) who was trained by a GPC combined program and six trained by geriatrics-only programs. Patient assignment occured on a non-selective basis. We compared the frequency of documented goals-of-care (GOC) conversations, the patients' dispositions, and post SNF courses up to 6 months between the patients cared by the GPC physician (GPC group: N=53) and by the geriatricians (control group: N=255).

Results: Baseline characteristics did not differ between the groups. 17 (32%) in the GPC group and 50 (20%) in the control died within 6 months (p=0.065). Dispositions among those alive after 6 months did not differ between the groups. However, among those who died within 6 months, discharge to hospice was significantly more frequent in the GPC group (11/17 vs 3/50, p<0.001). GOC conversation had been held during the index SNF stay among 12 of 17 decedents (71%) in the GPC group while only four of 50 (8%) in the control (p<0.001). 11 of 12 conversations (91%) by the GPC physician led to hospice admission. Number of rehospitalizations among the decedents was significantly fewer in the GPC group (mean 0.4 vs 1.1 per patient, p=0.007).

Conclusions: Although a considerable portion of patients died within 6 months after their SNF admission, GOC conversations rarely occurred in SNF with geriatricians without palliative care training. Additional training in palliative care seems to substantially increase GOC conversations and hospice referrals among SNF patients with high mortality risk, which helps to prevent the cycle of rehospitalizations until death.

C79

Come Together for an Age-Friendly Health System: *Creating an EPIC Tool to Optimize Coordination of Care*

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Background:

Optimizing care for hospitalized older adults involves addressing the "4Ms" – What Matters, Medication, Mentation, and Mobility. At our hospital, there is not a uniform way to identify these elements on a daily workflow level or to analyze them on a larger scale. There is no easy way to look at a patient list and see who has delirium or is a fall risk. Furthermore, there is no concise way to visualize key elements affecting a patient's transition from hospital to home, which can result in delays and poor transitions of care.

Methods:

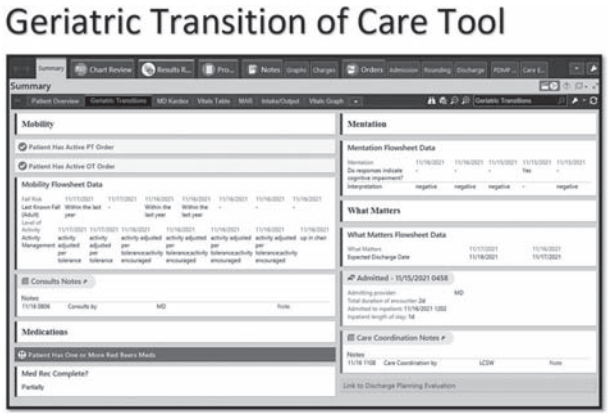
Our innovative quality improvement project aims to create an EPIC-based tool to adequately prepare the patient for a safe transition from the hospital. EPIC architects helped create a flowchart in EPIC which pulls information that is already documented by social workers, physicians, care coordinators, PT/OT and nursing to accurately reflect the overall status of a patient. This allows the care team to look in one place in the electronic record to assess if all needs are in place prior to discharge. It creates a more efficient workflow for the healthcare team and allows for a smooth transition of care.

Results:

Our tool has been created (image 1) and is being implemented on our geriatric floor. We will be comparing pre- and post-implementation data from a qualitative survey to the healthcare team on whether the tool improves workflow efficiency and quality of care.

Conclusions:

This tool lays the framework to transform UT Southwestern into an Age-Friendly Health System by helping improve communication among all members of the healthcare team (physicians, PT/OT, social work, care coordinators) regarding the 4Ms, optimizing quality of care for our older adults, and improving transitions of care.



C80

GHELP-TC - Improving Care Transitions from Hospital to SNF: Medication & Follow Up Errors Identified in Early Implementation

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Transitions of care after an acute hospitalization represent a particularly vulnerable time for older adults with a heightened potential for adverse events. Critical components of transitions from the hospital include medication reconciliation and post-discharge follow-up. GHELP-TC is a VA-based, pharmacist-led demonstration project aimed at improving transitions of care from hospital to SNF and back home. The objective of this study was to describe these adverse events to determine the degree to which challenges with hospital discharge instructions contribute to the burden of error.

This is a descriptive study of patients referred to GHELP-TC during the initial transition from hospital to SNF. GHELP-TC administrative/tracking data of medication errors and interventions was evaluated to determine which errors were related to the Discharge instructions. Medication errors were classified based on a discrepancy between the discharge med reconciliation and the SNF orders. Follow up errors were classified as relating to discharge instructions if an appointment had not been scheduled or there were no plans for follow-up written on discharge instructions.

To date, 26 patients have been referred to the program. A total of 28 errors were identified in 12 of these patients. 75% of these errors were related to the ECF Discharge Instructions. 32% were related to

follow-up errors & 68% were medication errors. The most common med error identified was an omission of a medication (37%). 31% of the med errors were categorized as severity D: an error that reached the patient and could have necessitated monitoring or intervention to preclude harm. 7 of the 9 follow up errors were related to the discharge orders.

The GHELP-TC program aims to improve transitions of care for the older Veteran population from the hospital to ECF to their home & has identified that errors related to the Discharge Instructions, including medication errors and follow-up orders, contribute significantly to the burden of errors in patients during transitions. Discharge instructions may therefore be a promising target to decrease adverse events. Future directions include optimization of the discharge instructions to facilitate improved communication between hospital and SNF.

C81

The Age-Friendly Initiative: Outcomes from an Acute Care for Elders Unit

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Background

Clinical outcomes of patients who receive bundled 4M's care delivery (What Matters Most, Medication reconciliation, Mentation and Mobility) remains a knowledge gap. We determined if the incremental benefit of more M's was associated with reduced discharges to post-acute care facilities.

Methods

We assembled a prospective cohort of patients admitted to an Acute Care for Elders (ACE) unit April-August 2021 at an academic medical center. Patients were included if they were admitted to the geriatric medicine service where the 4M's improvement implementation initiative was underway. Participants were excluded if they were discharged in <24 hours, transferred to another unit, in hospice care, or died. The primary predictor included the number and type of "M" received. The primary outcome was discharge to a post-acute care facility. Univariate analyses characterized relationships between each M and outcome. Multivariable logistic regression characterized relationships between number of M's received and outcomes.

Results

There were 261 patients with a median age of 80 years (IQR 76-86), 58% female, and 15% non-white. The median hospital length of stay was 5 days (IQR 3-7). The proportion of patients discharged to post acute care was 45.6% overall, and 21% for those who fulfilled what matters most, 72.3% for those with completed medication history, 84.9% for those with measured mentation, and 58% for those with improving mobility. The odds of discharging to a post acute care facility was 2.6 higher (CI 1.4-4.8) in participants who were screened for delirium compared to those who were not screened. The odds of discharging to a post-acute care facility was not statistically significantly associated with the number of M's received (0-4) during the hospitalization.

Conclusions

The 4M's of geriatric care are rooted in evidence-based practices. Our early work demonstrates that the incremental benefit of bundled 4M's care is not associated with a reduced discharge to post acute care facilities. More work is needed to examine other patient and system factors at play.

C82 Encore Presentation

Improving Feasibility of Clinical Pharmacy Practitioner Deprescribing Visits Utilizing the VIONE Tool

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Background: With the aging population, minimizing polypharmacy is needed. The Madison Veteran Affair (VA) adopted the VIONE (Vital-Important-Optional-Not Indicated-Every Medication has a Diagnosis) tool to incorporate deprescribing into daily practice. A successful pilot identified clinical pharmacy practitioners (CPPs) as the tool's highest utilizers informing the next phase of the deprescribing implementation, utilizing primary care CPPs for deprescribing visits. A VIONE dashboard identified eligible patients categorized as high risk for polypharmacy adverse events. CPPs determined appropriateness in scheduling visits. Initial phase data guided development of using CPPs to conduct deprescribing visits for high risk patients, but time constraints limited sustainability. This project aims to discover an improved deprescribing model utilizing pharmacy residents to complete prospective deprescribing visit chart reviews for CPPs.

Methods: The project received University of Wisconsin IRB exemption as quality improvement. An Intervention Mapping framework informed the systematic design, implementation, and evaluation of a deprescribing approach within primary care. Initial pilot data guided a strategic program design for development of a sustainable model. CPPs were alerted weekly to one eligible patient using and eligible patients were scheduled for a deprescribing-focused telephone or video visit. Pharmacy residents offered pre-visit comprehensive medication reviews prior to the scheduled CPPs deprescribing visit due to time constraints concerns. Patients with dual care providers or on hospice were excluded. Primary outcomes of this study assess primary care CPPs perceived feasibility of the current model through surveys and semi-structured interviews.

Results: During the study period, 72 patients met eligibility using the dashboard and were reviewed by CPPs. Chart reviews were requested by CPPs on 38 patients (52.8%) and 30 chart reviews completed during the study period. Tracking facility deprescribing practices and data collection is ongoing.

Conclusions: Final data collection and survey data will aid in analyzing the current deprescribing model to determine its feasibility in utilizing primary care. Ongoing efforts will continue to adapt the model as needed to support ongoing deprescribing efforts.

C83

End of life care discussion and education in a non-emergent outpatient setting

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Background:

Advance care planning has been demonstrated to improve communication between patients, family, and physicians leading to higher rates of advance directives completion, decrease in hospitalization and intensive treatment at the end of life. Although discussion of end of life care has become a focus of study in several inpatient settings, little research has focused on education and discussion of end of life care and advance care planning in non-emergent or outpatient settings.

Methods:

This was a single center pilot survey study of Concordia residents and family in independent living/assisted living with HPOA/acute rehabs to assess the effect of an educational intervention on knowledge of end of life decisions. The educational intervention consisted of three educational sessions with a total twenty seven participants.

The survey tool was adapted from Cleveland Clinic Ethics Resources and prior studies focusing on identifying barriers of end of life care.

Results

This study revealed less than half participants were familiar with the term "code status" and had discussion regarding end of life care wish with their doctors (31% and 48% respectively). Most participants chose comfort and spending with family as the most important factors in making their decision regarding end of life care (92% and 42% respectively). Participants' knowledge regarding end of life care including CPR and code status prior to the educational intervention were low, 31.9% which is similar to other studies done in inpatient settings. Overall knowledge improved after education intervention at 48.3%. (p=0.012). There was no significant difference regarding patient's willingness to discuss their wishes regarding end of life care with family nor physician after the intervention.

Conclusions:

Data obtained from currently pilot study again demonstrated overall poor understanding and unfamiliarity with code status and end of life care in outpatient settings. Education intervention dose showed improvement of participant's knowledge. However, due to limited data size and the effect of current pandemic, no significant differences were observed regarding patient's willingness to discuss their end of life care wishes. With the optimistic improvement of code status and end of life care knowledge, more studies on education intervention at outpatient setting is indicated to further investigate the full impact.

C84

Fewer Falls and Foleys: Benefits of an Acute Care for Elders model at a VA Hospital

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Background: At the VA Northern California Health Care System, the Acute Care for Elders (ACE) program began in part to reduce inpatient complications and improve communication among the medical team. Here we describe an ACE Team Quality Improvement effort to decrease inpatient complications by implementing collaborative multidisciplinary rounds (CMR).

Methods: Utilizing a High Reliability Organization framework, this project united nurses, pharmacists, Geriatric specialists, and physical therapists in the CMR intervention. The intervention period was October 2020-April 2021. A3 Problem Solving and Lean Methodology was used for project design and implementation. In CMR, the bedside nurse took the lead, with discussion facilitated by the ACE Team. A modified Situation-Background-Assessment-Recommendation (SBAR) nursing sheet standardized the process. Post rounds, the ACE Team would directly handoff recommendations to the primary team. Process measure and fidelity check was evaluated by direct observation of CMR occurring. Outcome measures of falls per 100 patients and foley catheter days were compared against 5 months of pre-intervention baseline data utilizing run sequence plots in pre-post analysis.

Results: 159 of 180 hospitalized veterans (age $\geq$ 75 years) received CMR during the intervention period, with 88% overall fidelity. Comparing patients seen by the ACE Team 5 months pre-CMR and 5 months post-CMR, we observed a decrease in falls from 6.25 per 100 patients to 3.6 per 100 patients, and a decrease in average foley catheter use by 2 days per hospitalization. Unforeseen stated benefits of CMR included opportunities for inter-professional education, improved nursing practices, and team communication improvements.

Conclusions: The ACE Model proves to be feasible and beneficial for a VA Medical Center. CMR is crucial under an ACE model, contributing to the reduction of inpatient complications, fall risks, and foley catheter usage, while facilitating communication among medical team members. Further examination of preventable readmissions, length of stay, and nursing perspectives on the feasibility and benefits of the ACE model could help to inform further Age-Friendly Health System initiatives and expansion of ACE within the VA Health System.

C85

Quantifying Constipation in the Nursing Facility: The First Step in Prevention of Constipation-Related Hospitalizations

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Background:

Constipation poses a major problem to older adults living in long term care facilities. Many times, this is only recognized when serious sequelae such as bowel obstructions and urinary tract infections occur.

7.8% of the 51 hospitalizations in the last year on our subacute unit were a result of such sequelae. We developed a quality improvement project to decrease constipation-related hospitalizations by 25% on one floor of our nursing facility in the span of a year. The first part of this study is developing a system of quantification of constipation in our residents.

Methods:

In our first Plan-Do-Study-Act (PDSA) cycle, we conducted a survey known as the Patient Assessment of Constipation: Symptom Questionnaire (PAC:SQ), a 30-point survey that has been validated to subjectively quantify constipation in nursing facilities.

Next, we aim to objectively quantify constipation over time. We held a nursing education session to educate staff and generated laminated cards for staff to rank stools using the Bristol Stool Scale.

Results:

32 subacute unit residents were surveyed with 30/32 of these residents being male veterans. 34.7% of the residents reported some level of constipation with 36.4% of those residents reporting severe symptoms (measuring >15 on the PAC-SQ). 25% of residents were either unable to answer the survey due to cognitive impairment or use of a colostomy system.

Our nursing education session was held on October 6, 2021 with 12 team members in attendance. Laminated cards were delivered to staff on November 1, 2021.

Conclusions:

Awareness of constipation in a nursing facility is vital to decreasing constipation related sequelae. While many residents reported subjective constipation, there must be an objective system to quantify this in residents who are unable to report symptoms. The next step of this project will be to use the Bristol Stool Scale to rank each bowel movement, to be reported to providers.

Patient Assessment of Constipation: Symptom Questionnaire (PAC-SQ)	
Residents reporting constipation	11/32
Residents reporting severe symptoms (>15 on PAC-SQ)	4/32
Residents unable to answer survey due to cognitive impairment	6/32
Residents using a colostomy bag	2/32

C86

Virtual Intervention for Caregivers of Persons with Lewy Body Dementia (LBD)

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Background: Compared to other types of dementia, family caregivers of people with LBD report higher stress and more severe depressive symptoms. We performed a pilot evaluation of a digital intervention designed to reduce psychological distress in this population.

Methods: In the quasi-experimental study, we recruited 15 family caregivers. The intervention entitled VOCALE LBD employed a web-based discussion platform that allowed participants to engage in an 8-week online intervention involving moderation, peer-to-peer support, didactic training, and problem-solving skill enactment. Outcomes included caregiver depression, burden, stress, and loneliness.

Results. Participants' baseline characteristics were as follows: Mean age (SD)=66 (8); 93% female; 100% White; and 53% had at least a post-graduate degree. Throughout the intervention participants engaged in weekly online discussions, generating a total of 434 posts (average 4 posts/week). Attrition was 20%. At the study exit, participants showed the following average (SD) improvements in: 3.0 (6.0) depression; 8.3 (16.7) burden; 2.9 (6.8) stress, and 0.3 (0.8) loneliness. When we calculated differences in the proportion of participants with clinically significant improvement versus worsening of 0.5 SD or more for each outcome, we observed the net improvements of 53%, 35%, 35%, and 33% in depression, burden, stress, and loneliness. When we assessed the benefits of participation, 75% of the participants reported that participation helped them to 'a great deal' improve their understanding of LBD vs. 25% selecting 'some' response option. Similarly, in response to the question about confidence in dealing with the care recipient, 50% of the participants selected 'a great deal', 42% 'some', and 8% 'not at all' response options.

Conclusion

The study generated promising feasibility and efficacy data for the low-cost, online intervention designed for caregivers of persons with LBD. As the study was not powered for significance, we observed nominal average and net improvements in important psychological outcomes. Moreover, many caregivers reported that study participation helped them better understand the disease, feel more confident in dealing with the care recipient, made life easier for them, and improved their ability to care for the care recipient.

C87

Quality Improvement Project: Reducing A VA CLC Long-Term Care Unit's ED Transfer and Readmissions Rate

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Background:

The purpose of this study is to reduce the number of ED visits from the long-term care (LTC) section of a VA Community Living Center (CLC).

Methods:

Chart reviews were conducted on all ED transfers from the Philadelphia VA CLC from July through October 2021. CLC providers were also anonymously surveyed.

Results:

There were 14 transfers from the VA CLC to the ED. 50% resulted in hospital readmissions. The most common reasons for ED transfers included unwitnessed fall (21%), sepsis (21%), and suprapubic tube occlusion (14%). 71% of ED transfers occurred over the weekend. 29% had a goals of care discussion within the last 6 months. We identified 36% of ED transfers as possibly preventable.

All providers (n=5) completed the survey. 100% agreed that the primary team should sign out to the on-call fellow active concerns. 80% reported feeling pressure to not send a veteran to the ED due to negative impacts on quality measures. Providers had varied responses of between 5-30% for what percent of LTC transfers they thought were preventable. Providers' proposed high/low efficacy and high/low cost interventions for reducing LTC's transfer and readmissions rate can be seen in Table 1.

As a result of our study, the CLC implemented regular provider signouts to fellows via phone on Friday afternoons and the use of a standardized fall triage algorithm while on-call. These targeted interventions resulted in a 71% reduction in ED transfers (n=7→2) from our LTC unit in October 2021 when compared to July 2021.

Conclusions:

Chart review and provider surveys helped identify factors responsible for LTC ED transfers, which informed the implementation of new protocols to prevent readmissions. Our efforts resulted in a large reduction in transfers to the ED, which is a marker of higher quality of care as defined by the Centers for Medicare & Medicaid Services. Continuing this study for a longer implementation period will be useful to assess the impact of these and other measures.

Table 1: Provider survey results of proposed high/low efficacy and high/low cost interventions for decreasing LTC's ED transfer and readmissions rate

	Low Efficacy	High Efficacy
Low Cost	1. Fewer late Friday admissions 2. Educating hospitalists on LTC admissions criteria	1. More POC testing (e.g., UA) 2. Training of nurses to better identify acute symptoms 3. Suprapubic tube/G-tube de-clogging and/or re-insertion
High Cost		1. Cardiac monitoring 2. Portable ultrasound 3. More 1:1 staff 4. 24 hour respiratory therapist coverage

C88 Encore Presentation

Motor-Related and Cognition-Related Safety of Pimavanserin in Patients with Parkinson's Disease Psychosis

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Background: Pimavanserin, a selective 5-HT_{2A} inverse agonist/antagonist, is the only US FDA-approved treatment for hallucinations and delusions associated with Parkinson's disease psychosis (PDP). Here, motor- and cognition-related safety in pimavanserin-treated patients with PDP was evaluated.

Methods: This analysis included patients with PDP treated with pimavanserin 34 mg from a pooled analysis of 3 randomized, double-blind, placebo-controlled, 6-week studies (012, 014, and 020) (N=433 [pimavanserin, 202; placebo, 231]), and a subgroup of patients with PD dementia from HARMONY, a randomized discontinuation study, which included a 12-week open-label (OL) period (N=49) followed by a randomized double-blind (DB) period of up to 26 weeks (pimavanserin, 16; placebo, 20). Motor function was evaluated using the Unified Parkinson's Disease Rating Scale Parts II + III (UPDRS) in the pooled analysis and the Extrapyramidal Symptom Rating Scale-Abbreviated (ESRS-A) in HARMONY. Cognition was evaluated using the Mini-Mental State Examination (MMSE) in HARMONY. Motor-related and cognition-related adverse events were also examined in all patients.

Results: In the pooled analysis, least squares mean (LSM) (standard error [SE]) change from baseline (CFB) to week 6, UPDRS II + III score was similar for pimavanserin (-2.4 [0.69]) and placebo (-2.3 [0.60]). CFB to week 6 for UPDRS II and UPDRS III scores were similar between groups. In the OL period of HARMONY, mean (SE) CFB to week 12 (n=39) ESRS-A score was -1.7 (0.74). In the DB period, mean (SE) CFB to week 26 ESRS-A score was similar between pimavanserin (n=4, 1.0 [2.68]) and placebo (n=2, 0.5 [1.50]). CFB in MMSE score was also comparable between pimavanserin- and placebo-treated patients in HARMONY (OL [n=37]: mean [SE] CFB to week 12, 0.3 [0.66]; DB mean [SE] CFB to week 26: pimavanserin [n=4], 0.8 [0.75], placebo [n=2], 0.5 [2.50]). Rates of motor-related and cognition-related adverse events were balanced between pimavanserin and placebo in both analyses.

Conclusions: Pimavanserin 34 mg was well tolerated and did not have a negative impact on motor-related or cognition-related function in patients with PDP.

C89

Behavioral Treatment for Comorbid Insomnia and OSA in Older Versus Middle-Aged Adults

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Background: Behavioral treatments are underutilized in older adults, in part due to assumptions about limited effectiveness. Nonadherence to positive airway pressure (PAP) is common in comorbid insomnia and obstructive sleep apnea (COMISA). We previously reported a novel behavioral treatment improved PAP use in COMISA. We compared behavioral determinants of PAP use between middle-aged (MA, 50-64.9yrs) and older adults (OA, ≥ 65yrs) to explore whether older age limits effects of behavioral treatment.

Methods: 125 veterans (66 MA, 59 OA, 96% men, 39% non-Hispanic white, 24% Black, 17% Hispanic/Latino) with COMISA were randomized to behavioral insomnia therapy integrated with a PAP adherence program versus general sleep education (control). Objective PAP use data (mean hours/night and mean nights ≥4hrs use) was collected over 6 months. PAP Self-Efficacy [PAP-SE], Decisional Balance Index [DBI] and Knowledge [KNOW]) were measured with the Behavioral Determinants of PAP Use questionnaire (3 subscales). Subscale scores and PAP use were compared between intervention and control (t-tests) in MA and OA. ANOVA tested for interaction between age and treatment group in PAP-SE, DBI and KNOW.

Results: In the total sample at 6 months, compared to controls, intervention participants had higher (better) PAP use; and more PAP use correlated with better PAP-SE, DBI and KNOW (r=.26-.58, all p<.05). At 6 months, improvements in PAP use were not different between OA and MA. Treatment effects were also similar between OA and MA in PAP-SE (0.5 vs 0.7), DBI (7.0 vs 7.8) and KNOW (1.0 vs 0.9); with no significant interactions between age and treatment group in SE, DB and KNOW (all p>.70).

Conclusions: Compared to MA, OA with COMISA who received behavioral treatment had similar improvements in both behavioral determinants of PAP use and objective PAP use. These findings provide further support for use of evidence-based behavioral therapies in OA.

C90

COVID-19 Anxiety in Dementia Caregivers in 2020 Compared to 2021

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Background: Dementia caregivers have a higher rate of anxiety than matched controls. Prior research has shown that caregivers had high anxiety about COVID-19 in 2020, though little research has followed these trends into 2021.

Methods: Data were used from two pilots of the Telephone Acceptance and Commitment Therapy Intervention for Caregivers of Adults with Alzheimer's Disease and Related Dementias. Data were collected from April to July 2020 for pilot one and April to July 2021 for pilot two, with the time periods dichotomized as 2020 and 2021. Participants were family caregivers of community-dwelling adults with dementia. Eligible caregivers had clinically significant anxiety (GAD-7 scores >9 in pilot one and >9 or 5-9 with reported interference in pilot two). COVID-19 anxiety was measured using one quantitative and one qualitative question from the NIH CoRonavIruS Health Impact Survey (CRISIS). The correlation between COVID-19 anxiety and year was determined using Cramer's V.

Results: Participants in the 2020 cohort (N=51) had an average age of 52.6 years, 50.9% were child or child-in-law of care recipient, 78.4% were white, and 17.6% were Black. Participants in the 2021 cohort (N=38) had an average age of 58.8 years, 65.8% were child or child-in-law of care recipient, 63.2% were white, and 34.2% were Black. Participants in the 2020 cohort had higher COVID-19 anxiety (M=1.5, SD=1.0) than the participants in the 2021 cohort (M=0.6, SD=1.0), with a Cramer's V of 0.55. When those in the 2021 cohort with GAD-7 scores of 5-9 were excluded the average COVID-19 anxiety increased slightly (M=0.9, SD=1.2). Answers to the qualitative question demonstrate less frequent anxiety about COVID-19 in 2021 compared to 2020.

Conclusions: Dementia caregivers had higher rates of COVID-19 anxiety in 2020 compared to 2021. Given caregivers' non-static experiences of the pandemic, studies on caregiver anxiety must account for this varied experience over time.

C91

Short session high intensity interval training (HIIT) enhances physical and cognitive performance and overall quality of life in older Veterans

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Background: Exercise maintains function during aging, yet participation is as low as 8% in those ≥ 75 years. High intensity interval training (HIIT) is an exciting alternative to standard exercise due to lower time commitments, yet safety and efficacy are unknown for older adults. We set out to determine the feasibility of recruitment and administration of short session (~10-minutes) HIIT in older Veterans and to evaluate the benefits for physical and cognitive performance and overall quality of life.

Methods: Participants included Veterans between the ages of 60-85 years of any race and sex with medical clearance to exercise. Participants were screened for cognition using the VA-SLUMS instrument. At baseline (BL) and endpoint (EP), participants were assessed for 6-minute walk endurance, quadriceps strength, maximal oxygen intake (VO2max), exercise enjoyment (PACES), and overall quality of life (Q-LES-Q-SF). The HIIT protocol was administered 3 days per week for 12 weeks and included 4 high-intensity 1-minute intervals. Intensity was initially determined based upon VO2max scores and adjusted relative to participant perceived exertion.

Results: A total of 42 participants were enrolled and 23 completed (mean age 71.9 ± 6.8 years; 82.6% white, 17.4% black, 22 men, 1 woman) the 12 week HIIT protocol before suspension due to the COVID 19 pandemic. The exercise was well tolerated and received strong enjoyment scores (87.1 ± 11.3 out of 100), which did not decline after twelve weeks (89.0 ± 11.6). Following HIIT, participants exhibited greater quadriceps strength (BL: 27.7 ± 6.8 kg versus EP: 31.1 ± 7.1 kg, p=0.011), increased endurance as measured using the 6-minute walk (BL: 127.5 ± 22.0 meters versus 133.1 ± 16.9 meters, p=0.024) and VO2max (BL: 1.68 ± 0.38 L/min versus EP: 1.84 ± 0.42 L/min, p=0.036). Participants also exhibited improved cognition (BL: 26.5 ± 2.5 versus EP: 27.5 ± 2.2 out of max 30, p=0.045) and quality of life (BL: 80.0 ± 11.4 versus EP: 85.6 ± 9.6 out of max 100, p=0.012).

Conclusion: Short session HIIT safely increased physical performance, cognition, and quality of life in older Veterans. Future studies will investigate the underlying metabolic and molecular mechanisms associated with these improvements.

C92

R2D2: A cluster-randomized trial of deprescribing to support brain health

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Background: Anticholinergics have been associated with a higher risk of dementia due to their cholinergic antagonism. The relationship between anticholinergics and dementia has been described in epidemiologic studies, with no randomized trial proving causality. This trial will address this gap by evaluating whether deprescribing anticholinergic medications in older adults produces an immediate and sustained improvement in cognitive domains important in the evaluation of dementia.

Methods: This cluster-randomized clinical trial will include participants aged 65 years and older who are users of anticholinergic medications (current use or at a level in the past year associated with an increased risk of dementia), and had a visit with a primary care provider in the past year. Exclusion criteria are a diagnosis of dementia or serious mental illness and residence in a skilled nursing facility. Primary care providers are randomized 1:1 to the intervention or usual care groups, and participants are included in the group with their provider. A pharmacist delivers the intervention as a deprescribing care coordinator, communicating with participants and providers to discontinue or reduce use of anticholinergics. Participants complete cognitive (primary) and safety (secondary) outcome assessments at 6, 12, 18, and 24 months.

Results: This ongoing clinical trial is funded through the NIA (R01AG061452) and is registered with clinicaltrials.gov (NCT04270474). To date, 129 participants have been enrolled, with an enrollment target of 344. The mean (SD) age of participants enrolled to date is 72 (5) years, and 74% are women. Cognitive and safety outcomes will be measured throughout the 24 month study period to determine the acute and sustain impact of deprescribing.

Conclusion: This anticholinergic deprescribing trial will help determine whether anticholinergics and dementia are linked causally. Deprescribing by pharmacist care coordinators has been the most successful approach to reducing anticholinergic burden, supporting the opportunity to measure important cognitive outcomes over time.

C93

A Low-Intensity Exercise Program for Older Nursing Home Residents during the COVID-19 Pandemic.

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Background: The COVID-19 pandemic has affected older nursing home residents, a population with a high prevalence of chronic multimorbidity, disability, and frailty. Enforced lockdowns have further contributed to forced social isolation, mental decline, and inactivity. Interventions that increase levels of physical activity, exercise, and social interaction may mitigate the pernicious effects of these restrictions on nursing home residents. The study aim was to evaluate the beneficial effects of a low-intensity exercise and physical activity program targeting nursing home residents.

Methods: Single group before-and-after study design that enrolled 23 residents, ≥ 65 years old at a VA Community Living Center (CLC) between September 2020 and October 2021. The residents received a patient-centered, group-based, low-intensity exercise and physical activity program to improve well-being and physical and psychological function (VA OPTIMAL) based on the evidence-based Otago Exercise program. The evaluation consisted of physical assessments, Minimum Data Set (MDS) data from which we derived a 49-item frailty index (MDS-FI) and the 31-item VA- frailty index (VA-FI) at baseline and at one year. We compared the pre-and post-data using paired samples t-test.

Results: 23 Veterans, 95.70%(n=22) male, mean age 75.13 (SD=10.45) years, 52.20% (n=12) Caucasian. Most patients were unable or unwilling to perform physical assessments. MDS-FI at baseline was 0.421(95%CI: 0.382-0.460) and 12-month follow-up 0.433(95%CI:0.395-0.472) and VA-FI at baseline was 0.474 (95%CI:0.426-0.521), and VA-FI at 12-month follow-up was 0.457 (95%CI:0.405-0.509). Paired samples t-test showed a non-significant increase in the MDS-FI of 0.225 (95% CI:-0.761- 0.031), t (18) =-0.885, p= 0.194, and a significant decrease in the VA-FI of -0.168 (95%CI:-.001-0.355), t (22) = 1.862, p= 0.038. Most participants 22 (95.70%) expressed satisfaction with the program.

Conclusions: Study results suggest that a patient-centered, group-based, low-intensity exercise and physical activity program during COVID 19-enforced lockdown, helped older nursing home residents to minimize the expected decline in physical status and increased frailty levels.

C94

Are there Racial Differences in COVID-19 Related Experiences Among Older Adults with Serious Illness?Analysis of Data from the EQUAL ACP study.

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Background: Black Americans experience higher rates of COVID-19 infection, hospitalization, mortality & have lower vaccination rates than White Americans. However, racial disparities in COVID-19 outcomes may vary among subgroups of older adults with similar health status & access to care. Objectives: To examine racial differences in COVID-19 related health outcomes for older adults, their family & friends. Methods: The study includes older Black and White patients with serious illness from 10 primary care clinics in the South. Participants completed a COVID-19 survey between Feb 2021-Oct 2021 assessing COVID-19 testing, diagnosis, hospitalization, vaccination & COVID-19 diagnosis & death of family/friends. Descriptive statistics were tabulated to assess differences among Black & White participants on the outcomes of interest. Results: 273 participants (mean age 75.1 yrs) completed the survey; (60% Black & 40%White). 63% were female, most common diagnosis was diabetes & ischemic heart disease. A similar proportion of Black & White patients reported receiving at least one COVID test (62.6 vs. 68.5, p=0.3) & COVID diagnosis (7.4% vs.10.1%, p=0.4);among those diagnosed (n=23), hospitalization rates were also similar (50.0% vs. 54.6%, p=1.0). Black patients reported a lower median number of family/friends diagnosed with COVID-19 than White patients (1 (range 0 to 20) vs 2 (range 0 to 100), p=0.02); however, there were no racial differences in median number of family/friends who died from COVID-19 - 0 (range 0 to 30) vs 0 (range 0 to 12), p=0.6). Over 80% of both Black & White patients reported receiving a COVID-19 vaccine(85.3% vs 89.9%, p=0.3). Conclusion: There were no differences in most COVID-19 outcomes, including vaccine uptake among Black & White older adults. Research should examine racial disparities in specific subgroups of patients with similar health status & access to

care to both identify factors which facilitate equitable outcomes and identify those most in need of intervention when inequities exist.

C95 Encore Presentation

Disparities in Advance care planning (ACP): Has COVID-19 changed anything?

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Rates of ACP are substantially lower in Black than among Whites. Despite being disproportionately affected by COVID-19, there is still evidence that Black patients are less likely to participate in ACP. This analysis uses data from the EQUAL ACP study. The study includes older (> age 65) Black and White patients with serious illness from 10 primary care clinics in the South. A COVID-ACP survey was created to evaluate experiences during COVID-19 pandemic in this study population. **Aims:** To examine racial differences in: whether COVID-19 pandemic has changed patients' perceived willingness to talk about ACP; preferences for care in the event of severe COVID-19 illness. To examine based on randomized intervention differences in patients' willingness to talk about ACP during COVID-19 pandemic, and preferences for care for total sample and within each racial group. **Method(s):** This analysis will include the sample of patients who completed the COVID-19 survey which was created to evaluate experiences during COVID-19 pandemic in this study population. Appropriate statistical test (Chi square, Fisher Exact, t-test, Wilcoxon rank sum, etc.) to test for differences in Black compared to white patients on the outcomes of interest. **Results:** There is no evidence of a difference between White and Black patients in their increased willingness to participate in ACP due to COVID-19 pandemic (15.9% vs 16.8%, p=0.85). There is evidence of an association between race and preferences for life-prolonging measures ($p < 0.001$). Black patients are more likely to want life prolonging measures than white patients (36% vs 12%), while white patients are more likely to only want life prolonging measures for a short time (75% vs 55%). **Conclusion(s)** COVID-19 did not change the willingness to participate in ACP discussion in white or black patients. Black patients were more likely to want life prolonging measures than white patients. **Impact:** Further studies are required to evaluate difference ways of increasing ACP conversations.

C96

Effects of COVID-19 on the Social Support of Older Adults

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Background: Social support networks play an integral role in the lives of older adults. The onset of the COVID-19 pandemic on March 11th, 2020 affected social support networks due to social distancing measures used to contain the spread of the virus. The objectives of this study were to compare levels of social support for older adults (age ≥ 65) pre-COVID and post-COVID, and to assess the availability of social support post-COVID of older adults in comparison to younger adults (age < 65).

Methods: The availability of social support was assessed within a subgroup of patients in a primary care longitudinal study called the Comprehensive Care, Community, and Culture Program (C4P) within an urban academic medical setting. Self-reported data was analyzed from 432 older adults (247 enrolled pre-COVID, 185 enrolled post-COVID) and 316 younger adults (160 enrolled pre-COVID,156 enrolled post-COVID). A 9-item Lubben Social Network Scale (LSNS) was utilized to assess the availability of patients' social support networks. The scores of the nine items (each scored 0-5) were summed to create a composite score (0-45). T-tests were conducted between two different groups of older adults (one pre-COVID, one post-COVID), and between older adults and younger adults post-COVID.

Results: Insignificant trends indicate that older adults enrolled post-COVID reported having a higher level of social support (M= 19.9, SD= 8.8) compared those enrolled pre-COVID (M= 18.7, SD= 8.9) (p=0.15). Older adults also reported a higher level of social support (M= 19.9, SD= 8.8) compared to younger adults post-COVID (M= 18.5, SD= 8.9) (p=0.13).

Conclusions: Contrary to prevailing belief, early data indicates that older adults are associated with having more availability to social support networks during COVID-19. Further investigation is warranted to better understand the complexity of older adults' social support networks and its dimensions.

C97 Encore Presentation

Long-Term Efficacy and Safety of Vibegron for Overactive Bladder in Patients ≥65 Years Old: Analysis From the EMPOWUR Extension Trial

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Background: Overactive bladder (OAB) prevalence increases with age. Vibegron is a β_3-adrenergic agonist approved for adults with OAB. In the phase 3 EMPOWUR extension trial, once-daily vibegron 75 mg showed long-term safety and efficacy in patients with OAB, consistent with results of the 12-week study. These post hoc analyses of the extension trial assessed safety and efficacy in patients ≥65 years old.

Methods: Patients completing EMPOWUR could enter the 40-week extension (NCT03583372). Patients previously receiving vibegron or tolterodine 4 mg extended release continued treatment; patients receiving placebo were randomized 1:1 to vibegron or tolterodine. The primary outcome was safety, assessed by adverse events (AEs). Key efficacy endpoints were change from EMPOWUR baseline at week 52 in average daily micturitions, urge urinary incontinence (UUI) episodes, and urgency episodes. Outcomes were assessed in patients ≥65 years old.

Results: Of 505 patients receiving ≥1 dose in the extension (n=273, vibegron; n=232, tolterodine), 235 were ≥65 years old. Of patients ≥65 years old, 71.1% were female; 75.7% had OAB wet (incontinence). After 40−52 weeks of treatment, treatment-related AE rate was similar between vibegron (33.3%) and tolterodine (25.5%). The most commonly occurring AEs (vibegron/tolterodine) were hypertension (10.9%/9.4%), urinary tract infection (7.8%/12.3%), and headache (7.0%/4.7%). Patients who received 52 weeks of active treatment showed improvement in least squares mean (95% CI) change from baseline at week 52 in micturitions (vibegron, −2.3 [−2.8 to −1.7]; tolterodine, −1.7 [−2.4 to −1.1]), UUI episodes (−1.8 [−2.2 to −1.4]; −1.2 [−1.7 to −0.8]), and urgency episodes (−3.3 [−4.3 to −2.4]; −2.4 [−3.5 to −1.4]). Safety and efficacy outcomes were generally similar in patients ≥75 years old.

Conclusions: In this subgroup analysis of the EMPOWUR extension trial, vibegron was associated with sustained reductions from baseline in micturitions, UUI episodes, and urgency episodes and was safe in older adults (≥65 y) with OAB, consistent with the overall population.

C98

Nursing Home Factors Impacting Antipsychotic Use Before and After Implementation of a National Antipsychotic Reduction Initiative

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Background: We aimed to identify nursing home (NH) characteristics associated with rates of antipsychotic (AP) use before and after implementation of the Centers for Medicare & Medicaid Services' National Partnership roll-out of the Antipsychotic Reduction Initiative (ARI).

Methods: Data from Long-Term Care Focus (2010-2016) were linked to Nursing Home Compare and Medicare claims data. Using paired t-tests for continuous and McNemar's test for categorical variables, we compare prevalence (standard deviation [±SD]) in AP use across clinical and sociodemographic facility factors before (January 2010) and after (December 2016) ARI implementation.

Results: There were 12,874 facilities including 892,202 residents with >100-day NH stays in the study sample. AP use decreased from a mean prevalence of 31.7 [±17.6%] pre- to 27.5 [±18.6%] post-ARI. There was a significant increase in the pre- and post-ARI prevalence of residents with schizophrenia (11.0 [±15.2] vs 18.1 [±25.9]), bipolar disorder (12.3 [±13.5] vs 32.2 [±30.2]), depression (30.6 [±17.3] vs 56.7 [±30.8]), anxiety (36.9 [±16.9] vs 64.9 [±29.9]), Alzheimer's disease and related dementias (45.4 [±20.2] vs 50.4 [±31.8]), psychosis (79.1 [±14.4] vs 91.3 [±17.5]), pain (41.2 [±20.7] vs 57.6 [±31.6]), and excluded diagnoses (11.2 [±15.3] vs 18.6 [±26.1]). Registered nurse hours/resident/day (HRD) (0.4[±0.3] vs 0.4 [±0.4]), licensed practical nurse HRD (0.8 [±0.3] vs 0.8 [±0.3]), and certified nurse assistant HRD (2.2 [±0.9] vs 2.3 [±0.6]) increased, as did presence of nurse practitioners/physician assistants (38% vs 53.5%) and acuity index (11.3 [±1.5] vs12.2 [±1.3]). All reported findings are statistically significant at p<.0001.

Conclusions: Despite a 4.2-point decrease in AP use, the prevalence of schizophrenia, bipolar illness, psychosis, and dementia increased and was maintained four years post-ARI. Further research is needed to determine whether increased staff and staffing hours potentially offset decreased AP use in at-risk residents by providing appropriate non-pharmacologic interventions. Sustainable care models (e.g., staffing hours; provider types) that best meet the needs of this population remain to be defined.

C99

Long-COVID symptoms among veterans

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Introduction: Long-haul COVID, defined as persistent symptoms for more than 60 days, has the potential to create a significant and long-lasting burden on our healthcare system. Approximately 30% of patients with COVID will have some degree of long COVID symptoms. This study examines long-haul COVID symptoms amongst veterans.

Methods: This was a retrospective study, which collected data from the CLC database from December 15, 2020 to October 31, 2021. Patients were included if they were diagnosed with COVID-19 within this time-frame. ICD-10 codes were used to identify long-covid symptoms that persisted for more than 60 days. This study chose to focus on long-COVID symptoms most commonly seen in previous literature, which included: fatigue, myalgia/muscle weakness, dyspnea, anxiety, depression, insomnia, and cognitive impairment. Long-COVID cases were not counted if the patient was experiencing these symptoms prior to their diagnosis of COVID.

Results: 1,500 patients were identified as COVID positive. The average age was 72.8 years, 1,437(95.8%) patients were male, 56(3.73%) were hospitalized, and 664(53%) were vaccinated. Of these 1,500 COVID positive patients, 275 (18.3%) had at least 1 long-COVID symptom, and 65 (4.3%) had 2 or more. The most common long COVID symptoms were depression and insomnia (both N=65, 4.33%), followed by dyspnea (N=64, 4.27%), myalgias (N=56, 3.73%), anxiety (N=41, 3.67%), cognitive impairment (N=52, 3.47%), and fatigue (N=10, 0.67%). Of note, vaccinated patients made up only 5.1% (N=76) of the long-COVID cohort.

Conclusion: 18.3% of veteran patients in our cohort experienced long-COVID symptoms, the most common were depression and insomnia. Long-COVID symptoms were seldomly seen in vaccinated patients. Our study reported lower rates of long-COVID compared to previous literature, which may be due to our primarily male demographic, lower symptom burden, inability of ICD-codes to capture all long-haul COVID, or higher rates of vaccination.

Table 2. Long COVID symptoms detected in veteran patients

	Long Term	Pre-existing	Not Detected
Fatigue	<10 (NA)	54 (4.296 %)	1194 (94.988 %)
Myalgias/Muscle weakness	45 (3.58 %)	757 (60.223 %)	455 (36.197 %)
Dyspnea	44 (3.5 %)	664 (52.824 %)	549 (43.675 %)
Anxiety	41 (3.262 %)	621 (49.403 %)	595 (47.335 %)
Depression	47 (3.739 %)	582 (46.301 %)	628 (49.96 %)
Insomnia	54 (4.296 %)	306 (24.344 %)	897 (71.36 %)
Cognitive	39 (3.103 %)	663 (52.745 %)	555 (44.153 %)

C100

Anticholinergic Use and Cognitive Risk Thresholds in Geriatric Primary Care

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Background

Anticholinergic medications are associated with an increased risk for dementia in older adults when used above a threshold measuring dose and duration. Epidemiologic studies showed a statistically significant increase in dementia in users with a total standardized dose (TSD) of anticholinergic medications of ≥ 1095 over 10 years. However, long periods of exposure are rarely available outside of epidemiologic trials, thus we characterize a sample of community-dwelling older adults enrolled in an anticholinergic deprescribing trial to identify the proportion of current users meeting an annualized cognitive risk threshold.

Methods

Data was extracted from the ongoing Reducing Risk of Dementia Through Deprescribing (R2D2) trial (NCT04270474). Participants were: 65 years or older, attended at least one primary care visit within 12 months prior to enrollment, and were current users of a strong anticholinergic according to the 2012 Anticholinergic Cognitive Burden Scale. During the baseline visit, participants reported a comprehensive list of their prescribed and over the counter medications, including the dose, frequency and duration for which they are used. A TSD of anticholinergics was calculated for each participant, extrapolating current use to an annualized rate which assumes continuous use patterns throughout the year, unless reported differently. For our assessment we used a threshold of 110 TSDD (1/10th the 10-year threshold) to define cognitive risk.

Results

Of 108 subjects (78% female, age range 65-88) 90 (83%) had an annualized TSD ≥ 110, indicating risk of cognitive decline. The mean TSD was 664 (SD: 767) and median was 365 (IQR 535). The cognitive risk threshold was exceeded in 79% of males and 84% of females. Only 22% used more than one anticholinergic, indicating annualized cognitive risk was exceeded by a single medication in most. The 10-year threshold (TSDD 1,095) was exceeded in 19% of participants with only 1 year of exposure.

Conclusions

Based on this sample of deprescribing trial participants, most older adults taking 1 or more strong anticholinergics are using them at or above the annualized rate conferring risk for cognitive decline and dementia. Additionally, nearly 1 in 5 exceeds the 10-year risk. Current users should be educated about potential risks and discuss appropriateness of deprescribing.

C101

Association Between BMI and Rate of Cognitive Decline: China Health and Nutrition Survey

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Background

There is a close relationship between body mass index (BMI) and cognitive impairment in older adults. Less is known about the impact of BMI on the trajectory of cognitive decline over time. This study aimed to examine this association in a population-based cohort of older adults in China.

Methods

We used data collected between 1997-2018 from adults ≥ 55 years from the China Health and Nutrition Survey. This prospective survey included individuals from 9 diverse provinces across China. Obesity was defined using Asian definitions, underweight (BMI≤18.5 kg/m2), normal (18.5-23kg/m2), overweight (23-27.5kg/m2), obesity (≥27.5kg/m2). Cognition was assessed every 2-4 years between 1997-2006 and again in 2015 and 2018, using a face-to-face interview. The association between BMI and the rate of cognitive decline was examined with linear mixed-effects models accounting for correlation within communities and individuals. Models were adjusted for age (included cubic spline), sex, marital status, current employment status, income, region, urbanization, education status, and year at first cognitive measure.

Results

We included 6,023 adults (53% female, mean age 62). At their first measure, most were classified as normal BMI (40%) or overweight (40%), while 6% were underweight and 14% were classified as having obesity. The mean score on the first cognitive assessment was 14 ± 6 (scale 1-27). Mean annual change varied from -0.03 for those aged 55-60 to -0.17 for those older than 75. Less formal education, lower income, sex (men vs. women), region (South vs North and Central) and urban dwellers were associated with lower cognitive scores. After adjustment, there remained a statistically significant difference in the rate of change in cognitive scores by BMI (p=0.02) (Fig 1.).

Conclusion

BMI is significantly associated with the rate of cognitive decline by age. The rate of decline remained stable for participants with a normal BMI or overweight but was accelerated for those who were underweight. Notably, the rate of change was slower among participants classified as having obesity.

C102

Risk Factors for Fall-related Injury in the Last Six Months of Life among Older Adults with Chronic Obstructive Pulmonary Disease

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Background: Older adults with chronic obstructive pulmonary disease (COPD) are at high risk of falls, and this risk is likely higher at the end of life when frailty and functional limitations increase. Understanding factors that contribute to fall risk in this population is an important step to developing strategies that mitigate this risk.

Methods: We linked Washington State death certificates to the electronic health record of UW Medicine to identify demographics, comorbidities, and fall-risk increasing drug (FRID) burden associated with an increased risk of fall-related injury (FRI) for adults ages 65 or older who died between 2014-2018 with COPD.

Results: Of 20,692 decedents age 65 or older, 5,468 (26%) had a diagnosis of COPD. Among those with COPD, 1546 (28%) had a FRI while 3,992 (73%) did not have a FRI. A history of falls was more common among patients with COPD and a FRI (n=404, 26%) compared to patients with COPD without a FRI (n=180, 5%, p<0.001). Comorbidities were similar comparing patients with versus without FRI: cardiovascular disease (56% vs 51%), heart failure (53% vs 44%), and non-COPD lung disease (40% vs 36%) (p<0.001 for all). The mean number of comorbidities among patients with a FRI was 3.03 (SD 1.77) vs 2.56 (SD 1.58) for those without FRI (p<0.01). The mean number of prescriptions across FRID classes, i.e. FRID burden, was 3.22 (SD 2.50) for those with a FRI and 2.67 (SD 2.09) for those with no FRI (p<0.01). A higher percentage of patients with FRI (vs. those without FRI) received prescriptions for anticonvulsants (30% vs 23%), SSRIs (27% vs 18%), atypical antidepressants (25% vs 18%), and antipsychotics (22% vs 12%) (p<0.001 for all). In multivariable logistic regression, higher odds of a FRI were associated with a higher FRID burden (odds ratio (OR) 1.08, 95% confidence interval (CI) 1.05-1.11), increasing age (OR 1.01, CI 1.00-1.02), Black race (OR 1.64, CI 1.26-2.14), a history of falling (OR 5.78, CI 4.75-7.04), and a diagnosis of dementia (OR 2.06, CI 1.74-2.44), end-stage liver disease (OR 1.74, CI 1.35-2.23), or non-COPD chronic pulmonary disease (OR 1.20, CI 1.04-1.38).

Conclusion: Among older adults with COPD, FRID use including anticonvulsants, antipsychotics, atypical antidepressants, and SSRIs were associated with a fall-related injury. These FRID classes warrant investigation for fall risk mitigation.

C103

Cognitive impairment in outpatient physical therapy is common and associated with disability and physical inactivity

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Background: Physical therapy (PT) requires substantial cognitive engagement from patients, yet cognitive impairment among older adults in outpatient PT is underrecognized. We determined the prevalence of cognitive impairment in older patients who used outpatient PT and examined associations with IADL disability, walking difficulty and physical inactivity.

Methods: We conducted a cross-sectional study with 730 community dwelling adults (age≥65) in the Health and Retirement Study (HRS) who had outpatient PT Medicare claims. Using the HRS interview preceding the claim, we used the validated HRS cognitive assessment battery to classify cognitive function as normal, cognitive impairment without dementia (CIND), or dementia. Subjects were asked if they had difficulty with 6 IADLS (eg, cooking, managing medicines) with IADL disability defined as difficulty with one or more. Walking difficulty was classified using report of difficulty

walking across the room, one block, several blocks, or no difficulty. Participants reporting moderate or vigorous physical activity (MVPA) ≤1x/week were considered physically inactive. We examined associations of IADL disability, walking difficulty and physical inactivity with cognitive impairment (CIND and dementia) using age, sex, and race/ethnicity adjusted modified Poisson regression.

Results: Among older adults who use outpatient PT, the mean (SD) age was 78 (7) years, 65% were women, and 86% were non-Hispanic White. 20% had cognitive impairment (15% CIND, 5% dementia). The prevalence of cognitive impairment was higher in those with vs. without IADL disability (45% vs 14%, ARR [95%CI]: 2.53 [1.79 - 3.57]), walking difficulty vs no difficulty (37% walking across a room, ARR CI: 2.00 [1.37 - 2.93], 29% walking one block, ARR CI: 1.72 [1.09 - 2.73], 23% several blocks, (ARR CI: 1.33 [0.92 - 1.91], vs 14% no difficulty), and physical inactivity (30% vs 13%, ARR CI: 2.07 [1.52 - 2.81])

Conclusions: One in five older adults who use outpatient PT have cognitive impairment. Older adults who report IADL disability, difficult walking or physical inactivity are more likely to have prevalent cognitive impairment than those who do not. Physical therapists should consider screening and tailoring interventions to cognitive function to optimize healthcare recommendation adherence among older adults.

C104

Sex Differences in the Association between Circulating Acylcarnitines and C-Reactive Protein Alpha in Cancer Survivors

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Background: Chronic inflammation is linked to development and progression of cancer. Mitochondrial dysfunction, which can be indirectly quantified with circulating acylcarnitines, is also implicated in the inflammation-cancer link. The purpose of the study was to determine associations between circulating acylcarnitines and an inflammatory marker (tumor necrosis factor alpha) in older cancer survivors.

Methods: We utilized data and stored serum from N=85 Fels Longitudinal Study participants. Forty-six individual acylcarnitine species were assayed using tandem mass spectrometry at the Duke Molecular Physiology Institute. Tumor necrosis factor alpha (TNFa) was assayed in-house, and cancer history and other personal health information were ascertained via self-report. Acylcarnitines were grouped into short, medium, and long chain species. Correlations were examined using Spearman rank correlations and multivariate linear models were constructed.

Results: The majority (52%) of participants were female with a mean age of 65.9 $\pm$ 7.9 years. The cancer diagnosis most often reported was breast (N=14) and prostate (N=21), with a mean eleven years since diagnosis. Correlations between acylcarnitines groups and TNFa were negligible in males; however, in females, correlations were 0.23-0.57 (medium and long-chain associations $p<0.05$). In female-specific linear models adjusting for age, higher TNFa concentration was significantly associated with higher medium and long chain acylcarnitine concentrations (Betas 0.50 and 0.57, respectively).

Conclusions: In females, TNFa was positively correlated with circulating medium and long-chain acylcarnitines in this older group of cancer survivors. These associations were not observed in males. The implications are potentially an inflammatory pathway of mitochondrial dysfunction in female cancer survivors that differs from males. This also may be related to the predominant cancer type between sexes. More comprehensive cytokine profiles and larger sample sizes of specific cancer type survivors are needed to expand this work in this population.

C105

Older Age is Not a Mortality Predictor in Surgical Resection for Pancreatic Cancer

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Background:

Approximately 60,430 patients are diagnosed with exocrine pancreatic cancer annually. Between 1990 and 2017, the incidence of pancreatic cancer has doubled. Highest number of cases are observed between 65 to 69 years for men and 75 to 79 years for women. It has one of the lowest survival rates of all cancers and surgical resection carries the potential for cure. However, not all patients are candidates for resection. Our study analyzed whether older age predicts mortality in pancreatic cancer admissions for surgical resection.

Methods:

Retrospective cohort study was performed using National Inpatient Sample from 2016 & 2017 to identify hospitalizations with pancreatic cancer who underwent surgical resection. These admissions were categorized into those above 65 and 65 years & below. Descriptive analysis and multivariable logistic regression was performed.

Results:

Of the 18,015 admissions who underwent surgical resection, 10,160 (56.4%) were above 65 years, and 7,855 (43.6%) were 65 years and below. In the older age group, 49% were females compared to 47% in those 65 and below (p 0.17). Whites constituted a higher percentage of older adults than 65 and below (80% vs. 72%; $p<0.001$). On the contrary, the proportion of blacks was higher in the younger age group than those above 65 years (11% vs. 7%; $p<0.001$). Mean age of older adults was 73 years, and those 65 and below had a mean age of 56 years ($p<0.001$). Mean length of stay (LOS) was 11 days for the older age group compared to 10 days for those 65 and below (p 0.03). Mean total charges were $158,375 for older adults and $155,381 for 65 years and below (p 0.58). Mortality was 1.4% for older adults compared to 0.8% for those 65 and below (p 0.16). After adjusting for confounders on a multivariable logistic regression for predictors of mortality, the age group above 65 years was not found to be associated with increased odds of mortality (aOR {adjusted odds ratio} 1.36; p 0.3). Longer LOS and elective admisison were associated with reduced odds of mortality. On the other hand, invasive mechanical ventilation, peptic ulcer disease, peripheral vascular disease, acute respiratory failure and venous thromboembolism were associated with increased odds of mortality.

Conclusion:

As the pancreatic cancer burden has been rising, we show that age above 65 is not associated with in-patient mortality during admission for surgical resection in pancreatic cancer.

C106

The Association of Cancer Diagnosis with Frailty Status in High Need, High Risk Veterans.

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Background: Frailty, a common geriatric condition, is characterized by a vulnerability to stressors caused by multisystem dysfunction associated with poor clinical outcomes. Patients with frailty are often High-Need High-Risk (HNHR), a group with higher levels of healthcare utilization. Cancer diagnosis could increase the incidence of frailty in this group by several mechanisms: immunosenescence, chronic inflammation, potentially harmful effects of therapies and associated comorbidities. The study aim was to determine the cross-sectional association of cancer with frailty status in High Need, High Risk veterans.

Methods: This was a cross-sectional study of HNHR Veterans in the Veterans Integrated Service Network 8 identified through quarterly reports run by VA predictive analytic models. We compared Veterans with and without cancer in terms of frailty status, sociodemographic characteristics, substance or alcohol abuse and number of medications. Frailty was defined using a 30-item VA Frailty Index (VA-FI, excluding cancer) generated as a proportion based on the number of items present. We compared non-frail (robust=0–0.1, and pre-frail=0.11–0.20), and frail (mild=0.21–0.30, moderate=0.31–0.40, and severe=>0.4). After adjusting for gender, age, alcohol abuse, tobacco abuse and number of medications, we performed a multinomial logistic regression using odds ratios (OR) with 95% confidence intervals (CI) with cancer as the independent variable and frailty status as the dependent variable.

Results: A total of 10916 Veterans were included in the analysis, mean age 68.5 (SD=11.8) years, 93.4% male, 74.7% Caucasian, 18.0% Black, 7.4% Hispanic, 8710 (79.8%) frail and 3641 (36.1%) had Cancer. Of those with cancer, frail=3358 (85.2%) vs. non-frail=583 (14.8%) (p<.0001). After multivariate multinomial logistic regression, the presence of cancer was associated with being severely frail as compared to robust, adjusted OR:2.3(95%C.I.:1.8-2.9), p <0.0001.

Conclusions: In this HNHR veteran population, cancer had a positive, cross-sectional association with frailty. Identifying HNHR patients with cancer may assist clinicians in the implementation of targeted clinical interventions that may prevent or reverse frailty status and associated poor clinical outcomes. More research is needed to better determine the impact of cancer on frailty diagnosis.

C107

Dysphagia and Feeding Tube Placement in Nursing Home Residents with Advanced Dementia

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Background: Dysphagia (swallowing dysfunction) frequently occurs in patients with advanced Alzheimer's Disease and Related Dementias (ADRD). While feeding tubes (FT) are often inserted to mitigate effects of dysphagia, they are associated with significant harms. The current study aimed to 1) characterize dysphagia prior to hospitalization in nursing home residents with advanced dementia and 2) examine associations between dysphagia and FT placement during hospitalization.

Methods: A retrospective cohort of all nursing home residents in the US (aged ≥66) with advanced ADRD (Cognitive Function Scale ≥2), a hospitalization between 2013-2017, and a Minimum Data Set (MDS) 3.0 assessment within 120 days prior to hospitalization was constructed. FT insertion during hospitalization was defined using ICD-9 codes. Dysphagia status was based on MDS 3.0 data. Data were analyzed using a multivariable logistic regression random effects model while controlling for confounders including age, sex, race, ADLs, CFS scores, and comorbidities with clustering by hospital.

Results: 1,417,439 residents were included. 13,134 (0.93%) had liquid loss from mouth; 25,244 (1.78%) were holding food in mouth; 43,495 (3.07%) had pharyngeal dysphagia; and 30,201 (2.13%) had general swallowing complaints/pain. FTs were inserted during hospitalization in 479 (7.97%) with oral dysphagia, 2,245 (5.16%) with pharyngeal dysphagia, and 1,474 (4.88%) with general swallowing complaints/pain. The odds ratio for FT placement in those with at least one dysphagia variable was 1.97 and 3.59 for those with two or more variables. Of those without dysphagia, 11,035 (1.64%) still received a FT, and a higher proportion of these residents experienced weight loss and dehydration as well as intensive care unit time during hospitalization.

Conclusions: Nursing home residents with ADRD and dysphagia on the MDS 3.0 are at increased risk of FT placement and this risk increases with the number of dysphagia symptoms present. While dysphagia may lead to FT placement, 1.64% of FTs were in persons without dysphagia, raising concerns regarding medically inappropriate FT placement.

C108

Characterizing Fall Severity in Older Patients with Atrial Fibrillation

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Background: Fall risk is an important consideration in anticoagulation prescribing in older patients with atrial fibrillation (AF). The severity of falls and the patient characteristics associated with more severe falls has not been characterized among these patients.

Methods: Data are from the Systematic Assessment of Geriatric Syndromes in Atrial Fibrillation (SAGE-AF) study. Participants, enrolled from 5 clinical sites, were 65 and older, had AF and were eligible for anticoagulation. Falls data were collected from the electronic medical record and injury severity categories (none, minor, moderate, major) assigned by two adjudicators based on the National Database of Nursing Quality Indicators Falls (NDNQI) Severity Rating. Falls in the NDNQI Major category were further categorized using the Burns Falls Severity Rating (Major A, Major B, Major C). Clinical (e.g., comorbidities, anticoagulation use and type), demographic (e.g., age, education) and geriatric syndrome (e.g. cognitive impairment, frailty) data were collected from the electronic medical record and from structured in-person interviews using standardized measures.

Results: 1244 patients were enrolled (mean age 76 years (standard deviation 7 years), 51% female, 89% Caucasian) and of these, 357 had a fall in the previous year. Of the falls reported in the medical record, 36% resulted in no injury, 24% in minor injury, 9% in moderate injury and 31% in major injury based on the NDNQI. Among the 111 falls resulting in major injury, 32% were classified as Major A (causing temporary functional impairment), 40% as Major B (causing long-term functional impairment) and 29% Major C (an injury associated with an established risk for mortality). Except for intracranial hemorrhage (increasing fall severity associated with intracranial hemorrhage, p=0.02) and type 2 diabetes (lower fall severity categories associated with diagnosis of type 2 diabetes, p=0.02), demographic and clinical variables and geriatric syndromes did not differ by fall severity.

Conclusions: One third of falls in older patients with AF result in major injury but few patient characteristics are associated with fall severity. Understanding history of severity of falls in addition to fall history may help clinical decision making in AF treatment.

C109

Depression is associated with a higher risk of developing SARS-CoV-2 infection in nursing home residents.

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Background: Depression increases the risk of many illnesses such as hypertension, diabetes, and stroke. The purpose of this study was to determine if depression was associated with a higher risk of developing SARS-CoV-2 infection in the nursing home population.

Methods: This observational retrospective cohort study included veterans who resided in Community Living Centers from December 13, 2020 to November 15, 2021. ICD 10 codes were used to identify

patients who had depression and SARS-CoV-2 infection and were compared with those who did not have depression but had SARS-CoV-2 infection.

Results: 20,759 subjects were analyzed with a mean age of 72.27 ± 0.19 and 95.93% were male. Of the 20,759 patients, 7,830 patients had depression and 1,500 patients developed SARS-CoV-2 infection between December 2020 and November 2021. In those patients with depression, 8.31% of subjects developed SARS-CoV-2 compared to 6.57% who were not depressed. After adjustment for multiple different comorbidities such as congestive heart failure, diabetes, and chronic obstructive pulmonary disease, the risk of SARS-CoV-2 was increased in those with depression compared to those without depression with a RR 1.266 (95% CI 1.14-1.40).

Conclusion: In this retrospective observational study, we found that patients with depression were 1.26x more likely to contract SARS-CoV-2 infection than those without depression. While additional studies are needed, subjects with depression should be closely followed and educated on the risks of developing SARS-CoV-2 infection.

C110

Rehabilitation Services Increase Likelihood of Installing Bathing and Toileting Equipment

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Background: Difficulty with bathing and toileting are among the most common disabilities in older age, and simple adaptive devices can help. In the US, rehabilitation services frequently lead efforts to treat and manage disability. Our study's objective is to understand the extent to which receipt of rehabilitation services is associated with the installation of adaptive bathing and toileting equipment (e.g., grab bars and raised toilet seats) for older adults with bathing and toileting equipment needs.

Methods: Our study consists of an observational cohort derived from the National Health and Aging Trends Study (NHATS). NHATS is a nationally representative cohort of Medicare beneficiaries aged 65 years and older. Participants are interviewed annually. In 2015, 416 community-dwelling older adults needed bathing equipment and 454 needed toileting equipment. Study outcomes were the installation of bathing or toileting equipment in 2016, and the primary independent variable was the receipt of any rehabilitation services between the 2015 and 2016 interviews. Logistic regression models characterized the association of rehabilitation services with equipment installation.

Results: Among older adults who needed equipment in 2015, 34.3% had bathing and 19.2% had toileting equipment installed by 2016. In bivariate analysis, people with bathing equipment installed were more likely to receive rehabilitation services and be older. People who had toileting equipment installed were also more likely to receive rehabilitation services. Otherwise, there were no demographic, socioeconomic, and health status differences between those with and without installed equipment. After accounting for demographics, socioeconomic status, and health status, rehabilitation services were associated with bathing (OR=5.07, 95% CI: 2.60-9.89) and toileting equipment installation (OR=2.67, 95% CI: 1.48-4.84).

Conclusions: A minority of older adults in need have adaptive equipment installed within a year. Our study found rehabilitation services were strongly associated with equipment installation among those who needed it. In the current system, rehabilitation services play a key role in modifying home environments to ameliorate disability. Future studies are needed to determine how to offer equipment more broadly to those in need.

C111

Association of COVID-19 with decrease in oxygen saturation in residents of long term care settings

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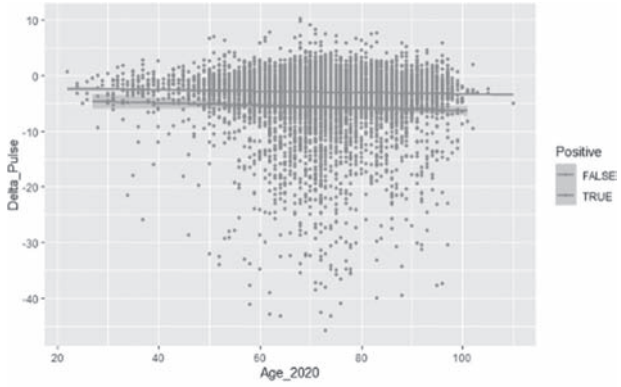
Background: Pulse oximetry (SPO2) guides management of individuals with COVID-19 in routine clinical practice, but clinicians lack data to inform interpretation of SPO2 trends. In this study, we sought a parameter for interpreting SPO2 in nursing home residents at risk of COVID-19, and to assess its strength of association with COVID-19.

Methods: This observational retrospective cohort study included daily vital signs of Veterans in Community Living Centers (CLC) from 12/2020-11/2021. As an exploratory analysis, we examined age, COVID-19 positivity within 21 days, and SPO2 change from baseline. We included relevant clinical and demographic variables in a logistic regression model to determine association between COVID-19 positivity and an absolute decrease of 5% from baseline oxygen saturation.

Results: Cohort included 14,466 Veterans, with mean age 71.95 [+/- 10.78], 96% male, and 68.9% were white. COVID-19 positivity occurred in 8.97% (N=1298) of the cohort. SPO2 decrease tended to be greater in COVID-19+ Veterans of all ages (Figure 1). Absolute SPO2 decrease of 5% occurred in 38.98% (N=506) of the COVID-19+ Veterans and 16.69% (N=792) of the Veterans not infected. COVID-19 positivity increased the risk of a 5% SPO2 decrease from baseline (Relative risk 2.779, 95%CI 2.45, 3.10).

Conclusions: In this retrospective observational study, we found that absolute SPO2 decreases of 5% occur more than twice as frequently in Veterans with COVID-19 than without. There was also a trend of lower SPO2 readings in COVID-19+ Veterans, which becomes more pronounced with age. A 5% change in SPO2 should be considered clinically significant when assessing likelihood of COVID-19.



C112 Encore Presentation

Heart Failure and Frailty in older Mexican Americans

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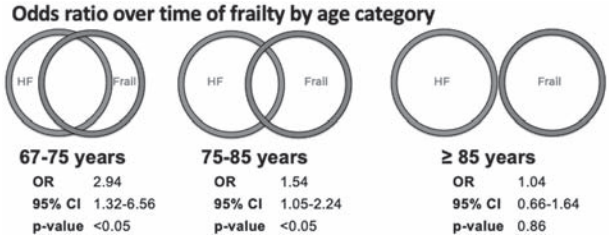
Objective: The objective of this study was to examine the relationship between heart failure and frailty among non-frail older Mexican Americans at baseline over 18 years of follow up.

Methods: A longitudinal population-based study of community-dwelling older adults from southwestern United States aged ≥ 67 years (N=1,618) from the Hispanic Established Population for the Epidemiologic Study of the Elderly (1995/96-2012/13). Frailty was assessed and heart failure was ascertained through self-reported physician-diagnosed. Covariates included socio-demographics, comorbidities, and cognitive function. Generalized Estimating Equations were performed to estimate the odds ratio (OR) and 95% confidence interval (CI) of frailty as a function of heart failure over time.

Results: Heart failure ranged from 11-31%. After controlling for all covariates, participants with heart failure had an increased odds (OR=1.44, 95%CI=1.08-1.91) of frailty over time. Significant interaction term between heart failure and age showed that those aged 67-75 years or 75-85 years had an increased OR of frailty (OR=2.94, 95% CI=1.32-6.56 or OR=1.54, 95% CI=1.05-2.24, respectively) compared to those aged ≥ 85 years.

Conclusions: The Mexican American population with heart failure had increase odds of frailty over time. The strongest effect was seen in those younger than 85 years which has implications for appropriate management of heart failure to prevent or delay frailty in this population.



Odds ratio over time of frailty by age category

C113

Employment Characteristics and Future Hospitalization in Older Adults: a Case-Control Study via Survey

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Background: The relationship between lifetime employment pattern and health in older age remains complex. Providers may find important messages within a work history that can predict adverse outcomes like hospitalization. Our aim is to determine the relationship between work characteristics and future hospitalization in older adults.

Methods: We conducted a survey under a frequency matched (on age and gender) case-control design of adults over 65 at time of invitation within the Mayo Clinic Biobank. Cases were patients with hospitalization and controls were patients without hospitalization. The primary exposures included work-related characteristics (e.g., length of work, age of first job, number of jobs, and reasons for leaving work) prior to biobank enrollment. Association between job-related exposures and hospitalization status was tested using logistic regression models accounting for age, gender, comorbid health conditions and education level.

Results: Among 3536 patients (1600 cases; 1936 controls) who answered the survey, an average age was 69 years (SD 7.2 years). Cases were older, more likely to be male and non-white with lower overall levels of education. Comorbid illness was most strongly associated with hospitalization, OR of 7.88 (95% CI 2.17-50.5) comparing lowest to highest quartile. Disability during a career, and no or fewer lifetime jobs were associated with increased odds of hospitalization, OR of 1.31 (95% CI 1.01-1.69) and 0.77 (95% CI 0.6-1.0) for 1-2 jobs versus no employment and OR 0.91(95% CI 0.7,1.19) for 3-10 jobs versus no employment. The remaining exposures including length of work, furlough, age of retirement, childcare issues, and reasons for leaving were not associated with case status.

Conclusions: We found that disability during a working lifetime had 31% increased odds of hospitalization, even accounting for known risk factors such as comorbid illness and education level. We also found a protective effective if participants had more than one job. Of equal interest, other common characteristics including length of work, retirement age, childcare issues weren't associated with hospitalization. This study emphasizes the importance of identifying work disability at any point in work history which isn't routinely collected clinically.

C114

Self-Reported Health and Risk of Ten-Year Incident Disability: The Kuakini Honolulu Heart Program

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INTRODUCTION: Studies have found self-reported health (SRH) is a predictor of post-hospital recovery, chronic disease management and mortality. There are few studies on the association between SRH and incident disability. We evaluated SRH as an independent risk factor for 10-year incident disability in older men.

METHODS: The Kuakini Honolulu Heart Program is a longitudinal cohort study of cardiovascular diseases in Japanese-American men in Hawaii. At exam 4 (1991–93), 3,741 men ages 71-93 years participated. Baseline perception of overall health was self-reported as excellent, good, fair or poor. Disability was defined by self-reported deficits in any of 6 ADL questions, or in any of 5 IADL questions. After excluding those with prevalent disability and missing SRH data, our analytic sample was 2,572 men, who were prospectively followed for incident disability at 3 and 10 years of follow-up.

RESULTS: Baseline SRH was reported as excellent in 293 (11.4%), good in 1,527 (59.4%), fair in 701 (27.2%), and poor in 51 (2%) men. Age-adjusted incident disability increased significantly with worse SRH: 3-year ADL disability 5.2%, 7.1% 11.7% and 31.7% respectively, p for trend<0.0001; 3-year IADL disability 17.1%, 15.9%, 23.7% and 49.0%, p for trend<0.0001; 10-year ADL disability 15.6%, 15.9%, 19.4% and 51.8%, p for trend=0.0055; and 10-year IADL disability 20.5%, 26.5%, 28.6% and 70.7%, p for trend=0.0017. Using multivariate logistic regression adjusting for baseline age, education, marital status, BMI, physical activity, smoking, depressive symptoms and grip strength, men with fair and poor SRH had significantly higher odds of 3-year incident ADL disability (OR=2.20, 95%CI=1.19-4.07, p=0.0122; and OR=7.49, 95%CI=2.74-20.4, p<0.0001; respectively), using excellent SRH as reference. Men with poor SRH had significantly higher odds of 3-year incident IADL disability (OR=4.00, 95%CI=1.75-9.15, p=0.0010), as well as 10-year incident ADL and IADL disability (OR=7.13, 95%CI=1.89-26.90, p=0.0038; and OR=10.6, 95%CI=2.47- 45.90, p=0.0015; respectively).

CONCLUSION: Among older Japanese-American men in Hawaii, poor SRH was an independent and useful predictor of incident disability in ADLs and IADLs over 10 years of follow-up. SRH may be a useful tool to identify geriatric patients at risk for functional decline.

C115

Predictors & Mortality Among ≥65 Infected with COVID-19

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Background: Older adults are known to have worse outcomes when infected with COVID-19. Our aim was to assess outcomes of hospitalized ≥65yrs COVID-19 patients.

Methods: This study utilized medical records to capture the disposition and healthcare utilization among patients ≥65 hospitalized to our 5-hospital health system in March 2020-May 2021.

Results:

Of the 6865 inpatients with COVID, 2641 (38%) were ≥65 years. 43% age 65-74, 35% age 75-85, and 23% ≥85 years of age. 43% non-Hispanic white, 16% non-Hispanic black, 21% Hispanic, 14% Asian, 19% admitted from group living facilities (nursing home, rehabilitation), with mean Charlson's comorbidity score (CCI) 6.7 ± 3.1. At admission, 25% had oxygen saturation of ≤90% and 13% had qSOFA score of 2 or 3 (considered high-risk). During hospitalization (mean 11 ± 10 days), 33% were admitted to ICU and 14% were put on mechanical ventilation.

The crude inpatient mortality rate was 22%, with 35% patients assigned inpatient hospice status. Of the surviving, 67% were discharged home, 26% to a long-term care facility, and 7% to hospice care. In comparison to those discharged alive, patients who died were older (33% vs. 20% ≥85 years of age), more commonly male (54% vs. 48%), white (49% vs. 42%), from group living (33% vs. 15%), had higher baseline CCI (mean 7.8 vs. 6.5), lower saturation on admission (≤90% in 37% vs. 22%), and higher qSOFA score (≥2 in 22% vs. 11%) (all $p<0.01$). Patients who died also incurred greater resource utilization than those discharged alive: mean length of stay 13 vs. 10 days, 63% vs. 25% ICU use, and 47% vs. 5% on mechanical ventilation (all $p<0.01$). The majority of inpatient deaths among ≥65 happened during two peaks of COVID-19 hospitalizations in our region (40% in March-May 2020 and 40% in Nov 2020-Jan 2021). In multivariate analysis, independent predictors of inpatient mortality included admission during early months of the pandemic (March-May 2020), older age, admission from group living, higher CCI, and greater respiratory distress along with increased inflammation (lower oxygen saturation, lower platelet count, higher CRP and AST) at admission ($p<0.01$). After adjsutment for those parameters, sex and race/ethnicity were not associated with inpatient mortality in this group ($p>0.05$).

Conclusions:

Mortality of COVID-19 was independently associated with incrasing age, male gender, higher multi-morbidity scores and disease severity

C116 Encore Presentation

Measuring Covid-19 Related Ageism

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Prejudice, discrimination, and negative stereotypes based on age (ageism) are long-standing and strongly implicated in poor health outcomes and limited access to health care for older adults. Recent writings suggest the COVID-19 pandemic raised the specter of ageism to an entirely new level. Do these observations reflect an exaggeration of "usual" ageism or a unique manifestation of intergenerational tension rooted in resentments of younger people about COVID-related disruptions in their lives they believe to be a function of older people's disease vulnerability? To address this question, the purpose of this study was to develop and test an instrument to measure ageist tendencies associated with the COVID-19 pandemic. Scale items, written to reflect attitudes about paternalism, inconvenience, and sacrifice, were assessed for content validity. Then the 12-item scale was administered to 227 undergraduate and graduate students in the health and social sciences, representing all genders and races, and including 25% Hispanic students. Analysis showed items have strong internal consistency and concurrent and discriminant validity. Importantly the scale explained unique variance over and above other standard measures of ageism. Ageism is deeply embedded in global and U.S. culture and strongly related to negative outcomes. This scale will assist researchers to investigate the ageist consequences of the current pandemic and monitor what could be long-term residual ageist effects of the COVID pandemic. This work will assist in the development of educational curriculum for providers, and more importantly may contribute to new policy related to this and future pandemics to better address and mitigate pandemic-related ageism.

C117

Predictors of Decision-Making for Post-Hospitalization in Older Adults

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Background: Patients often need to make immediate decisions about their post-hospitalization care, such as outpatient rehabilitation. We sought to identify the association with post-hospitalization decision-making and predictors involving age-related changes and social influences. **Methods:** We surveyed participants who are concurrently enrolled in LitCog, a cohort of patients age 65+ who have had longitudinal assessment of cognition, health literacy, and functional skills over the past 15 years. Participants were exposed to PlanYourLifespan.org (PYL) at baseline, which facilitates post-hospitalization decision-making and planning for other aspects of aging-in-place (AIP). Six-months after, participants shared their actions around AIP decision-making, specifically post-hospitalization rehabilitation and caregiver preferences, and their use of PYL. Multivariate logistic regression models were conducted, adjusting for baseline hospitalization decision-making, sex, race, age, number of chronic conditions, self-efficacy (PROMIS Self-Efficacy for Managing Social Interactions), living status (lives alone), cognitive impairment, and use of PYL post-baseline. **Results:** Mean age of the 262 study participants was 73 years, female (72.1%), 60.9% identified as White and 28.4% identified as Black. On average, participants had 2.3 chronic conditions, 76.3% had no documented cognitive impairment, and 42.7% live alone. In multivariable analyses those with more chronic conditions were 1.34 times more likely to report having decided their preferences if they were hospitalized and required rehabilitation outside of the home (95% CI: 1.08-1.64, p=0.007). Those utilizing PYL were 1.8 times more likely to have made post-hospitalization rehabilitation decisions (95% CI: 1.00-3.27, p=0.049) and those with higher self-efficacy were 1.04 times more likely to have made a decision on their preferences if they required caregiver assistance in the home post-hospitalization (95% CI: 1.01-1.08, p=0.023). **Conclusion:** More chronic conditions and use of the AIP resource, PlanYourLifespan.org were associated with increased decision-making about post-hospitalization rehabilitation preferences; those with higher self-efficacy were more likely to make decisions about caregiver preferences following a hospitalization.

C118

Post-ICU Care is Transitional Care: A Qualitative Analysis of Stakeholder Perspectives

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Background: Increased critical illness survivorship due to COVID-19 has made feasible, acceptable, scalable models of Post-Intensive Care Syndrome (PICS) care a key priority. PICS care aims to help survivors integrate a life-changing event into their identities, adapt to the changes, and resume meaningful roles and activities. Though this is a conceptual model of transition, a transitional care

lens has not been applied to PICS. We engaged diverse stakeholders to describe convergent and divergent perspectives of transitional care delivery for PICS.

Methods: Qualitative content analysis of stakeholder interviews and focus groups across the post-ICU care continuum. Pilot-tested guides elicited perceived care needs, barriers and facilitators. As environmental resources mediate transitions, we probed social determinants of health. We included but did not focus on COVID throughout to optimize generalizability. Five trained coders analyzed transcripts, emphasizing convergence and divergence among stakeholders. We unified codes into themes and checked accuracy and completeness with participants.

Results: Results synthesize interviews with *critical illness survivors* (11), *family carers* (11) and *rural community-based providers* (20), and focus groups with *rural home health teams, inpatient providers and administrators* (10). All converged on patient needs to safely achieve functional independence via community support, education and training, and individualized goal elicitation. The most significant divergence involved goals: clinicians focused on functional independence while survivors and family carers discussed adapting roles/identities and participating in meaningful activities. Major barriers echoed transitional care literature: lack of patient or family activation/engagement; absent/inadequate communication; lack of teamwork/collaboration; limited follow-up/monitoring; poor care continuity; and service gaps in provider/setting transitions. Facilitators overcame specific contextual barriers (e.g., going above and beyond, hiring a care manager). Stakeholders saw social determinants of health as dominant in care quality.

Conclusions: The first "whole continuum" perspective on PICS care fits a transitional care conceptual model. The next step is the development of an intervention model adapting evidence-based transitional care to the post-ICU context.

C119

Effects of COVID-19 on Long Term Care Planning among Older Adults

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Background: Increasing health needs, hospitalizations, and unmet support often make moving into Skilled Nursing Facility (SNF)/Long Term Care (LTC) settings imperative. COVID-19 has introduced many new challenges in these settings (e.g. high morbidity/mortality, visitor limitations) so we examined how COVID-19 impacted older adult perceptions about SNF/LTC settings. **Methods:** Participants age 65 and older of an on-going study examining LTC decision-making were asked how COVID-19 may have affected their SNF perceptions and LTC decision-making. The survey was mixed-methods and constant comparative analysis with triangulation of themes was completed by three coders. **Results:** Two waves of surveys were completed at different pandemic stages: Wave 1 April 2020-August 2021, 282 respondents; Wave 2: August 2021-November 2021, 145 respondents. Wave 1 qualitative analysis revealed 4 major themes: 1) Changing SNF preferences: "It's so high in all of these nursing homes. All of these people are coming up dead and that's definitely making me not want to ever consider it." 2) Acceptability of living with family: "I've been having to quarantine with my son and his family for 10 weeks and they have been urging me to move in with them permanently." 3) Remain home: "I'm pretty sure I don't want to be in a care facility because I would be locked up." 4) Prefer to hire in-home help: "I am much more weary of senior facilities. I would be much more comfortable with someone coming to my house." Although people had strong feelings about LTC, only 14.9% (n=42) felt that COVID-19 influenced their LTC planning. In Wave 2, when asked how comfortable they would feel entering a SNF for rehabilitation, 60.7% (n=88) of adults felt uncomfortable or very uncomfortable and 35.9% (n=52) reported feeling uncomfortable or very uncomfortable about moving into an independent living and/or retirement community for LTC. **Conclusion:** During the COVID-19 pandemic, older adults showed a wide range of perceptions about living in SNF or use of LTC facilities in the future. Initially, older adults were opposed to moving into LTC settings but over time, they expressed more comfort. There are still those who feel uncomfortable about short-term stays in SNFs. Further study is needed to examine if these beliefs change over a longer period.

C120

"Your heart goes black": The Emotional Toll of the COVID-19 Pandemic on Nursing Home Staff

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Background: Nursing home (NH) staff have been working under complex and stressful conditions during the COVID-19 pandemic - adding significant burden to an already vulnerable and strained workforce. More than 186,000 residents and staff have died from COVID-19, accounting for approximately one quarter of all U.S. COVID-19 deaths. Little is known, however, about the emotional toll the pandemic has levied on staff.

Methods: Thematic analysis of semi-structured interviews conducted over Zoom with NH direct care staff and administrators from 12 different facilities across 6 states about their experiences caring for NH residents during the pandemic.

Results: Preliminary findings reveal 89% of staff (3 RNs, 2 LVNs, 8 CNAs, 3 Social Workers, 2 Administrators) have had a COVID-19 outbreak in their facility with 31% and 50% having more than 25 residents and 25 staff infected, respectively. The emotional toll has been significant with feelings of sadness, fear, guilt, burnout, and anger/resentment. This emotional toll has largely been driven by the impacts of staffing shortages; facility lockdowns; caring for residents facing significant isolation, illness and death; fears of infection; as well as navigating PPE shortages, requirements and related fatigue. This emotional toll has led many to compartmentalize and disconnect in order to cope and function, further exacerbating feelings of guilt for not providing the care they wanted to and/or felt residents deserved. Despite this emotional toll, many staff reported the pandemic has had several silver linings in terms of improved teamwork, communication, infection control, and use of telehealth.

Conclusions: The emotional toll of the COVID-19 pandemic has been significant and may lead to longer term increases in staff turnover, burnout, and shortages. Offering greater staff emotional support and resiliency resources, as well as financial incentives to recruit and retain staff may assist in mitigating this pandemic fallout. Comprehensive federal rules and regulations are needed to better support workforce development and retention, as well as staffing oversight.

C121

Determinants of Code Status Change in Older Adult Trauma Patients Readmitted to an ICU

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Background: Injured older adults are a high-risk population that is more likely to have unplanned ICU readmissions compared to younger counterparts matched by injury severity. Prior study has shown that patients are more likely to change their code status from full code to DNR after an unplanned ICU readmission. The objective of this study is to understand reasons why patients and their families choose to change code status after an unplanned ICU readmission.

Methods: We reviewed medical records for patients aged 65 and older readmitted to a Level I trauma ICU between 1/1/18 and 10/13/20. Code status change was determined by comparing code status on admission with code status after first ICU readmission. Three investigators analyzed code status and goals of care documentation using inductive and deductive content analysis. A thematic framework was developed to classify reasons for code status decisions, with each theme being mutually exclusive. Analysis of patients who remained full code after ICU readmission is ongoing.

Results: 105 patients admitted to a trauma ICU had an unplanned ICU readmission. 52.3% of patients remained full code after ICU readmission while 25.7% changed code status to DNR. Understanding severity of the patient's illness and prognosis was found to be the reason for code status change in 68.1% of cases. Other reasons for code status change were after a critical event such as a PEA arrest (22.7%), location of previously completed advance care planning documents (22.7%), and reconciliation of family discord (9.0%). Reasons why patients remained full code included fear of abandonment by the medical team, perceived ageism, and interpretations of an acceptable quality of life.

Conclusions: In our study, we found that over 25% of patients had a code status change from full code to DNR after an unplanned ICU readmission. The most common documented reason for code status change was understanding of serious illness and poor prognosis. These results highlight the importance of communication of illness severity and prognosis and early ascertainment of previously completed advance care planning documents to guide decision making for high-risk patients in the ICU.

C122

Stakeholder Perspectives on Social Connections Amongst Older Adults Living in Subsidized Housing

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Background: Social isolation is a burdensome problem for low income older adults. Many low income older adults live in subsidized housing, however, few studies have examined this problem in this context. We sought to understand processes that may facilitate, or are barriers to social connections in older adults who live in this setting.

Methods. We conducted in-depth semi-structured interviews with a purposeful sample of 18 affordable housing stakeholders across the United States who reported having relevant experience with older adults in subsidized housing. We gathered impressions of what social connection "looks like" in its various forms and garnered their practice-based observations on natural and programmatic processes that precipitate instances of increased connection or increased isolation. Researchers conducted line-by-line thematic analysis, crafted within-case summaries to highlight key theories, and collaboratively assessed concordant and discordant views across cases.

Results. Stakeholders universally considered isolation and connectedness to be contributing factors to mental and emotional health. Across interviews, social connection processes were precipitated by interactions with maintenance staff, extroverted personality types, and diverse and frequent activities. Isolation processes were commonly triggered by bullying, aging-related onset of functional limitations (i.e., mobility, cognitive decline), and limited access to transportation and communication technologies. Stakeholders diverged in their opinion of what constituted connection, with some maintaining that only deep, purpose-driven interactions have the power to combat social isolation (lest one be "lonely in a crowd"), while others believed that each additional shared activity helped increase connectedness (the "don't get rid of bingo" perspective). Contrary to researcher expectations, it appears many residents experience both isolation and connection to some degree, and many prefer some degree of isolation.

Conclusion. The experiences of social isolation in older adults with limited resources are nuanced and complex. Current literature presents isolation as a negative outcome, but does not consider autonomy of preference (those who want to be isolated). The challenges to maintaining social connections are multifactorial and should be further examined.

C123

Resident Perspectives and Experiences with Opioid and Substance Use Disorders in Urban Nursing Homes

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Background: Nursing homes (NHs) have increasingly become destinations for persons with a history of opioid and substance use disorders (OUD/SUD). Little is known about the quality of OUD/SUD care in these settings. We identify challenges and opportunities in caring for persons with OUD/SUD through the lens of the residents. **Methods:** Residents with a history of OUD/SUD were recruited from four urban NHs in March and October 2021. Semi-structured qualitative interviews were conducted to assess care experiences related to stigma, patterns of drug use, views on Medications for OUD (MOUD), access to counseling/recovery services, and recommendations for care improvement. Interviews were transcribed and aggregated. Themes were developed using a constant comparative method. Quantitative data was collected utilizing a modified Tobacco, Alcohol, Prescription Medication and other Substances tool and two Likert-type questions on stigma and drug use in the NH. Demographics were collected including age, gender, race, education, and MOUD treatment history. **Results:** Sixteen resident interviews were completed. Fifty six percent were age 55 and older, 88% were Black, 88% completed at least some high school. Thirty percent agreed or strongly agreed they felt looked down upon because of their history of drug use (mean(SD)=3(1.4)), 30% agreed or strongly agreed that street drug use occurred commonly within the NH (mean(SD)=2.6(1.3)). Alcohol, tobacco, and heroin were the most common substance used. Thirty seven percent were currently or previously on methadone or suboxone. Themes included: (1) Stigma from staff/resident attitudes towards addiction; (2) Awareness and accessibility of drug use within NHs; (3) Benefits of and barriers to MOUD/counseling services; (4) Desire for staff/resident training on addiction. Results revealed variability in residents' experiences and perceptions regarding ability of NHs to care for those with a OUD/SUD history. **Conclusions:** NH residents with a OUD/SUD history face several challenges including presence of stigma, influence of peer utilization of drugs and alcohol, availability/quality of MOUD treatment, and need for counseling services and staff education. The evaluation and impact of persons with OUD/SUD entering NHs is an important topic that requires further study.

C124 Encore Presentation

Implementation of an Educational Curriculum on Care of Older Adults with Opioid Use Disorder in Long-Term Care

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Background: Research shows an increase of older adults with opioid use disorder (OUD) and in treatment for substance use disorder[1]. Due to medical needs/functional impairments, they often require post-hospital care in a skilled nursing facility (SNF). A prior needs assessment identified the topic of older adults with OUD as a knowledge gap and a barrier to care for SNF. An educational curriculum was developed to address this critical need.

Methods: This evidence-based curriculum was developed and piloted by a geriatrician. Learning objectives were: 1) defining addiction as a medical disease; 2) describing medications for OUD (MOUD); 3) incorporating non-stigmatizing language; 4) recognizing overdose signs/symptoms. Case-based learning was used with the

example of a newly admitted older adult with OUD. All staff were invited to attend. A 5-question pre- and posttest design was used to assess knowledge. Paired student's t-test was used to evaluate change in mean difference in scores.

Results: The in-service was offered 12 times at 3 SNFs. A total of 159 interprofessional staff from nursing, administration, activities, housekeeping, maintenance, kitchen, therapy, and social work attended. 82 paired pre- and posttests were completed (51.57% completion rate). Each correct answer was 1 point. Mean (M) test scores significantly increased (pretest M = 3.2; SD =1.09; posttest M = 4.18; SD = 1.11; t(81) = 9.246; P<.001). Confidence level for each learning objective were scored on a 1 to 5 scale (1 = least, 5 = most), with participants showing improvement (Defining addiction [pre M = 3.18, median = 3, SD = 1.25; post M = 4.17, median =4.5, SD = 1.06]; MOUD [pre M = 2.74, median = 2.5, SD = 1.22; post M = 4.11, median = 4, SD = 1.07]; language [pre M = 3.39, median = 3, SD = 1.25; post M = 4.28, median = 5, SD= 1.06]; and overdose recognition [pre M = 3.18, median = 3, SD = 1.28; post M = 4.28, median = 5, SD = 1.08]).

Conclusions: This pilot curriculum addressed the knowledge gap of SNF staff caring for older adults with OUD. Despite the diversity in roles, responsibilities, and medical knowledge, participants demonstrated gains in knowledge and confidence levels. Future implementations will include analysis of test scores between each profession and patient feedback.

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C125

Exploring geriatrician and internist faculty perspectives regarding enhancing geriatric training in an Internal Medicine residency

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Background: All internists and subspecialists need to deliver age friendly care, yet only 30% of Internal Medicine (IM) residency programs provide more than four weeks of geriatric-specific clinical instruction. We aimed to explore perspectives of internist and geriatrician faculty regarding perceived supports for and barriers to enhancing geriatric training in an academic Internal Medicine residency program.

Methods: Using *social cognitive theory* and the geriatric 5Ms as conceptual frameworks, we conducted a needs assessment using focus groups and semi-structured interviews with IM residency leadership and geriatricians who regularly teach residents at an academic medical center. Interviews were recorded, transcribed, and independently coded by two team members. Thematic analysis was conducted to identify key themes.

Results: Sixteen faculty participated: 9 geriatricians and 7 internists; 10 (63%) female, 2 (13%) Hispanic/Latino, and 11 (69%) White. Seven faculty participated in two 60-minute virtual focus groups and nine faculty participated in 30-minute virtual one-on-one interviews. All had at least monthly teaching or clinical contact with IM residents and six were Associate Program Directors. We identified six key themes related to factors impacting geriatric training in the program: (1) content knowledge, (2) timing of exposure, (3), geriatric clinical reasoning, (4) role modeling, (5) perceptions of the field, and (6) institutional top-down support. Participants' suggestions for improvement included embedding departmental geriatric champions, enhancing faculty development, integrating geriatrics training within all didactics and clinical experiences, and harnessing resident intrinsic motivation.

Conclusions: Participant narratives indicated that geriatrics training for IM residents was influenced by six major themes. We view these under three domains: behavioral (role modeling), cognitive (geriatrics knowledge), and environmental (institutional support). Future studies need to focus on additional important stakeholder groups, such as learners and patients.

C126

Telehealth Training Among Geriatric Fellowship Graduates

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BACKGROUND: Since March 2020, telehealth has grown exponentially and with it the expectations for providers to use telehealth to deliver high-quality care to older adults. Little is known about the telehealth training geriatric fellows received prior to the pandemic.

METHODS: We conducted an online survey of recent alumni (2005-2020) of an academic geriatric medicine fellowship program to assess their experience with telehealth during fellowship. The survey asked about the impact of geriatric fellowship training on their confidence in using telemedicine when caring for older adults.

RESULTS: Fifty-two (50%) alumni completed the survey. Forty-eight respondents (98%) responded that it was highly important for geriatric fellows to learn skills in telemedicine during fellowship [extremely important (55%, n=27); very important (37%, n=18]. Thirty-five (71%) alumni reported having an experience with telehealth during fellowship. The most common telehealth experiences included a telemedicine Geriatrics Consult Clinic at a VA (83%, n=29), a provider-to-provider transitions of care program, (49%, n=17) and remote patient monitoring in a PACE program (11%, n=4). Among graduates prior to 2015, 53% (n=9) of respondents had fellowship exposure to telehealth, compared to 82% (n=23) of graduates from 2015 to 2020 [X^2 = 4.4, p=0.036]. On average, confidence in telehealth increased by year among alumni surveyed.

CONCLUSION: Increasing telehealth training for geriatrics fellows is critical to ensure geriatricians are prepared to deliver high quality telehealth to older adults. The survey showed that there were opportunities for learning telehealth prior to the pandemic, but not all fellows engaged in these opportunities. Though this survey was limited to a single fellowship program with a small sample size, it highlights an opportunity to improve geriatric telehealth curricula which is a necessity to help fellows meet the evolving demands of caring for older adults in the modern era of medicine. Future directions include a national survey of geriatric fellowship graduates to assess telehealth experiences and confidence.

C127

Geriatric Engineering: Foundational concepts for Geriatricians and Engineers: Predictive analytics and deep learning to facilitate intelligent independent living environments for older adults.

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Background Augmenting medical school curricula with a Geriatric Engineering course that introduces core engineering, computer science and system concepts to create intelligent living environments would provide geriatricians additional options to proactively treat aging individuals. The purpose of this study was to explore two questions related to aging in place. First, is the population of older adults amenable to the use of technology in the home? Second, in designing a Geriatric Engineering composite course that is the fusion of multiple semesters of the geriatric engineering program, are the

potential students amenable to different learning designs, including in-person versus remote learning and was it effective in conveying core concepts?

Methods 212 individuals ranging in age from 60 to 92 were surveyed, using a Likert scale questionnaire regarding their acceptance attitudes toward technology. Demographically, the study population's age distribution was: 60 to 69 (34%), 70 to 79 (51%), 80 to 89 (11%), and 90+ (4%).38% male and 68% female. To investigate student preference for learning design, 152 participants, ages 19–34 in spring 2019-21 courses evaluated in-person versus remote learning modalities regarding presentation and effectiveness. Of this group, 56 students had both remote and in-person class sessions. A control group, of 96 participants attended traditional in-person classes. Both groups completed questionnaires with each modality.

Results: Of the 212 respondents, aged 60-92, 71% supported technologies for independent living. 78% indicated that cost was a concern. Data analysis with Cronbach Alpha was 0.86 indicating a high degree of internal consistency. Of the 152 students, 73% indicated both presentation methods equally effective in grasping concepts. Exam results indicated that there was no significant difference in comprehension of the material.

Conclusions Data from the study with older adults validated the need for developing programs in Geriatric Engineering. Results also supported the effectiveness of remote learning in conveying concepts. This is essential in offering geriatric engineering content to a wider audience such as medical students. At present, in the author's university a Geriatric Engineering minor was implemented in 2019 and in 2022/23 it is anticipated that a 4-year bachelor's degree will be available.

C128

@GeriatricsJC: Twitter Journal Club Improves Geriatric Fellowship Program collaborations

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Background: Journal clubs as an educational vehicle in post graduate medical training increase trainees' exposure to recent medical literature and clinical practices and can serve to develop critical appraisal skills. We explored whether the journal club experience can be enhanced by using Twitter as a platform. The rationale for this approach includes: (1) exploring relevance of social media as a communication venue (2) asynchronous delivery of educational content in the pandemic era, (3) enhancement of inter-institutional collaboration.

Methods: 5 Midwestern Geriatric Fellowship programs collaborated and enrolled their fellows into a monthly Geriatrics Twitter Journal Club that commences on the first Tuesday of the month and lasts one week. Each month, one fellow selects an article to discuss and creates a short introductory video. Structured questions are delivered to guide fellows' collective input on the article being critiqued. Faculty and fellows' tweets provide critiques and commentaries about the journal article. Participants are invited to anonymously take pre- and post-test assessment questions regarding the content of the articles.

Results: Over a 10 month roll out of @GeriatricJC, the program gained 428 followers including 20 fellows from the 5 participating programs. Other participants include 200 geriatricians/geriatric faculty, 83 organizational accounts, 20 students, and 105 others. The account-generated tweets have an average of 336 impressions/day with 47 views/video. The impact on knowledge and clinical practice change is being evaluated.

Conclusion: Twitter is a feasible, sustainable platform for fellowship journal club among several training programs. The high level of engagement on the platform suggests that it is an effective method to engage trainees in review of the literature. Analysis is ongoing to determine whether @GeriatricsJC changes knowledge and/or clinical practice.

C129

Introduction to "Aging in Place": Teaching Geriatrics through a Virtual Experience

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Background:

In 2019, we expanded an "Aging in Place" home visit experience for 1st year medical students to include interviews of older adults living in urban senior housing. Due to the COVID-19 pandemic, we converted to a virtual experience, with the hypothesis that students would gain similar insights into core geriatrics principles.

Methods:

In the first year medical student "Doctoring" course, 180 students were assigned to interview an older adult family member, friend, neighbor, etc. (age >65) by phone/video. If needed, faculty assigned one (5/180 students). An interview guide framed the Geriatric 5Ms with discussion prompts about health and social challenges, community support, and personal and health-related goals/preferences. Groups of 8 students attended a virtual 1 hour geriatric faculty-led debriefing. Using a validated rubric, we analyzed essays and compared themes arising from the virtual experience (VE) to prior in-person experiences at a local low-income senior housing (SH).

Results:

We reviewed a sample of 20 essays from each session (2019 SH and 2021 VE). SH and VE students were successfully able to comment on older adults' mobility/function (12/20 SH vs. 13/20 VE) and multi-morbidity (10/20 SH vs 15/20 VE); VE students more frequently mentioned use of technology (5/20 SH vs 9/20 VE) and identified similar community supports for older adults, but less frequently commented on aspects of independent living such as ADLs (7/20 SH vs. 0/20 VE) and IADLs (14/20 SH vs 5/20 VE). Both groups mentioned awareness of older adults' level of social engagement (13/20 SH vs 14/20 VE) and independence (13/20 SH vs 14/20 VE). In both experiences, they recognized social determinants contributing to successful aging in place, including transportation, poverty, cost of care, and health systems challenges.

Conclusions:

Our preliminary data suggests that a virtual experience--which has logistical benefit in settings where in-person visits may be difficult-- provides students with a meaningful educational experience and similar exposure to basic geriatric principles. The in-person experience did allow for increased recognition of physical limitations, environmental modifications, and community supports and barriers, so we will plan to incorporate both experiences into future iterations of this curriculum.

C130

Using Virtual Format and Mail-delivered Naloxone in a pandemic-adapted Opioid Training for Aging Services Providers

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BACKGROUND The US opioid epidemic resulted in nearly 50,000 fatal overdoses in 2019. In Chicago, there are more opioid overdoses over age 65 than under age 24, with the highest risk in

ages 45-64. Opioid-related deaths have increased during the COVID-19 pandemic, reiterating the need for effective interventions. Opioid Overdose Education & Naloxone Distribution (OEND) is a safe, cost-effective way to reduce opioid overdoses. Pre-pandemic, this group held in-person OEND events. In the pandemic, these were adapted virtually to mitigate social-distancing barriers.

METHODS The in-person OEND training was adapted for videoconferencing. Updates included switching to intranasal naloxone, transitioning to Hands-Only cardiopulmonary resuscitation to reduce COVID-19 risk, and based on feedback from a 6-person pilot group, adding an interactive "teach-back" module. A new protocol was developed to distribute naloxone, drug disposal pouches, and printed resources to participants by mail. Participants were aging services providers in Chicago.

RESULTS A pre-pandemic in-person OEND event (n=145) was rated highly on a Likert-type 5-point scale for knowledge of the opioid epidemic (mean(SD)=4.58(0.6), n=142), administration of intramuscular naloxone (mean(SD)=4.33(0.88), n=120), and overall event rating (mean(SD)=4.61(0.58), n=141). 264 naloxone doses were distributed. During the pandemic, 51 participants completed one of three one-hour virtual trainings. Twenty-four (47%) completed a post-training survey. Participants reported an increase in knowledge of 1) the opioid crisis [Likert-type 5-point scale; 5=Strongly Agree, mean(SD)=4.67(0.87)], 2) prescription opioids [mean(SD)=4.63(0.92)], and 3) illicit opioids [mean(SD)=4.58(0.92)]. Self-perceived confidence in recognizing an opioid overdose increased significantly pre- to post-training (Wilcoxon sign rank, Z=-4.23, p<.001). Twenty naloxone kits were mailed to two trainings.

CONCLUSION Pre-pandemic, in-person OEND trainings were rated highly. A virtual OEND training with naloxone distribution by mail to aging services providers was similarly highly rated and represents a viable intervention when in-person training is unfeasible.

C131

Development of an Artificial Intelligence-based Family Caregiver Negotiation Program

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Background: Family caregivers of older adults with Alzheimer's dementia (AD) frequently experience conflicts as they advocate for their loved ones, often facing frustration, anxiety, and stress. Caregivers routinely lack knowledge in how to negotiate and resolve disputes, as they deal with health system conflicts.

Methods: We convened an interdisciplinary group comprised of a social worker, geriatrician, negotiation experts, and a community-based family caregiver panel (N= 9; Illinois, Florida, New York, California) to use the Interests-Rights-Power (IRP) negotiation framework to build dialogue surrounding three common caregiver conflicts. Our prior research (n=97 caregivers) revealed the most common conflicts involved a caregiver-provider, caregiver-older adult, and caregiver-caregiver. Real-world scenarios were scripted to fit each conflict. Dialogue (offers and response) from the caregiver panel were revised and coded to the IRP framework. Experts in computer science leveraged dialogue to formulate an AI-based negotiations program: the Interactive Arbitration Guide Online (IAGO) is a flexible research platform for designing human-aware negotiating agents. Socially-aware avatars were developed to reflect the subjects (e.g. older adult, caregiver, provider) with whom caregivers negotiate. The IAGO platform, which allows for multiple communication modalities (emotion, dialogue, and negotiation channels), was extended to support conflict resolution and specific domain requirements of the research.

Results: We created an Artificial Intelligence-based Caregiver Negotiation Program to facilitate teaching negotiation skills to caregivers of older adults with AD. Since it is web-based and provides real-time feedback, busy caregivers can complete the negotiation program when time permits. Pilot testing with family caregivers of older adults with AD (n=15) showed that the program is feasible and usable.

Conclusion: An artificial intelligence-based caregiver negotiation program was developed as a feasible and usable resource for caregivers to learn how to resolve common conflicts between older adults with AD, providers, and other caregivers. Future research plans to test the AI-based program with caregivers nationally.

C132

Good for all: Benefit and application of interprofessional geriatrics education by profession

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Background: Interprofessional (IP) teams are essential to care for older adults. Health professions students must learn to manage geriatric syndromes collaboratively. We created a virtual IP clinical geriatrics experience to improve learner self-rated ability in IP geriatrics evaluation and management skills (GEMS) and evaluated its impact on different student groups and potential for practice.

Methods: 747 health professions students participated from October 2020 to July 2021. They completed pre-work on IP skills and GEMS, met virtually in IP teams to create a care plan for a case of an older adult, and participated in a faculty-facilitated debrief. Pre- and post-activity, students self-rated their ability in four IP GEMS (Likert 1=poor, 5=excellent). Pre-post ratings were compared using paired t-tests. Group differences were assessed using ANOVA. Post activity, students indicated how they would apply IP GEMS in the future. Descriptive analyses were performed.

Results: Complete data was analyzed for 568 students (341 nursing, 192 medical, 35 social work). Confidence in ability increased in all four IP geriatrics skills (Table 1). There was a significant difference between groups in the skills of participating in an IP team meeting and caring for medically complex older adults (Table 1). All groups indicated confidence in the same IPT meeting skills: consulting, engaging, and clarifying recommendations from other health professions. Nursing and medical students planned to apply GEMS similarly (polypharmacy and delirium), social work students planned to apply different GEMS (matters most and home safety).

Conclusion: Our virtual geriatrics IPE activity improved learner confidence in IP GEMS with greater improvement in self-rating seen in medical and nursing students than social work students in two out of the four IP GEMS. All groups were confident in the same IPT meeting skills, they differed in their planned application of IP GEMS skills.

Mean difference in self-rated IP GEMS ability pre- vs post-activity

IP GEMS	All students n=568 (SD)	p-value	Nursing n=341 (SD)	Medical n=341 (SD)	Social work n=35 (SD)	p-value
Participate in IPT meeting	0.9 (1.0)	<0.001	0.9 (1.0)	0.8 (0.9)	0.5 (0.9)	0.03
Care for complex older adults	1.1 (1.0)	<0.001	1.1 (1.0)	1.2 (0.9)	0.4 (1.0)	<0.001
Identify geriatric issues	1.2 (1.0)	<0.001	1.1 (1.0)	1.2 (0.9)	0.8 (0.9)	0.05
Identify professionals with GEMS	1.3 (1.0)	<0.001	1.4 (1.0)	1.3 (1.0)	1.1 (1.1)	0.18

C133

Knowledge to Action: Teaching Medical Students to Address Social Determinants of Health

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Background: The emphasis to educate medical students on social determinants of health (SDOH) and the significant number of older adults affected by these risk factors have implications for

medical educators. We created an interactive case-based module for medical students to improve their self-rated confidence in SDOH practice skills and assess their perceptions and experiences with SDOH.

Methods: One-hundred fourteen third-year medical students rotating through the Geriatric Medicine clerkship completed an online training module as part of a Social Justice Longitudinal Theme from May to November 2021. This module presented two older adult patients undergoing post-hospital follow-up. Surveys measured confidence in identifying and addressing SDOH and identifying health disparities pre- and post-module (Likert 1 to 5, 1= not confident at all and 5= extremely confident), perceptions of SDOH on healthcare patients receive (Likert 1 to 5, 1=not at all and 5 = extremely), and clinical and educational exposures to SDOH. Paired t-tests were performed using Stats Kingdom software.

Results: Student confidence significantly increased pre- vs. post-module in all SDOH practice skills (Table 1). However, student perception that SDOH impact the healthcare patients receive did not increase significantly pre- vs. post-module (4.5 vs. 4.7, p>0.05). Sixty-six percent (n=75) of students indicated that their preclinical medical education exposure to SDOH was sufficient, with twenty-four percent (n=27) and forty-two percent (n=48) answering "strongly agree" and "somewhat agree", respectively. Sixty-six percent (n=75) and eighty-five percent (n=97) of students reported personally and professionally experiencing a situation where SDOH impacted the healthcare a patient received.

Conclusions: An interactive, older adult case-based module improved medical student confidence in SDOH practice skills. Medical students at UTHealth have confidence in their understanding of SDOH, the effects of SDOH on the healthcare patients receive, and their own preclinical education. This module is a first step in learning how to take action to address social determinants of health.

Student confidence in SDOH practice skills

Self-rated confidence in:	Mean pre-rating (SD) n=111	Mean post-rating (SD) n=114	p-value
Identifying SDOH	3.5 (0.1)	4.2 (0.1)	<0.001
Addressing SDOH during a patient encounter	3.1 (0.1)	3.9 (0.1)	<0.001
Identifying health disparities	3.5 (0.1)	4.0 (0.1)	<0.001

C134

Understanding the Impact of a Virtual Home Visit on Medical Student Learners

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Background: Exposure to home-based primary care is a crucial experience for medical students and is a focus of the AAMC graduation questionnaire for medical students. Home visits are an excellent way to teach medical students about comprehensive geriatric medicine, interprofessional education, and transitions of care. The COVID-19 pandemic has made home visits logistically difficult for medical students, therefore we sought to create a virtual home visit experience for medical students at the Northwestern University Feinberg School of Medicine

Methods: Medical students were tasked as a part of their Education Centered Medical Home Clerkship (ECMH) to complete a virtual home visit with one of their clinic patients selected with the assistance of their clerkship preceptor. Prior to their visit, they were asked to listen to a pre-recorded didactic created by a geriatrician with expertise in home-based primary care. They were then given a checklist with important components of a home visit, which they were asked to complete as able during the course of their visit. At the conclusion of their visit, students were then asked to complete a reflection detailing their impressions about their visit. Mixed method analysis of the qualitative responses was conducted using thematic and constant comparative analysis by four separate analysts.

Results: Fifty unique student reflections were analyzed. Multiple themes emerged including: identification of issues unique to the home setting, better understanding of a patient's medical conditions, identifying patient concerns not addressed in a clinic setting, understanding which patients might benefit from a home visit, differences from an office visit, logistical or technological issues, limitations of virtual home visits, and adaptations to future care practices.

Conclusions: Home-based primary care should be an essential component of a comprehensive geriatric experience for a medical student. Home visits provide a unique way to better understand geriatric care. This qualitative work provides rich information about how home visits can contribute to medical student learning. Future research will be focused on quantitative assessment of skills learned through completion of a home visit and a comparison of virtual versus in person home visits as a portion of the medical student curriculum.

C135

A Qualitative Study of Coaching Patient Priorities Aligned Decision Making Through Virtual Case-Based Huddles

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Background: Patient Priorities Care (PPC) was developed to address the challenges in medical decision making for older adults with multiple chronic conditions. PPC provides tools to anchor decision making on individual patient priorities i.e., the health outcomes they most desire given the treatments and healthcare tasks that they are willing and able to complete to achieve them. The current aim was to examine the effect of short virtual case based huddles to coach primary care clinicians in implementing PPC.

Methods: Eight 30-45 minute virtual, case based huddles were conducted with primary care clinicians (6 MD, 1 APRN) in a PPC pilot at Cleveland Clinic (CC). Huddles were facilitated by a CC PPC champion and attended by PPC faculty who provided guidance on the PPC clinical decision making approach, tools, and implementation troubleshooting. Discussions were recorded and transcribed. Analysis of sessions was based on the constant comparative method using Grounded Theory concepts and Atlas.ti coding software.

Results: "Challenges in the care of complex older adults" themes were patient negative experiences/lack of trust, burdensome interventions, patient non adherence, time constraints and care complicated by multiple chronic conditions. "Benefits of PPC" themes were efficient decision making, acknowledges patient complexity/uncertainty, helps with decision making, improves relationships among healthcare team members and patients/enhances trust and adherence, and outcome measures reflect what matters most. "Barriers to Implementation" themes were clinicians training and quality metrics based on diseases, patient goals not realistic or achievable, workflow/ time / sustainability, patient discomfort, clinician discomfort, acute events intercede, patients too healthy. "Enablers to Implementation" themes were clinician perceptions and PPC fundamentals and tools.

Conclusion: Short, virtual, case-based huddles is an efficient method of coaching priorities aligned decision making. Huddles led to discussion of PPC principles and tools, workflow and implementation troubleshooting. This method of coaching holds promise in implementing priorities aligned decision making in varied clinical sites with health professionals of all levels of training.

C136

Geriatric Medicine Training during Hematology/Oncology Fellowship: An Intensive 3 Month Pilot Curriculum

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Background:

Older adults share an escalating burden of cancer morbidity and mortality, and there remains a significant education and evidence gap in cancer-related care for older adults. Oncology providers thus have a critical need for training to provide evidence-based, personalized care for older adults with cancer. We present a clinical and didactic-based 3 month intensive geriatric medicine curriculum incorporated into hematology/oncology fellowship training.

Methods:

A curriculum was developed through review of the geriatrics fellowship and medical literature, as well as collaboration with our geriatrics and hematology/oncology training programs' institutional leadership. We incorporated both outpatient and inpatient experiences, covering key areas related to the care of older adults with cancer. The rotation was completed during the final year of fellowship training (by author D.O.).

Results:

The curriculum, shown in the table, involved approximately 2-3 days per week of geriatrics-focused training, in addition to previously scheduled hematology/oncology training. Each experience was completed with the assistance of geriatric medicine and multidisciplinary providers. The curriculum was well-received by the participant. Key lessons from the experience included enhanced training in (1) performing comprehensive geriatric assessment, (2) identifying geriatric syndromes and their impact on all aspects of care, and (3) understanding the critical need for a multidisciplinary approach to the care of older adults with cancer.

Conclusions:

In this abstract we present a 3 month intensive geriatric medicine curriculum that was successfully incorporated into hematology/oncology fellowship training. Further assessment and refinement of similar curricula are needed, as we seek to address the education and evidence gap in the care of older adults with cancer.

Overview of Geriatric Medicine Curriculum

Outpatient Experience	Inpatient Experience	Didactics and Teaching
Comprehensive Geriatric Assessment Consultative Clinic	Geriatric Medicine Consultative Service	Polypharmacy
Geriatric Medicine Primary Care Clinic	Physical Therapy	Frailty
Comprehensive Falls Clinic	Occupational Therapy	Delirium and Dementia
Geriatric Medicine House Calls	Speech Therapy	Selected review of medical literature from the geriatric medicine fellowship program
Wound Care and Continence Clinics	Skilled Nursing Facility	

C137

Medical Student Dyads: An innovative hands-on approach to teach Age Friendly Health System

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Background: The Age friendly Health System is an initiative to help spread the reliable delivery of age-friendly care based on the 4Ms framework (what Matters, Medication, Mentation, Mobility). Medical student patient experiences were limited during the pandemic. The objective of this education model was to implement and evaluate a dyad model to teach 4Ms framework in face-2-face (F2F) and virtual settings.

Methods: The curriculum consisted of didactics (1 hour), clinical experience (2 hours) with patient contact, followed by presentation/treatment plan development (1 hour). The didactics portion was enriched by interaction with an interdisciplinary team of providers like neuropsychologists, geriatricians, social workers, and geriatric psychiatrists. They gave an overview on 4Ms framework and Telehealth. The patient contact was also intentionally enriched by alternating between virtual and F2F visits each week. A medical student dyad evaluated each patient. One of them performed a traditional medical evaluation whereas the other focused purely on the 4Ms/Whole health questionnaire. The students compared notes at the presentation and developed a treatment plan about issues that the patient really cares about. Pre- and post-evaluations were obtained (rated Poor [1] to Excellent [5]) to assess the students' knowledge about 4Ms and Telehealth.

Results: Senior medical students completed the evaluations (N=51). Majority of the students (57%) had seen or shadowed ≤3 patients virtually with 14% having had no telehealth experience. There was a significant improvement in students' knowledge ratings from pre- to post-evaluations about 4Ms (mean difference [95% CI], -2.2 [-2.6 to -1.9], $p<0.001$), barriers to Telehealth (-1.3 [-1.6 to -1.0], $p<0.001$), and benefits of Telehealth (-1.4 [-1.7 to -1.1], $p<0.001$). The dyad model was particularly well liked by students. They strongly agreed that the patient preferences (PP) were important (4.5), that the interaction of the medical and PP model was important (4.6), and that integrating the two models into treatment plan was critical (4.7).

Conclusion: Senior medical students had limited exposure to 4Ms framework during the pandemic. Medical student dyads model is a practical and viable approach to teach 4Ms framework in F2F and virtual settings.

C138

GERIATRICS - A 4th Year Course to help medical students apply geriatric care in any specialty

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The US population aged 65+ years will likely double in 30 years. Even now, our health system struggles to provide evidence-based practice to older adults at every care interaction. Principles of geriatric care and age-friendly health systems must be mandated in medical student education.

We developed the GERIATRICS framework for a post-Match course in response to 4th year students' requests to learn geriatric principles they could integrate into their chosen specialties.

Group based - max of 3-4 students/group

Engaging - active participation - round tables and round robin

Relevant to Specialty - case based approach

Integrated - emphasis on primary care

Active learning - collaborating on cases

Time efficient - discuss 6 to 8 cases in 1 hour

Reinforcing - students must specify 1 principle they will apply in practice

Interactive - students discuss in small groups and present

Centered to patient and learner – principles apply to each student's future specialty

Supportive - facilitator and students share tools and resources

The course uses various tools - The Wisconsin Star Method, 5 Ms of Age friendly Health Systems, & CARINOS Model of Care to integrate key principles across various clinical settings & specialties. The 8-hour course occurs 2 hours/day over 4 days. After brief lectures, students form specialty-based groups that engage in patient cases. The course curriculum, tips for applying framework with specialty-specific cases & teaching tools used will be described and shared.

Results: Students rate the course highly. They love the teaching tools, interactive brief lectures' helpful principles, and the ability to interact with students who are going into the same specialty. Here are some comments: "I liked the structure and tailoring geriatric care." "The content is incredibly important, I really appreciated Dr. XX's passion for the subject and ensuring that we gained something from each lesson." "The material presented with the use of cases to help apply the information we learned was useful -5Ms, STAR & CARINOS methods."

Other teachers of geriatric medicine can use the **GERIATRICS** course framework to teach their medical students to apply geriatric medicine principles in any specialty.

C139

"Caregiver Empowerment In Dementia"

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Background: The prevalence of dementia in older adults in the United States is expected to reach 13.8 million by 2060. As dementia prevalence increases, so does caregiver burden, which may result in social restrictions, financial strain, and emotional distress. Healthcare staff often do not have the training to navigate the care of caregivers. Our objective is to develop an evidence-based mnemonic that can serve as a framework to facilitate communication with dementia caregivers during clinical encounters to counsel and empower them.

Methods: A search was performed in PubMed, 977 articles within the last 5 years were identified that met search criteria, 84 were reviewed based on their content of caregiver interventions and positive aspects of caregiving for dementia, findings from 51 articles were utilized.

Results: The interventions and components of positive aspects of caregiving for dementia were coded, reviewed for frequency, and the highest yielding coded topics were captured. Different approaches and interventions were identified to decrease the caregiver burden that led to the creation of **"EMPOWER D"**. Each letter refers to an aspect that is important for the healthcare provider to explore explicitly.

EMPOWER D

Elicit observation of the person with dementia's behavior and impact on caregiver

Model thoughts that lead to positive aspects of caregiving.

Partner with the caregiver as a team

Offer and encourage family and social support to decrease caregiver stress and burnout.

Worthy of empathy, compassion, and self-care equal to a person with dementia

Educate the caregiver about dementia brain changes and caregiver resources

Recognize the complexity of their lives and their resilience and offer respite.

Dementia **D**yad is now the patient and care partner; together are your patient.

Conclusions: The health of the caregiver is paramount to the care of the person with dementia. Many clinicians feel uncertain about how to respond to and counsel dementia caregivers.

The **"EMPOWER D"** mnemonic was developed as a practical tool and framework for clinicians to address dementia caregiver burden, empower caregivers, and its practical design can be easily communicated, memorized, and integrated into the visits between clinicians and their patients and caregivers in any healthcare setting.

C140

Fellows as Teachers: Enhancing Geriatrics Fellows' Teaching Skills with Observation and Feedback

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Background: Geriatric fellows are expected to teach little "g" and serve as role models for medical students.(1) Teaching skills can improve with training, direct observation and feedback.(2) An interactive, skills-based, 3-station, 90-minute didactic session for third-year medical students about geriatric assessment - Mind (cognitive), Mobility (functional) and Medications (med rec) - was conducted every 6 weeks (8 sessions/year) in the Geriatrics clerkship. We hypothesized that involving fellows as teachers in this session will improve their confidence in performing and teaching geriatric assessment.

Methods: Fellows completed a baseline survey and attended a "train-the-trainer" session at the beginning of the year. A facilitator guide listed learning objectives, instructional video clips, activities timeline and handout materials. Majority of didactic was for history and physical exam practice via role-play, immediate feedback from fellow to students and addressing practical challenges in clinical practice. Faculty member observed fellows' facilitation and provided structured feedback. Student and fellow satisfaction was assessed via online surveys.

Results: 14 Y1 and 6 Y2 fellows completed the pre-test and training session. 3 fellows self-rated their expertise in teaching as Novice, 15 as Beginner, 2 as Proficient, none as Expert or Master; only 7 fellows received any prior training in teaching. While 45%, 40% and 75% of fellows expressed comfort in teaching cognitive assessment, mobility assessment and medication reconciliation respectively, only 55%, 30% and 20% of fellows responded correctly to a knowledge question based on those domains. Lack of time to practice was the main barrier. 11 fellows have taught 60 students in 4 sessions so far. Student satisfaction was superior. Post-session surveys from fellows and faculty evaluation of fellows' teaching are being analyzed.

Conclusion: Fellows' baseline self-assessed comfort in teaching was low, varied with training year and type of geriatric assessment skill, and did not correlate with knowledge. Observation and structured feedback can be helpful in improving fellows' geriatric assessment and teaching skills.

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C141

Feasibility and Impact of an Ageism Curriculum for Medical Students in a Geriatrics Clerkship

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Background: Ageism (stereotyping, prejudice and discrimination on the basis of one's age) has deleterious consequences on older adults' health.(1) Medical students including those at our institution have variable attitudes and biases toward older people.(2) We hypothesized that embedding an ageism curriculum within the 6-week Ambulatory Care-Geriatrics clerkship is a feasible intervention to increase ageism awareness among third-year medical students and increase their commitment to reduce ageism in the clinical environment.

Methods: The curriculum launched in AY 2021-2022 included assigned pre-reading and video viewing, short didactics, expert-facilitated small group discussion of clinical vignettes, reflective journaling, and posting of personal commitments on virtual messaging board. We surveyed students at the start and end of the clerkship to evaluate baseline awareness, change in UCLA Geriatrics Attitudes Scale and satisfaction with curricular components.

Results: Out of 61 students who participated in the curriculum so far, we received 60 pre- and 25 post-curriculum survey responses. The median for when a person is considered "old" was 70 years (range 35-90). 43% of students expressed preference to care for younger than older patients (28% neutral). Proportion of students with self-assessed ability to identify ageist remarks/actions increased from 52% (pre) to 88% (post), and to minimize their own ageist biases increased from 27% (pre) to 88% (post). 92% of students found the curriculum useful; viewing of TED talk and discussion with experts were particularly liked components.

Conclusions: Integrating an ageism curriculum with pre-work, didactic, guided discussion and reflection components in the geriatrics clerkship led to increase in medical student awareness and confidence in addressing ageism-related behaviors. This curriculum complements students' clinical interactions with older adults and has the potential to reduce the impact of ageism and discrimination in medicine.

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C142

Home is the where the art is; examining home health referral practices in the Florida State Internal Medicine residency.

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Background:

By 2060, 1 in 4 Americans will be 65 or older. Residents should identify vulnerable seniors using the 5M comprehensive assessment, hospital readmission trends, and geriatric syndromes. Coordination of complex geriatric patient care is a self-perceived deficiency of many Internal medicine residents. This study compares resident expertise in initiating home health services in at risk clinic patients.

Methods:

459 geriatric patients were seen in the Internal Medicine Residency Clinic from January to December 2020. 58 of these patients were seen in Tallahassee Memorial Hospital's ER or inpatient floor. Fisher's exact test examined if referral practice was associated with physician level of training.

Results

72% of females and 28% of males were studied. Percentages of black and white patients were nearly equal. Heart disease and falls were the top diagnoses. 43% of patients received home health referrals. Followup was noted in 15% of cases. PGY 4s were most likely to activate referrals and chart followup but this was not statistically sigificant p=0.968>0.05.

Discussion:

Residents do not consistently initiate proactive home health referrals in vulnerable clinic patients. Geriatric curricula targeting proper utilization of home health resources is dire throughout all stages of training. Interdisciplinary forums with residents and home health agencies can improve systems based learning and patient care. Home health referrals should be particularly offered to patients with cardiovascular and fall related office complaints.

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Comparison of home health referral practices by PGY level of training at the FSU Internal Medicine Residency in 2020.

PGY level	Patient number	At risk patient	Home health referral
1	10	8	4 (50%)
2	16	11	4(36%)
3	27	23	10(43%)
4	5	4	2 (50%)

Fisher exact test p=0.968 >0.05

C143 Encore Presentation

A curriculum for third-year medical students caring for Vietnam Era military Veterans

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Patient-centered care requires an understanding of the preferences, needs, and values of patients and ensures that they guide clinical decisions. Therefore, it is imperative that the health care provider understand the individual's wishes and desires. Vietnam War Era Veterans are the largest group of living war Veterans, totaling 8.7 million (2020) and present a specific challenge in terms of medical/psychiatric needs. Unfortunately, medical students tasked with caring for these Veterans have very little knowledge of what being a Vietnam Veteran signifies. Over the previous six years, the Geriatric service at the West Palm Beach Veteran Affairs Medical Center has trained over 200 third-year medical students. The teaching module includes the basics of caring for older Veterans with a special emphasis on understanding the specific needs of caring for Veterans of the Vietnam Era. The curriculum includes: 1) Visualizing the quandary of conscription of young men, the turmoil of the 1960's, and anti-war sentiment and antiwar protests. 2) Realizing the stigma of the ostracizing and dishonoring of young soldiers returning from Vietnam, scarred by war, to a hostile homecoming often being called baby killers and not supported by their own populace, whom many died fighting for. 3) Recognizing the signs of symptoms of late onset stress symptomatology/late adulthood trauma engagement, as well as post-traumatic stress disorder and their treatments. 4) Understanding the clinical signs and symptoms of moral injury associated with shame, guilt, and embarrassment, and to work with a team that includes social workers and chaplains, to address this spiritual distress.

Student feedback has been positive with quotes such as "I never knew that Vietnam Veterans were spit on and treated that way."

The Veterans bond with the students and feel acknowledged with quotes such as "I thought they knew what we went through."

The curriculum allows the medical students to gain a better perspective of the needs of Vietnam Veterans and will help prepare them to care for this misunderstood group of older Veterans.

C144

The delirium flowchart - An interactive educational tool

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Background

We created a web-based, interactive flowchart ("the Flowchart") to improve delirium education and management for learners rotating through the Geriatric Consult service at a major academic hospital. This project aimed to evaluate the effectiveness of the Flowchart.

Methods

The Flowchart was created through an interdisciplinary effort between Geriatric Medicine and Geriatric Psychiatry. The Flowchart was designed for self-directed learning for beginning to advanced learners with three layers of information: (1) "*Tell me what to do*" - the flowchart provides a simple, structured approach by outlining key decision points; (2) "*Tell me why*" - each flowchart box is linked to a popup that provides contextual information; (3) "*Prove it*" – evidence-based information is provided including direct literature citations.

The Flowchart is hosted at GeriGuides.com and made available as an optional resource to the learners rotating through the Geriatrics In-patient Consult Service. Retrospective pre/post survey was administered to the learners to evaluate their attitudes towards the Flowchart and self-efficacy in core delirium competencies.

Results

In a five-month period, 23/39 (59%) learners completed the survey, ranging from medical students to PGY-3 residents. When asked to rank learning resources (from 1-7; 1 being most valuable), the Flowchart was ranked second at an average 2.5 (compared to direct teaching from attending: 1.5, p = .004; UpToDate: 3.2, p = .097; rotation modules: 4.3, scientific articles: 4.4, formal lectures: 5.0, p = <.001). Out of a scale of 0-100 (higher is more favorable), learners rated the Flowchart's helpfulness at 81, value added at 81, future use at 71, and utilization per patient at 47. Twenty-one of the twenty-three learners would recommend the Flowchart to peers. Learners also desired additional flowcharts for other geriatric (100%) and medical conditions (91%). Based on retrospective pre and post self-efficacy evaluation (0-100, high scores indicate higher confidence), learners gained confidence in delirium diagnosis (mean 38; p = <.01), evaluation (40; p = <.01), nonpharmacologic management (35; p = <.01), antipsychotic use (37; p = <.01), and discharge planning (29; p = <.01). Data collection is ongoing.

Conclusions

Medical learners reported the Flowchart as an important resource in their delirium education and desire additional flowcharts for geriatric and medical conditions.

C145

Empowering patients in medication safety: Insights from Elder Voices

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Background: Inappropriate medications are a danger to older adults. Increasing patients' and caregivers' knowledge and self-advocacy skills around medication use is an important strategy under exploration. Animated educational videos were previously developed to serve this purpose. This study's goal was to explore the roles and limitations of these educational materials on self–advocacy directed towards medication management and deprescribing.

Methods: This qualitative study utilized focus groups (4 groups, 2 sessions each; n=42) with members of 'Elder Voices,' a group of older adults who were previously recruited at senior centers and participated in the development of the videos. Using the videos as a trigger, participants discussed patient self-advocacy opportunities and challenges around medication use. Focus groups were recorded and transcribed. Themes were identified via open coding by 3 study team members. A socio-ecological lens was used to categorize the themes.

Results: Majority of participants were African American 64%, with Caucasian 33% and Asian 2%. 86% were female. Age ranged from 62 to 92 years. Themes that emerged within a socio-ecological framework included 1) Individual: patient responsibilities, empowerment and health literacy; 2) Interpersonal: patient and provider communication; 3) Systems: fragmentation, lack of time and individualized health care; 4) Social and cultural: ageism, historical racism and health system distrust. Participants recognized patients' responsibility to be proactive in their health care by asking questions and maintaining medication lists. They also identified that health system fragmentation, time limits, and experiences with ageism and historical racism made self-advocacy difficult.

Conclusions: A socio-ecological approach provided a useful framework to understand the complex interrelationships that impact medication use, from the perspective of older adults. While educational videos can potentially address Individual- and Interpersonal-level factors, the higher-level factors ('Systems' and 'Social and cultural') will likely require interventions in the healthcare system and broader community to overcome the identified challenges.

C146

Nothing about us, without us: Community-Based Participatory Research to improve educational interventions on medication safety and deprescribing.

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Background: Community-Based Participatory Research "CBPR" is suited for translational research addressing health disparities and can be effective in engaging older adults in research. The study team previously used CBPR to develop a series of educational videos for older adults/caregivers on medication safety and deprescribing. The objectives of the current study being evaluated were to 1) ensure that the videos reflected participant input and 2) identify community-engaged dissemination strategies to raise awareness about medication safety and patient-driven deprescribing.

Methods: The qualitative CBPR study included focus groups (4 focus groups, 8 sessions) with members of Elder Voices, an active group of older adults who participated in the development of educational videos on medication safety. To evaluate the CBPR study process, focus groups, held at senior centers, conducted 'member checking' of the educational materials and identified community-engaged dissemination strategies. Participants also completed a CBPR survey at the end of each focus group to assess the credibility of the CBPR process.

Results: A majority of the focus group participants (n = 42) were African American (64%), followed by Caucasian (33%) and Asian (2%). Most (86%) were female. Age ranged from 62 to 92 years. Members confirmed the relevancy of the educational content and provided suggestions on culturally sensitive language for further intervention strategies. Identified dissemination strategies include: show videos where seniors congregate, peer advocacy groups, and the need to develop additional material to contextualize and personalize the story. Survey results indicated the process was overwhelmingly positive and members felt heard. As one member stated, "I felt I was contributing to an important safety issue for senior adults."

Conclusion: The CBPR process provided a meaningful opportunity to incorporate culturally relevant perspectives of older adults on educational interventions for medication safety and identify dissemination strategies. The findings will help to advance patient-driven deprescribing and further inform medication safety and deprescribing initiatives.

C147

A Formative Geriatrics Standardized Patient Assessment on Falls for Medical Students

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Introduction: Mobility is one of the 4 Ms of an age-friendly health system and an important competency area for medical students. In 2021, we adapted an existing Geriatrics curriculum on this topic for our Practice of Medicine clerkship. The culmination of this curriculum is a formative Fall Risk standardized patient (SP) assessment. We present this curriculum with a focus on the multi-source feedback to our learners and their evaluation of the curricular components.

Methods: During the Practice of Medicine clerkship, students complete a half-day case-based didactic (with some advanced preparation) that focuses on the comprehensive geriatric assessment, deprescribing, and fall risk assessment. As a group, students practice the skills they will be assessed on later during their individual SP assessment where they are given 25 minutes to take a focused fall risk history, perform the TUG, and discuss their assessment/plan with the older adult patient. Then they have 30 minutes to complete a SOAP note after which they evaluate different aspects of the curriculum. Students review their encounter video and complete a self-assessment of their communication and history taking skills. Step 1 in the multi-source feedback loop is this self-assessment. They also receive a detailed feedback report on 5 areas: The SP ratings of their communication skills [1] and their TUG administration [2}, the faculty feedback on their S/O [3} and A/P [4] parts of their note, and their self-assessment [5}. For each area, we marked if they "did not meet", "partially met", "met" or "exceeded" expectations.

Results: 150 students completed the SP Assessment. 74 students (49.3%) had at least one area and 27 (18%) had more than one area below expectations. Regardless of their performance, all students received detailed feedback on areas for improvement. Students' evaluations revealed the advanced didactic training was helpful in preparing them for the SP session, that the SPs were all very realistic and that the timing of SP encounter and SOAP notes was sufficient for most students.

Discussion: Feedback to learners is important. Although time-intensive, our multi-source feedback process allowed us to provide nuanced feedback to our medical students on different aspects of clinical skills, identifying areas of weakness as well as areas of strength.

C148

An Authentic Learning Experience for Medical Students on Conducting a Family Meeting

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Introduction: Medical schools lack training to prepare residents to discuss end-of-life care issues with patients and their families. As part of our curriculum on end-of-life care for medical students, we developed a workshop in our Transitioning to Residency course about family meetings in the context of end-of-life care. In this presentation, we provide an overview of the curriculum, outcomes from and advanced preparation assignment and student evaluations.

Methods: The central part of this curriculum is a "hands"-on skills training session delivered via Zoom in which small groups of students (3-4) assume different roles on the interprofessional team (ICU attending, cardiologist, nurse, social worker). They meet with two adult children of a 79-year-old patient with a complex cardiac history and on ventilator support to address 1) the patient's status; 2) goals of care; and 3) withdrawal of ventilator support. The children were role-played by palliative/geriatric medicine faculty, fellows, nurses and a psychologist. Students reviewed the case and their role assignments in advance along with a webinar about family meetings and other training materials. Then they completed a survey reflecting on aspects of the upcoming family meeting. Afterwards, students used a 5-pt Likert scale (1=strongly disagree; 5=strongly agree) to evaluate the organization of the session, how well the learning objectives were met, and the preceptors.

Results: 32 students completed the training. The reflection survey shows students agreed the patient's prognosis was poor. They indicated decision-making should be shared. Anticipated challenges included difficulty accepting the prognosis, discordance between family members and/or the team and challenging emotions such as anger or guilt. Results show a clear difference between the anticipated roles of the assigned physicians compared to the other two disciplines. Post session evaluations ranged from 4.7 to 4.8.

Discussion: The pre-session reflection helped students prepare for their roles. Overall, the training was well-received and we hope it helps prepare our students to take on important end-of-life care discussions during residency.

C149

An Innovative Person-Centered Medical Student Session: Council of Caregivers and Dementia Friends

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Experiential learning involving healthy aging in medical education is one strategy aimed at generating positive attitudes toward older adults. Another may be to demonstrate the person behind the geriatric condition. We designed a session for medical students to heighten detection of dementia in the community while emphasizing the importance of person-centered care for both dementia patients and caregivers. To our knowledge, this session is the first of its kind in the United States. The session was voluntary, used a virtual platform, and was 90 minutes long. For the first 30-minutes, the Council of Caregivers (CoC) introduced themselves, shared joys and challenges of their role, and encouraged students to interview them. For the remainder of the session, students were placed in small groups for the interactive Dementia Friends Indiana (DFI) portion. DFI, implemented by our Area Agency on Aging, is our state's dissemination of the DF global movement to promote early recognition of dementia in communities. Each small group was facilitated by an individual trained to deliver a DF session (a Dementia Champion). Of the 132 students who attended from three of nine campuses, 73 (55%) completed an electronic session evaluation. Students were asked to rate statements about the session using a 5-point Likert scale with responses ranging from strongly disagree to strongly agree. When asked if the CoC and DFI were helpful, 70(96%) agreed or strongly agreed for CoC, and 64(88%) agreed or strongly agreed for DFI. For both CoC and DFI, 67(92%) of students plan to use what they learned in the clinical setting. When asked if they think there is value in requiring students to attend a DFI session, 59(81%) agreed. Open-ended comments were also favorable about the session. One student stated, "I think it was a great way to make sure that we are capable of providing appropriate care for aging patients." For future directions, we are lobbying to make this unique person-centered session fostering recognition of older adults with dementia and their caregivers a requirement for all 350 of our medical students across all nine campuses.

C150

A novel collaboration between Habitat for Humanity, Area Agency on Aging, academia and a healthcare system to implement dementia inclusive community initiatives

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Background: 80% of older adults report that they desire to remain living independently in their own homes for as long as possible. The majority of older adults living with dementia live in the community. To make communities as welcoming to persons with dementia as possible, communities will need to implement dementia inclusive concepts across a broad variety of sectors as larger numbers of older adults are

living with dementia. The first task in this process is to identify those sectors that community members identify as areas of concern.

Methods: We have developed a working collaborative that includes community resource organizations, academia and healthcare practitioners with a common goal of implementing dementia inclusive concepts to assist their shared consumers in living independently in the community. Our community partners include local Area Agencies on Aging and a Neighborhood Network that is a committee of the local Habitat for Humanity. This collaborative group has evaluated the findings of a 2017 neighborhood survey and mapped the defined neighborhood into sectors to identify appropriate targets for dementia inclusive community initiatives.

Results: The neighborhood survey from 2017 showed poorer health outcomes, health disparities and poor access to primary care for the defined neighborhood compared to the county as a whole. Concerns that align with Dementia Inclusive concepts included safety, transportation and recreational needs which were identified as majors concern for over 1/3 of residents. As a result we targeted our Dementia education to EMS, clergy and community members.

Conclusions: The neighborhood survey identified many needs that align with interventions for dementia inclusive community initiatives. Identification of these resident-identified needs helped our team target education and interventions to the appropriate community sectors.

Funding by HRSA under GWEP cooperative agreement (#U1QHP33073)

C151 Encore Presentation

Interprofessional Curriculum to Reduce Inpatient Malnutrition in Patients with Dementia

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Background: Inpatients with dementia are at risk of malnutrition due to high rates of delirium, impaired communication, dysphagia, and sensitivity to environmental changes. Specialized approaches to care can improve nutrition, but most providers and staff are not aware of these; more education about malnutrition and dementia care is needed across health professions. We designed an innovative, interprofessional curriculum to close this education gap.

Methods: Our educational team includes an occupational therapist, registered dietitian, speech-language pathologists, geriatrician, nurses, and a physician assistant. Learners included medical, nursing, and physician assistant students, and geriatric medicine fellows. Four one-hour sessions were held online, each involving pre-work, didactics, interprofessional small group discussion, and skill development. Person-centered care was a unifying theme throughout.

We created a video featuring Louise, a woman with dementia, and her daughter Sandra. Sandra described her mother's experience with dementia and malnutrition, which were addressed by an interprofessional hospital team. Based on this case, our course covered four topics: approach to dementia care, malnutrition and mealtime assistance, caregiver support, and interprofessional practice.

Results: Educational outcomes included dementia and malnutrition knowledge, interprofessional socialization, and clinical practice addressing malnutrition, measured in pre- and post-course assessments. In this pilot, most learners demonstrated stability or improvement in these areas, except for knowledge about malnutrition, where scores trended slightly down. Learners requested more discussion time and in-person skills development.

Conclusions: Designing a curriculum involving interprofessional educators and students was challenging; identifying shared goals for a diverse student population was critical to obtaining buy-in. Future goals include enrolling students from other health professions, and hosting in-person skills development sessions. We will modify this curriculum for future cohorts to improve educational outcomes. We also seek to expand our audience to include a broad range of people who care for older adults, such as people working in skilled nursing facilities.

C152

Implementing a Geriatric Curriculum on an Acute Care for the Elderly (ACE) Unit

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Background: Acute Care of the Elderly (ACE) units provide care tailored to hospitalized older adults. ACE units improve rates of discharge to home (vs facility) and improve mortality. There is a paucity of literature describing trainee curricula for ACE units. At our institution, internal medicine (IM) residents spend 1 week on an ACE unit as part of their geriatric elective. In post-rotation feedback, Residents have expressed that the rotation was too similar to general medicine and did not provide specific training in geriatrics. In response, we created a dedicated geriatric curriculum for IM residents rotating on the ACE unit.

Methods: Based on core competencies endorsed by the American Geriatrics Society, we developed a curriculum focused on 6 elements of geriatrics that can readily integrate in inpatient settings: 1) comprehensive geriatric assessment (CGA), 2) elder abuse, 3) dementia, 4) delirium, 5) polypharmacy, and 6) models of care. Residents complete a CGA on all admitted patients, which assesses functional status, social support, a geriatric-specific review of systems, and screens for elder abuse. During the rotation, residents perform delirium screening and cognitive assessments on appropriate patients via validated instruments. Residents critically appraise medication lists alongside a geriatrician and pharmacist, and they work with a multdisciplinary team including social work and case management to coordinate discharge planning. Geriatricians provide a supplementary didactic curriculum on geriatric syndromes, such as capacity assessments, delirium, and falls. At the end of the week, residents complete a post-rotation survey.

Results: Seven residents have completed their geriatrics elective and 6 (86%) provided feedback on the post-rotation survey. Feedback was universally positive. Mean rating of the usefulness was 4.2 on a 5-point Likert scale. All participants agreed or strongly agreed with the following statements: 1) knowledge of the care of older adults improved, 2) the rotation will improve their care of older adults going forward, and 3) they will implement new practices because of this experience.

Conclusions: Implementing a dedicated geriatric curriculum on an ACE unit is feasible and improved learner experience and knowledge. Geriatric principles can be effectively incorporated into inpatient rotations.

C153

Development of an Administrative Data-based Frailty Index for Older Adults Receiving Dialysis

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Background

Frailty is present in at least 50% of older adults receiving dialysis. Our objective was to a develop an administrative data-based frailty index and assess the frailty index's predictive validity for mortality and future hospitalizations.

Methods

We used United States Renal Data System data to establish two cohorts of adults aged ≥65 years initiating dialysis in 2009 and in 2013. Using the 2009 cohort (development dataset), we applied the deficit accumulation index approach to develop a frailty index. Adjusting for age and sex, we assessed the extent to which the frailty index predicts the hazard of time until death and time until first hospitalization over 12 months. We assessed the Harrell's C-statistic of the frailty index, a comorbidity index, and jointly. The 2013 cohort was used as a validation dataset.

Results

In the 2009 cohort (n=22,794), the mean (SD) frailty index was 0.27 (0.12), 22% (n=5127) died, and 60% (n=13,766) experienced a hospitalization over 12 months. Adjusted hazard ratios for each 0.1-point increase in frailty index in models of time to death and time to first hospitalization were 1.50 (1.46, 1.53) and 1.40 (1.38, 1.42), respectively. For mortality, C-statistics for frailty index, comorbidity index, and both indices were 0.66, 0.65, and 0.67, respectively. For hospitalization, C-statistics for frailty index, comorbidity index, and both indices were 0.62, 0.61, and 0.63, respectively. Data from the 2013 cohort were similar.

Conclusions

We developed a novel frailty index for older adults receiving dialysis. Further studies are needed to improve on this frailty index.

C154

Emergency department medication deprescribing program: a qaualitative analysis

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Background High-risk medication use among older adults is an increasingly important aspect of emergency geriatric care. Older adults present to acute care setting with chronic medical conditions and they are often exposed to high-risk medications. We need to provide evidence-based, standardized deprescribing program in the acute care setting, yet the evidence base is lacking and standardized medication programs are needed.

Methods We conducted a qualitative study of stakeholders' perspectives on high-risk medication de-prescribing in order to identify their priorities and preferences for medication use. We conducted focus groups with emergency department (ED) physicians, pharmacists, nursing staff, geriatrician, and semi-structured interviews with resident physician, caregivers, and patients in the emergency department. To ensure rich, contextual data, the study utilized two qualitative methods: 1) focus group with physicians, advanced practice providers, nurses, pharmacists, and geriatricians involved in care of older adults and prescriptions in the acute care setting; 2) semi-structured interviews with patients and caregivers involved in treatment and emergency care. Analysis occurred iteratively and utilized a blend of deductive and inductive approaches to develop themes.

Results Through an analysis of focus group with healthcare workers (n=8) and semi-structured interviews with patients and caregivers (n=20), we identified themes in 1) Medication history taking, 2) Identifying high-risk medications, 3) Deprescribing recommendation, and 4) Coordinating deprescribing recommendations. Integrating these themes, we developed an ED medication framework focused on high-risk medications for older adults.

Conclusions Our qualitative study has led to a potentially promising ED medication framework, aligned with the vision of comprehensive care of older adults, that can be used to evaluate practices and develop interventions. Emerging themes may enable the deprescribing recommendation and intervention.

C155 Encore Presentation

Utilizing an Urgent Care Model in the SNF Setting

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Background

Reducing readmissions to hospitals and ED visits has been a priority among health systems and skilled nursing facilities. Approximately 20% of Medicare-funded hospitalizations result in discharge to a skilled nursing facility (SNF) [2]. Transitions to and from the hospital setting frequently occurs. In an analysis of SNF hospital readmissions 23% were found to be preventable [1]. To reduce hospital readmissions from SNFs, we have deployed the Urgent Care model (UCM) in the SNF setting. UCM is typically defined as a healthcare condition requiring prompt attention but is not a life-threatening. UCM is designed to manage unscheduled conditions, that arise outside core office hours [6, 7]. The UCM emerged out of demand to alleviate ED wait times and visits for patients [5]. Several studies found that UCM have reduced visits to nearby EDs [3,4].

Methods

Sedgebrook is a 84-bed short-term rehab/LTC affiliated with Northwestern Geriatrics. To pilot the UCM, a nurse practitioner (UCM-APN) who worked in a UCM for 6 years transferred to work solely at Sedgebrook. We compared applicability and work flows as well as areas that needed further troubleshooting. We then examined preventable readmissions over a 3-month period, satisfaction from staff, and productivity of the UCM-APN.

Results

The three main tenets of UCM include: Illness work, Navigation work, & Moral work. In this study, the UCM-APN was able to translate her UCM perspective to triage and address acute illnesses in the SNF/LTC setting. From a illness work perspective, the UCM-APN was able to triage acute illness independently of chronic care issues handled by a physician provider. For navigation work, the UCM-APN identified who needed to be transferred to ED vs remaining in the SNF. This vital skill resulted in decreased readmissions. From a moral work framework, the UCM-APN connected with families to avoid their demand to be sent to the ED unnecessarily. Evaluations showed high staff & provider satisfaction, strong productivity, and overall improvement in SNF patient care.

Conclusions

Implementing an UCM in the SNF setting is feasible and can provide unique ways to improve patient care. Our findings resonate with existing literature on the effectiveness of UCM to avoid ED visits and hospitalizations. Further research is needed to determine if this model can be replicated.

C156

Feasibility and usability of a mobile health exercise intervention (GO-EXCAP) in older patients with myeloid malignancies

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Introduction: Many older patients with myeloid neoplasms experience treatment-related toxicities. We previously demonstrated that a home-based progressive aerobic walking and resistance exercise program (EXCAP©®) improved outcomes in patients with cancer, but older patients have more difficulty adhering to exercise compared to younger patients. To improve exercise adherence, we integrated a mobile app with EXCAP©® (GO-EXCAP), and assessed its feasibility and usability in a single-arm pilot study of older patients (≥60 years) with myeloid neoplasms undergoing outpatient chemotherapy.

Methods: The GO-EXCAP intervention lasts for two cycles of chemotherapy (approximately 8 weeks). All patients were provided with a tablet loaded with the app. Feasibility metrics included percentage of patients reporting exercise data on the app, recruitment rate, and retention rate. Usability was assessed using the system usability scale (SUS; >68 is above average). Patients were interviewed at mid- and post-intervention to elicit their feedback, and deductive thematic analysis was used.

Results: We recruited 25 patients (mean age 72, range 62-81), 42% were female, 92% were white, and 55% had acute myeloid leukemia. Recruitment and retention rates were 64% and 88%, respectively. Seventy eight percent (18/23) entered any exercise data into the app on at least 50% of the study period days excluding hospitalization. Average daily steps walked were 2,848 at baseline and 3,184 at post-intervention. For resistance exercises, patients reported performing a mean duration of 25.7 minutes/day, 2.9 days/week, and rated perceived exertion of 3.9 (low intensity) from a 1-10 Likert scale. Patients reported a mean SUS of 68.7. Three themes were identified: positive experience with intervention, importance of group and personal interactions, and flexibility.

Conclusion: The GO-EXCAP intervention is feasible and usable for older patients with myeloid neoplasms undergoing outpatient chemotherapy. We will further evaluate its preliminary efficacy in mitigating treatment related toxicities.

C157

Integrating Geriatrics into Community Cancer Care: A Single Center Experience

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Background

In the USA, 60% of newly diagnosed malignancies and 70% of cancer deaths occur in patients age 65 and older. Older adults with cancer have unique needs that may be complicated by comorbidities, medications, and psychosocial factors. Guidelines published by the National Comprehensive Cancer Network recommend that patients ≥ 65 years old have a comprehensive geriatric assessment (CGA) prior to initiating cancer treatment, but patients are frequently started on therapy without this assessment. To improve cancer treatment in older adults, Inova Schar Cancer Institute (ISCI) launched an Age Friendly designated Geriatric Oncology Program. We retrospectively analyzed geriatric patients treated to describe the timing and content of geriatric specialty care in relation to cancer treatment.

Methods

After IRB approval, we conducted a retrospective analysis of patients age ≥ 65, who received care for a gastrointestinal malignancy and assessed by our geriatric team between 9/2020 and 12/2020. Data queried and filtered using Epic SlicerDicer included demographics, treatment, histologic and geriatric variables, and date of death. Analysis was performed using R v4.1.1.

Results:

At ISCI, 43% of all patients are age ≥ 65, of which 73% are White/Caucasian, 8% Asian and 6% Black or African American. In the study, thirty-two patients had geriatric specialty care including a CGA; 34% were ≥ 80years and 90% had Medicare. 84% were English speaking, 66% were white, 14% were Hispanic/Latino and 47% were women. 50% had pancreatic cancer. Only 50% of patients had a CGA by Geriatrics before starting systemic chemotherapy and 59% of all patients had advance directives in the EHR. 50% visited the emergency room or were hospitalized during treatment. 4 patients died over the 4 months analyzed, only one of whom received treatment within 14 days of death.

Conclusion

Half of all patients had a CGA after treatment had been initiated, which may limit the utility of the assessment to mitigate the risks associated with systemic treatment. Limitations of the study were the small number of patients and short data collection period. Geriatric specialty care is under utilized in our cancer center. Increased access for CGA to all older adults, including underrepresented minorities, is needed to demonstrate value of a geriatrics evaluation to decrease hospitalizations and improve cancer related outcomes across diverse populations.

C158

High prevalence of falls-related medication use in high-risk older adults with hearing impairment

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Background:

Hearing loss increases risk for falls and fall-related medication use is a modifiable risk factor. The objective of this study is to describe the prevalence and patterns of fall-related medication use in older adults with hearing impairment who are identified at high risk of falls.

Methods: Cross sectional study of adults aged ≥ 65 years followed within an academic health center between 1/1/2016-7/15/2021, with hearing impairment (ICD-10 diagnosis), who screened as high risk for falls at an ambulatory visit or with an acute visit for fall in the past year. Active prescription(s) of a fall-related medication class (alpha blockers, antianxiety, anticholinergics, anticonvulsants, antidepressants, antihyperglycemics, antipsychotic, diuretics, hypnotics, muscle relaxants, and opioids) were identified. For a subset of patients with encounter data available for the past 6 months (1/15/21-7/15/21), falls-related encounters were also captured. All variables were abstracted from the local electronic health record.

Results: Of a total of 100,336 patients screening positive for falls risk and on an active fall-related medication, 14,216 (14%) had a diagnosis of hearing impairment. Among those with hearing impairment, top falls-related medication classes prescribed were antidepressants (n=6596, 46%), diuretics (n=6395, 45%), and anticonvulsants (n=4056, 29%). Antidepressants and diuretics were the most common combination prescribed (n=2,569, 18%). Of 5,863 (out of 14,216) patients with available encounter data, 9% (552) had a falls-related acute visit (i.e., ambulatory, ED, urgent care, or inpatient visit).

Conclusion: A high proportion of older adults have a history of falls or are at increased risk for falls. There is high use of falls-related medications and health care utilization among those with hearing impairment, which is also a known falls risk. Deprescribing is a potential strategy to mitigate this risk of falls. More work is needed to understand clinician perspectives and practices on deprescribing across specialties, including those working with older adults with hearing impairment (e.g. otolaryngology), to improve processes within these specialties that target medication safety and reduce polypharmacy.

C159

Central Nervous System Medications as Targets for Hospital Deprescribing

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Background: Central nervous system medication (CNS med) use among older adults is associated with morbidity and mortality. This study described patterns of CNS medication use, and identified people most likely to have CNS medications initiated or deprescribed around hospitalization.

Methods: Retrospective cohort study using electronic health record data from 3-hospitals. Patients aged 65 years or older, hospitalized on general medicine between 2018-2020, and prescribed an outpatient CNS med (antianxiety, anticholinergics, anticonvulsants,

antidepressants antipsychotic, hypnotics, muscle relaxants, and opioids) between the 90 days prior- to 90 days after hospitalization were included (N=4666). Latent transitions analysis (LTA) was used to identify profiles of CNS med class use, examine transitions between profiles across four time-points (90 days before, admission, discharge, 90 days after), and determine predictors of transitions between profiles.

Results: Mean age was 74.3±9.3 years; 63% were female, 70% were White. The most commonly prescribed CNS meds were antidepressants (54%) and opioids (49%). Overall, 74% (n=3446) of patients were persistent users of a CNS med (any) across all four time points; 7% (n=388) had a CNS med deprescribed during hospitalization, but 64% (216/388) of these patients had a CNS med started or restarted within 90 days following hospitalization. LTA identified three profile groups: 1) overall low CNS med users, 54-60% of patients; 2) mental health med users (predominantly antianxiety, antidepressants), 30-36%; and 3) acute/chronic pain med users (predominantly muscle relaxants, opioids), 9-10%. Probability of staying in same group across the four time-points was high (0.88-1.00). Of those who transitioned to the low CNS med use group (indicating deprescribing), the probability was highest from admission to discharge (0.09 for chronic pain med users, 0.05 for mental health med users). Being female increased (OR 2.4, 95% CI 1.3-4.3) and having chronic kidney disease lowered (OR 0.5, 0.2-0.9) the odds of deprescribing.

Conclusions: Around an episode of hospitalization the majority of patients were persistent users of CNS meds and there was little deprescribing. CNS meds could represent important targets for hospital deprescribing, but additional work on patient outcomes is needed to understand potential benefits and harms.

C160

Associations between Opioid use in Older Adults during Subacute Rehabilitation, Length of Stay and Other Quality Measures

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Background: Pain control is a challenging condition after surgical procedures in older adults during subacute rehabilitation (SAR) stay and highly associated with disability. This study describes opioid analgesic use in older adults admitted to SAR after knee or hip joint surgery, and relationship to change in function and length of stay.

Methods: Retrospective review of electronical medical records from patients in SAR January - September 2021. Inclusion criteria: post-hip/knee surgery. Exclusions: intermedullary nailing. Data abstracted: demographics, medical diagnoses, medications, including analgesics and daily dosing, analog pain ratings, physical and cognitive function based on MDS. Morphine daily equivalent (MDE) were calculated according to standard practice.

Results: Of 121 SAR hip/knee surgery patients, 46 had complete admission & discharge data and were included in initial analysis. Mean age 79.5, 77% female, 57% hip, 43% knee. Mean admission pain 4.3 (0-10 scale, 10 most severe), and discharge pain 2.8. Mean LOS 18 days. Mean increase in mobility score from admission to discharge was 30.6 (max 90), and mean increase in self-care score was 9.3 (max 42). Twenty patients (43.5%) received opioids for pain management.

Hip patients (vs. knee) had similar mean decrease in pain score (-1.2 vs -1.8 respectively, p=0.65), similar increase in mobility scores (+30.4 vs +30.9, p=0.42), and similar increases in self-care scores (+9.2 vs +9.5, p=0.39). Fewer hip patients (vs knee) had opioids listed on their regimen (26% vs 50%, p=0.14). Finally, hip (vs knee) was not associated with difference in LOS (16 days vs 20 days, p=0.24).

Subjects with an opioid regimen (vs those with none) trended towards greater decrease in pain score (-2.0 vs -1.1, p=0.27), but lower increase in mobility scores (+26.9 vs +35.5, p=0.09), self-care scores (+9.0 vs +9.7, p=0.27), and longer LOS (21 days vs 16 days, p=0.27).

Conclusions: Treatment with opioids occurred for less than half post-operative patients in SAR. Treatment with Opioids in SAR was associated with non-significant greater decrease in pain, less improvement in mobility, self-care and LOS. Additional studies are needed for comparison and to optimize specific care regimens for opioid use in sub-acute rehabilitation.

C161

Physician decision-making around surveillance colonoscopies in older adults – results from a national survey.

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Background: High quality screening colonoscopies are expected to have an adenoma detection rate of >25%, resulting in large number of older adults with a history of adenomas. While guidelines recommend against colorectal cancer screening in adults >75 years and/or those with limited life expectancies, there is no clear guidance on when surveillance colonoscopies following prior adenoma detection should stop. We aimed to explore physicians' decision-making and attitudes around surveillance colonoscopies in older adults.

Methods: In a national mailed survey of 1800 primary care physicians (PCP) and 600 gastroenterologists (GI) randomly selected from the AMA Masterfile, we asked whether the physician would recommend surveillance colonoscopy in vignettes where we varied patient age (75 vs 85), health (good, medium, poor), and prior adenoma risk (low vs high). We also assessed, on a 5-point Likert scale, decisional uncertainty, perceived need for decision support, and perceived role when deciding about surveillance colonoscopies.

Results: Excluding ineligible physicians, 850 (44.6%) responded thus far (data collection ongoing). Recommendation for surveillance colonoscopies was lower if patient was older (21.2% vs. 51.1% if younger), in poor health (7.5% vs. 30.6% in medium health, 69.7% in good health), if the prior adenoma was low risk (26.1% vs. 50.2% if high risk). Overall, GIs were less likely to recommend surveillance colonoscopies than PCPs (31.0% vs. 37.7%). All of the above variables remained significantly associated with surveillance colonoscopy recommendations in a multivariable logistic regression model with age and health having the largest effects.

51.6% of PCPs and 34.2% of GIs reported feeling uncertain about when the harms of surveillance colonoscopies outweigh the benefits in older adults. Most (86.1% PCP, 75.8% GIs) would find a decision support tool helpful. Role perception was vastly different, with 33.5% of PCPs vs. 72.0% of GIs perceiving it to be the GI's role to decide about surveillance colonoscopies.

Conclusions: Physician decisions about surveillance colonoscopy in older adults are influenced by patient age, health and adenoma risk. Developing guidelines that integrate these considerations is an important next step. There is significant decisional uncertainty and difference in role perception between specialists and PCPs, suggesting that decisional support tool may be valuable.

C162

Non-alcoholic Steatohepatitis is the Most Common Indication for Liver Transplantation Among the Elderly

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Background: Liver transplantation (LT) among elderly patients with Chronic liver diseases (CLD) has been rising. Our aim was to assess trends among elderly patients with CLD requiring LT in the U.S.

Methods: Scientific Registry of Transplant Recipients/ SRTR data (2002-2020) was used to select ≥65 LT candidates with a documented CLD etiology.

Results: There were 30,323 LT candidates with CLD of known etiology who were ≥65 years at the time of listing: mean age 68±3 years, 61% male, 73% white, 66% Medicare, 33% with type 2

diabetes, BMI 28±5 kg/m2, functional status (0-100) 65±21, MELD score 19±10. The CLD etiologies included NASH (32%), hepatitis C (HCV) (24%), alcoholic liver disease (19%), primary biliary cholangitis (5%). 30% also had hepatocellular carcinoma (HCC). Over time, the proportion of NASH among elderly candidates increased from 14% (2002-2005) to 29% (2010-2013) to 40% (2018-2020) while the proportion of HCV decreased from 28% to 26% to 18%, respectively (trend p<0.0001), with NASH first surpassing HCV in 2006. The proportion of HCC in elderly candidates increased from 14% (2002-2005) to 29% (2010-2013) to 34% (2018-2020) and so did the proportion of pre-transplant type 2 diabetes (12% in 2002-2005 to 34% in 2010-2013 to 38% in 2018-2020). Of the elderly LT candidates, 54% were eventually transplanted, 12% died while waiting. In multivariate competing risk analysis, independent predictors of a higher chance of receiving a transplant were more recent year of listing (adjusted hazard ratio aHR 1.031 per calendar year), older age (aHR 1.020 per year), male sex (aHR 1.07), higher MELD score (1.015 per 1 point), and having HCC (aHR = 1.17) (all p<0.01). In contrast, being Hispanic (aHR = 0.91) and having pre-transplant diabetes (0.88) were associated with a lower chance of receiving a transplant (all p<0.01). Post-transplant outcomes improved throughout the study period: 5-year mortality 37% in patients transplanted in 2002-2005 to 29% in 2010-2013 to 23% in 2014-2015 (p<0.0001). Independent predictors of higher mortality were an earlier year of transplantation, older age, male sex, higher MELD score and HCC (all p<0.01).

Conclusions: Starting mid-2000's, NASH has become the most common etiology of LT due to CLD among elderly Americans. Waitlist and post-transplant outcomes of elderly patients have been improving over time.

C163

High incidence of polypharmacy, multimorbidity, and impaired quality of life in older patients with new connective tissue related interstitial lung disease

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Background: Connective tissue disease related interstitial lung disease (CTD-ILD) is a rare multi-system organ disease that is increasingly recognized among older adults. Standard treatment with long-term immunosuppressants, including corticosteroids and mycophenolate, place older adults with geriatric conditions at higher risk for treatment side effects. We describe the incidence of geriatric conditions in older patients with new CTD-ILD.

Methods: We identified 28 patients age ≥70 with new CTD-ILD from a single tertiary care center between 2012 and 2020. Using the initial ILD intake questionnaire and electronic health record, we extracted patients' baseline demographics, medications, medical conditions, and quality of life (QoL) using the validated SF-36 instrument (comprised of 8 domains, ranging 0-100 where higher score indicates a more favorable health state), and immunosuppression regimen. We determined presence of geriatric conditions such as multimorbidity (≥2 coexisting medical conditions), polypharmacy (≥5 daily medications), and high-risk medications (defined by the Beer's List).

Results: Patients were on average 75 (range 71-84) years old. 71% were female; 68% were White, 14% Asian, 7% Black, 7% Latinx, and 4% Native American. 79% of patients reported polypharmacy, mean of 10 (±6) medications taken per patient. 89% of patients reported ≥1 high-risk medication, mean of 3 (±3) Beer's List medications per patient. 86% of patients reported multimorbidity. Across the eight domains of QoL, patients reported their physical functioning, energy level, and sense of general health were most impacted, with scores of 51 (±30), 49 (±24), and 50 (±21) respectively. 46% of patients were started on immunosuppression.

Conclusion: Clinicians treating older adults with CTD-ILD should be aware of the high incidence of polypharmacy and multimorbidity, along with impaired quality of life, when weighing potential benefits and harms of immunosuppressive treatment. Future studies on tolerability of immunosuppression in older patients are warranted. In addition, studies should explore best integration practices of geriatric conditions into clinical management of older adults with CTD-ILD, as is commonly practiced in geriatric oncology.

C164

Process Evaluation of a G8 Screening Tool Implementation in an Outpatient Oncology Center

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Background: ASCO recommends adults age ≥65 evaluated for cancer treatment undergo Comprehensive Geriatric Assessment (CGA) to identify non cancer vulnerabilities and develop an individualized treatment plan. A CGA is time and resource intensive. A quick assessment tool is needed to determine who may proceed with usual care and who may benefit from a CGA. The G8 tool is highly sensitive for functional decline and overall survival, quickly administered, and may help identify those that would benefit from a CGA. To fill the void, we trained oncology nurses to complete the G8 on all new cancer patients 65+ years[1] and built the G8 in our EMR.

Methods: Nurses were trained to administer the G8 in a 30 minute didactic session. All new patients age ≥65 were eligible. If the patient screened positive (≤14), patient and provider were informed, and the nurses were to send a referral to the Senior Adult Oncology Center (SAOC). The SAOC coordinator would call the patient to schedule a CGA. G8 results and referrals were tracked for completion of SAOC appointment. Nurses were surveyed verbally and via email to assess barriers for G8 completion and SAOC referrals.

Results: 390 G8 assessments were performed and recorded between June 1, 2020 and September 30, 2021 on patients age ≥65. Table 1 describes these assessments. Among the 390 completed G8, 54% had a positive score. Referral rate to SAOC among G8 positive patients was 34% (72/212). 21 G8 positive patients who were referred to SAOC completed a CGA (29%).

Barriers identified to completion included competing clinical workload, overload of information for new cancer patients, lack of patient education and lack of medical oncologist's engagement.

Conclusion: Nurses can perform the G8 screening tool on new patients ≥65y/o. Significant barriers for completion of CGA for G8 positive patients remain including provider and patient factors. Future research need to adopt patient and provider engagement strategies to facilitate and promote the use of the G8 tool.

Table 1

Age (y/o)	G8 Negative	G8 Positive	Referral Sent SAOC	Completion SAOC
65-74	121	100	36	9
75-84	54	79	30	9
>85	3	33	6	3

C165

The relationship of visual impairment with physical function in the Health Aging and Body Composition (Health ABC) study

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Background: The relationship between age-related decline in physical function and visual impairment (VI) is poorly characterized. We assessed the relationship between selected measures of self-reported and performance-based VI and lower extremity physical function. **Methods:** Cross-sectional analysis of 2217 Health ABC participants completing vision testing in year 3 and the Short Physical Performance Battery (SPPB) in year 4. We used linear regression to relate either self-reported VI (weighted visual function question (VFQ) score) or performance-based VI (i.e. visual acuity (VA), log

contrast sensitivity (LCS), or Frisby stereoacuity (FSA)) and lower extremity function using the SPPB. Models were adjusted for sociodemographic and clinical covariates. **Results:** Participant mean age was 75.5 (range 71-82) years, with 52.4% self-identifying as female, and 37.4% as African American. All measures of VI were strongly associated with SPPB in bivariate and multivariate analyses (all p<0.001). Participants with 1 standard deviation lower self-reported VFQ score (mean weighted VFQ was 83.1 out of 100) demonstrated a -0.30 (95% CI -0.38, -0.21) adjusted difference in SPPB. After controlling for covariates, those with VA of 20/50 or worse (4%) had a -0.94 (95% CI -1.33, -0.54) lower SPPB score compared to those with better VA. Participants with FSA score 85 arcsec or worse (30%) had a significantly lower -0.38 (95% CI -0.55, -0.20) adjusted SPPB score versus those with FSA >85 arcsec. A LCS ≤1.30 (8%) was associated with a -1.09 (95% CI -1.39, -0.79) lower adjusted SPPB score relative to better LCS. For comparison, a -0.31 difference in mean SPPB was similar in effect size as having cardiovascular disease or a 5-year difference in age. **Conclusions:** Visual impairment, both self-reported and performance-based, is strongly associated with poor performance-based lower extremity physical function. Although the basis for these associations is not entirely clear, the connection suggests that there may be a subgroup of older adults with poor physical function and visual impairment who may benefit from targeted screening protocols and intervention to prevent disability.

C166

Development and Tailoring of a Guide to Enable Older Adult Uptake of Wearable Activity Monitor Technology

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Background: Wearable activity monitors (e.g. Fitbit) provide an opportunity to encourage older adults (OA) to be physically active. Physical activity has been shown to reduce frailty and improve physical and cognitive functioning. Research has shown that barriers exist in the uptake and use of Fitbits among OA. We propose that providing tailored educational materials for Fitbit usage, for OA, may reduce these barriers. Evidence indicates the importance of tailoring educational materials for the target populations based on their needs, preferences, and concerns. The purpose of this research was to outline the development of a Fitbit user's manual tailored to OA, detailing what the wearable device is, how it works, and how older adults can benefit from Fitbit usage. **Methods:** We conducted a content review of the literature on barriers to wearable technology use in OA, needs and preferences of OA for tracking physical activity, and health literacy of print materials for technology. We thematically categorized key components necessary for OA to initiate and use the Fitbit. This draft underwent review by exercise physiologist, geriatrician, health literacy expert, and OA patients to provide feedback on design and content. The guide was then revised and will be evaluated by OA participating in a Fitbit usage trial. **Results:** Upon completion of the iterative process**,** a Fitbit manual was finalized for OA. The Fitbit Older Adult (FOA) guide consisted of six sections relevant to OA regarding wearable use: (1) Introduction to the device, (2) What can I do with it, (3) Privacy concerns, (4) Instructions for set-up, (5) Instructions for everyday use, and (6) Frequently asked questions. Design considerations that were employed included large print, easy to read font, instructions for set-up and goal-setting features including diagrams, and illustrative examples. Each instruction was coupled with real-world examples of OA using the Fitbit in daily life. The FOA guide will be further tested among OA to examine effectiveness in influencing use. **Conclusion:** We developed and tailored a FOA guide to improve Fitbit use among OA. Wearable activity monitoring technology was not designed specifically for OA which underlies many of the barriers to use. Creation of these type of guides may help overcome these barriers and assist OA with use.

C167

Advanced Age as a Risk Factor for Perioperative Complications and 30-Day and 90-Day Readmissions in Patients Undergoing Single Level Anterior Cervical Discectomy and Fusion

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Background

It has been well-established that advanced patient age brings greater risk of perioperative complications in Acute Cervical Discectomy and Fusion (ACDF) surgery. What remains unsettled is the characterization of this age-complication relationship and at which age should ACDF be avoided due to unacceptable risk.

Objectives:

To assess perioperative complication rates and readmission rates following ACDF in a patient population of advanced age (≥75 years old).

Methods:

This is a retrospective analysis of patients 18 years of age and older who underwent elective single-level ACDF were identified in the Healthcare Cost and Utilization Project-Nationwide Readmission Database (HCUP-NRD) and stratified into four age cohorts: 18-39 ("young"), 40-64 ("middle"), 65-74 ("senior"), and 75+ ("elderly") years of age. For each cohort, the perioperative complications, frequency of those complications, and number of patients with at least one readmission within 30 and 90 days of discharge were analyzed. Chi-squared tests were used to calculate perioperative complications and 30- and 90-day readmissions.

Results:

There were 1174 "elderly" patients in 2016, 1072 in 2017, and 1010 in 2018 who underwent ACDF. Their rate of any complication was 8.95%, 11.00%, and 13.47% respectively (P<.0001), with dysphagia and acute-posthemorrhagic anemia being the most common across all three "elderly" cohorts. They experienced complications at a greater frequency than their younger counterparts (15.06%, P<.0001; 16.98%, P<.0001; 21.68%, P<.0001). They also required 30-day and 90-day readmission more frequently (P<.0001).

Conclusion:

Our study suggests that readmission and complication rates following ACDF increase with advancing age. Future studies should investigate for the presence of an inflection point in the form of a specific age at which single-level ACDF becomes contraindicated.

C168

Condolence Expressions After the Death of a Patient: An International Survey

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Background:

There is a paucity of studies on expressions of condolence, specifically during the COVID-19 pandemic. For this study, "condolence expression" was defined as a communication between a physician/clinician and a family member or loved one of a patient who has died, but not death notification.

Methods:

This study utilized an investigator developed survey sending anonymous links by email and on Twitter.com. Data were compared using Chi-Square.

Results:

Of 127 respondents, 67% female, from 23 states, Canada and UK, 49% had >15 years of experience, 85% were attending physicians, 98% reported ≧1 patient had died in their care in the last year, while 15% reported loss of over 10 patients per month. Common methods of often or always offering condolences were personal letters (25%, 12% respectively) and phone calls (44%, 23%).

Most (67%) reported no change in how often they contacted families during the pandemic, while 24% reported frequency had slightly/strongly increased. Few (25%) reported formal condolence training, with 50% being very and 27% moderately comfortable talking to families after a patient died, and 26% were not at all, 28% slightly interested in receiving condolence expression education.

Barriers to expressing condolences were time (64%), afraid family will be upset (19%), unsure of what to say (19%), legal reasons (10%), no training (9%), and no personal relationship (9%). Finally, 86% reported that condolence calls went better than expected.

Female respondents (vs male) reported equivalent levels of being very or moderately comfortable talking to families after a patient dies (76% vs 78%, p=0.85); calling by phone often or always more (70% vs 63%, p=0.68) and often or always sending personal letters significantly more (45% vs 20%, p=0.02)

Younger (vs older, over 40 years) reported equivalent levels of being very or moderately comfortable talking to families after a patient dies (72% vs 78%, p=0.79), equivalent phone calls (64% vs 69%, p=0.68) and fewer personal letters (27% vs 42%, p=0.91).

Conclusion: Condolence expressions are, as a respondent stated, "uncomfortable and difficult but really needed both for the family and physician." Although few requested training, a suggested policy of protected time might help ensure that families and their providers have a sense of closure and peace after the loss of a patient or loved one.

C169

Factors Associated With Disability Over 6 Months After COVID Hospitalization Among Older Adults: the VALIANT Study

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Background: Mortality from COVID increases with age, but most older adults survive. Little is known about disability after COVID hospitalization.

Methods: We enrolled 341 adults ≥60 years during their index COVID hospitalization between 7/2020-6/2021 from 5 hospitals. Participants underwent assessment of baseline (pre-hospital) disability, frailty, general health, social support, hearing, vision, mental health, & in-hospital symptom burden and cognitive function. Assessments were linked to health record data, including comorbidities, SOFA score, biomarkers, respiratory support, & COVID-specific treatments. Disability in 15 functional activities was assessed again at 1, 3, and 6 months. The primary outcome was mean disability count over 6 months after discharge. The analytic sample included 304 participants with ≥1 post-discharge follow-up. We evaluated 27 factors for their association with the primary outcome using backward selection with a zero-inflated negative binomial distribution & adjustment for baseline disability & months of follow-up.

Results: Mean age was 71.2 yrs (SD 8.5); 52% were women and 36% of nonwhite race or Hispanic ethnicity. Mean baseline disability count was 2.2 (SD 3.4). Mean disability count over the 6 months after discharge was 2.9 (SD 3.7). Greater baseline disability, older age, higher BMI, higher comorbidity count, cognitive dysfunction, greater symptom burden, and need for advanced respiratory support were associated with greater post-hospitalization disability (Table).

Conclusions: Baseline vulnerability factors as well as in-hospital symptom burden, cognitive dysfunction, and advanced respiratory support were associated with increased disability after a COVID hospitalization. There was no association with COVID-specific treatments or biomarkers. These factors may identify older adults with the most potential to benefit from efforts to improve functional recovery.

Table. Descriptive characteristics, unadjusted associations, and adjusted associations of factors associated with disability over the 6 months after a COVID hospitalization among older adults (N=304)

Characteristic	Descriptive statistic mean±SD or n(%)	Unadjusted rate ratio (95% CI)	Adjusted rate ratio (95% CI)
Age (years)	71.3 ± 8.5	1.03 (1.02, 1.03)	1.02 (1.01, 1.03)
Body-mass index (kg/m²)	31.1 ± 6.8	1.00 (0.99, 1.01)	1.01 (1.00, 1.02)
Disability in functional activities (range, 0-15)	2.2 ± 3.4	1.13 (1.11, 1.15)	1.10 (1.08, 1.12)
Comorbidities (range, 0-22)	6.2 ± 4.8	1.06 (1.04, 1.07)	1.04 (1.03, 1.06)
Vision impaired	43 (14.3)	1.50 (1.19, 1.90)	1.19 (0.99, 1.43)
Cognitive impairment (MoCA <22)	105 (42.2)	1.15 (0.93, 1.42)	1.22 (1.06, 1.42)
Symptom burden (range, 0-14)	8.7 ± 3.0	0.97 (0.94, 1.00)	1.03 (1.00, 1.05)
Need for high-flow nasal cannula, non-invasive positive pressure ventilation, or mechanical ventilation	48 (15.7)	1.30 (1.02, 1.67)	1.74 (1.38, 2.20)

C170

Attitudes Toward Deprescribing among Older Adults with Dementia in the US

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Background: People with dementia (PWD) take medications that may be unnecessary or harmful. This problem can be addressed through deprescribing, but it is unclear if PWD would be willing to engage in deprescribing with their providers. Our goal was to investigate attitudes towards deprescribing among PWD.

Methods: This was a cross-sectional study of 422 PWD aged ≥65 years who completed the Medications Attitudes module of the National Health and Aging Trends Study (NHATS) in 2016. Proxies provided responses when a participant was unable to respond due to health or cognitive problems. Attitudinal outcomes comprised responses to 2 statements from the Patients' Attitudes Towards Deprescribing questionnaire and its revised version (representing belief about the necessity of one's medications and willingness to deprescribe); another elicited the maximum number of pills that a respondent would be comfortable taking. We used multivariable logistic regression to generate predicted probabilities of attitudinal outcomes, adjusting for sociodemographic and clinical factors.

Results: The weighted sample represented over 1.8 million PWD; 39% were 75 to 84 years old and 38% were 85 years or older, 60% were female, and 55% reported ≥6 regular medications. Proxies provided responses for 26% of PWD. Overall, 22% believed that they may be taking one or more medicines that they no longer needed, 87% were willing to stop one or more of their medications, and 50% were uncomfortable taking 5 or more medications. Attitudinal outcomes were similar across sociodemographic and clinical factors. PWD taking ≥6 medications were more likely to endorse a belief that at least one drug was no longer necessary compared to those taking <6 (adjusted probability 29% [95% CI, 22%-38%] vs 13% [95% CI, 8%-20%]; p=0.004); the same applied for willingness to deprescribe (92% [95% CI, 87%-95%] vs 83% [95% CI, 76%-89%]; p=0.04).

Conclusions: A majority of PWD are willing to deprescribe, representing an opportunity to improve quality of life for this vulnerable population.

C171

Nostalgia as mechanism underlying music engagement in dementia caregiving relationships

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Background: Music is used as a source of connection in dementia caregiving relationships, but little is known about the psychological mechanisms underlying the effects of music. In cognitively intact individuals, music triggers nostalgia, and nostalgia increases resilience.

However, it is unknown if music triggers nostalgia in people living with dementia (PLWD) or if nostalgia is triggered by music in the context of dementia caregiving relationships. To test the hypothesis that nostalgia is an underlying psychological mechanism explaining the effects of music engagement in dementia caregiving relationships, we analyzed data from 2 in-home qualitative studies.

Methods: We harmonized interviews, fieldnotes, and results from the Southampton Nostalgia Scale, which was used to frame the qualitative data in terms of participant nostalgia proneness. Interviews were transcribed and coded, yielding distinct codebooks. Codes related to music, memory, emotion, and nostalgia were abstracted for content analysis to identify participant descriptions of the interplay between music and nostalgia while listening to familiar music.

Results: 26 dementia caregiving dyads completed interviews and observations; 20 dyads completed the Southampton. 54% of the sample self-identified as non-white. Caregivers and PLWD showed high nostalgia proneness on the Southampton: mean score was 31.8 (+/- 10.6) for caregivers and 27.4 (+/- 11.0) for PLWD. Qualitative data demonstrated two themes. 1) music triggered nostalgia among PLWD and within caregiving relationships. For example, one PLWD cried when a song reminded her of her deceased father, and called them "happy tears," describing how it was good to remember him. 2) music triggered nostalgia among caregivers both within and outside of the caregiving relationship. For example, one caregiver used his "Alexa" to request big band songs when remembering the dances of his youth to immerse himself in a memory.

Conclusions: Preliminary findings suggest that nostalgia functions as psychological mechanism underlying music engagement for both PLWD and caregivers.

C172

Impact of External Female Urinary Catheter Use on Routine Urine Test Results

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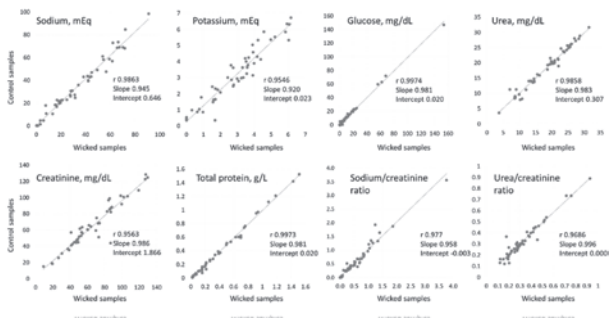
Background: Assess how urine chemistry tests are impacted by collection using a female external urinary catheter employing wicking and suction, to assess this catheter's potential as an alternative to transurethral catheters for collecting urine samples from incontinent patients.

Methods: Using 50 random 40 mL refrigerated specimens obtained from excess volume submitted to the Michigan Medicine Biochemical Laboratory, each sample was split into pairs to freeze until thawed to test: a 10 mL "control" sample simulating voided urine, and 30 mL "wicked" sample collected using a fresh PureWick system, simulating collection using this device for an incontinent patient. Each pair was tested for glucose, sodium, potassium, creatinine, urea, total protein, sodium/creatinine ratio, and urea/creatinine ratio.

Results: Control and wicked samples had very similar results for all values tested (see Figure) with very strong Pearson correlation coefficients ranging from 0.9546 (potassium) to 0.9974 (glucose).

Conclusions: Transurethral catheters, which increase the risk for infection and urethral injury, are often used to collect urine specimens from incontinent patients. This study's results demonstrate that using a PureWick external catheter use does not impact common urine chemistry results. Thus, this device can be considered as an alternative to a transurethral catheter to collect urine chemistry specimens from incontinent women. Yet, larger studies are warranted, involving other external catheters, testing additional biochemical and microbiological parameters, and analyzing more samples from patients with medical conditions whose disease or treatments may influence urine contents, such as diabetes, heart failure, and renal failure.

Figure. Correlation of sodium, potassium, glucose, urea, creatinine, total protein in 50 samples, before and after wicking



C173

Impact of Left Ventricular Assist Device Implantation on Frailty

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Background: Heart failure has a significant impact on the functional capabilities of patients, ultimately leading to frailty. The use of left ventricular assist devices (LVAD) is acceptable as a destination therapy as well as bridge-to-transplant in heart failure management. However, its impact on the improvement of frailty is a subject of research. We aim to determine if frailty and pre-frailty status were reversible in patients undergoing LVAD implantation by using the Clinical Frailty Scale (CFS).

Methods: A retrospective analysis was conducted on all adult patients that underwent LVAD implantation at a large academic tertiary hospital from May 1, 2018, to Nov 30, 2020. Frailty status was calculated using CFS as follows: fit (CFS1-3), prefrail (CFS4), frail (CFS5-9). Geriatrics fellows trained in evaluating frailty reviewed the EMR documentation of functional status, activities of daily living, instrumental activities of daily living, and exercise tolerance by physical/occupational therapists, physicians, and nurses. We used the CFS app on iOS for consistency. Mean CFS scores before LVAD implantation (baseline) were compared to mean scores at 6 months (mo) and 12 mo with Wilcoxon signed rank-sum tests.

Results: The median age of the patients was 66.0 years. Of the 45 patients studied, 18, 24 and 3 were frail, pre-frail, and fit at baseline respectively. Of the 18 frails, 14 survived to 6 mo and 10 to one year. Of the 24 pre-frail patients, 21 survived to 6 mo and one additional patient was lost to follow up at 12 mo.

Table 1 shows the # of patients that encountered changes in their frailty scores after LVAD implant and the CFS scores changes.

	# (Baseline vs 6 mo mean CFS scores)	# (Baseline vs 12 mo mean CFS scores)
Frail	10/14 (5.2 ± 0.6 vs 4.1± 0.9, p=0.004)	17/21 (4.0 ± 0.0 vs 3.33 ± 1.0, P=0.003)
Prefrail	8/10 (5.1 ± 0.3 vs 3.9 ± 0.9, p=0.01)	16/20 (4.0 ± 0.0 vs 3.5 ± 1.1, P=0.016)

Conclusion: Significant improvements were seen in frailty status after LVAD implantation for patients who were frail or pre-frail at baseline.

C174

Clinical care targets for an aging HIV population

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Background Patient-centered geriatric care rather than infectious disease-focused care may be key to improving health outcomes for older people living with HIV (PLWH).

Methods In Medicare claims (Part A, B, D; 2014-16) for people aged 50+ years, continuously enrolled in 2014 and until an event of interest, we measured: prevalent geriatric conditions (dementia, depression, falls, hip fracture, sensory deficits, osteoporosis, hypotension, incontinence, frailty, polypharmacy). We used Cox proportional hazards to examine the association of geriatric conditions with AIDS-related outcomes (2015-16) (cytomegalovirus, candidiasis, peripheral neuropathy, lipodystrophy, cachexia, Kaposi's sarcoma, pneumocystis jirovecii pneumonia), non-AIDS-related outcomes (kidney disease, hepatitis C, liver disease, myocardial infarction, stroke) and healthcare utilization (hospitalization, nursing home (NH) admission, home health (HH) admission) adjusting for sociodemographics.

Results Of 10,837 PLWH, the majority were male (74%), with a mean age of 61 years (standard deviation [sd] 8). Half had polypharmacy (51%), 45% were frail or pre-frail, and 21% had depression. In 2-years followup, 9% had any AIDS-related outcome and 24% had any non-AIDS related outcome. Hospitalizations were common (30%), NH (8%) and HH (10%) use was not. Independent predictors of AIDS-related outcomes were dementia (HR 1.5 95% CI [1.1-2.0]), and frailty (HR 2.4 [1.9-3.0]). Independent predictors of non-AIDS-related outcomes were falls (HR 1.2 [1.0-1.5]), frailty (HR 1.8 [1.6-2.1]), and depression (HR 0.9 [0.8-0.9]). Independent predictors of hospitalizations were dementia (HR 1.2 [1.0-1.4]), depression (HR 1.1 [1.0-1.2]), falls (HR 1.2 [1.1-1.4]), sensory impairment (HR 1.2 [1.0-1.4]) and frailty (HR 4.6 [4.1-5.1]). Independent predictors of NH admission were dementia (HR 2.1 [1.7-2.7]), falls (HR 1.8 [1.4-2.2]), and frailty (HR 4.6 [3.7-5.7]). Independent predictors of HH admission were osteoporosis (HR 1.3 [1.0-1.6]), frailty (HR 4.5 [3.7-5.4]), and polypharmacy (HR 1.4 [1.2-1.6]).

Conclusion Prevalence of geriatric conditions and non-AIDS-related outcomes suggest that a holistic geriatric assessment and treatment approach may be critical to optimizing care of aging people with HIV.

C175

A 20-year Analysis of Older Seriously ill Surgical Patients

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Background

Approximately 40% of inpatient surgeries are performed on older adults, many who are seriously ill (SI). Little is known about the characteristics of older seriously ill surgical patients and the most common surgeries they undergo. Our objective was to assess the demographics and prevalence of the most common surgeries performed on SI surgical patients in a nationally representative dataset over a period of 20 years.

Methods

Using the Health and Retirement Study (1998-2018), linked to Medicare claims, we identified subjects aged 66 or older with an admission for Major Surgery (AHRQ definition) and at least 12 months continuous of Medicare fee-for-service data. We then limited the sample to those with serious illness using an established definition.

Results

During the study period, we identified 15,087 admissions where patients underwent major surgery. 9,717 (64.4%) had serious illness. Among those with SI, the mean age was 77 years; 52.3% were female and 11.8% were admitted for trauma. 47.1% were pre-frail and 13.3% moderate to severely frail; 52.7% had oxygen dependent COPD; 46.7% had CHF requiring at least one hospital or ED visit 6 months prior to surgery; 15.0% had end stage renal disease; 16.4% had dementia with impaired daily function; 5.9% had severe trauma. Overall, the most common surgeries were percutaneous coronary angioplasty (n=456); wound debridement (n=221) in general surgery; total knee replacement (n= 446) in orthopedics surgery, and open reduction and fixation of femur (n=252) in trauma admission.

Conclusion

To our knowledge, this study is among the first to describe the demographics and most common surgeries among SI surgical patients. Further research is needed to delineate postoperative outcomes, and health trajectories to inform clinical decisions.

Key words: Seriously ill, Surgery, older adults.

C176

Needs For Food, Medicine, and Mental Health Services Among Vulnerable Older Adults During Covid-19 Pandemic

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Background: The COVID-19 pandemic has exacerbated multiple barriers to healthcare for vulnerable seniors. They may experience more difficulties in meeting their basic needs for food, medicine, and social support. The objective of the project was to connect with seniors to show our care, to assess food security, medication possession, mental health, and to refer those needing services to appropriate providers. Methods: Using a computer-assisted telephone interview (CATI) approach, we called patients served by our primary care providers from April to December 2020. The CATI assessed their mental health by Personal Health Questionnaire-2 (PHQ2) and General Anxiety Disorder-2 (GAD2). The California Health Place Index (HPI) was used to measure social determinants of health associated with community resources. Descriptive analyses examined the proportion of patients needing follow-up services and being referred to services to address food insecurity (if had <3 days of food), medication needs (if had <30 days of medicine), and mental health services (PHQ2>2 or GAD2>2). Multivariable logistic regression analyses examined demographic and health factors associated with the odds for needing and being referred for follow-up services. Results: Of 1921 respondents, their average age was 76 years (SD11). 52% female and 48% non-female (including male, transgender, and other); 74% White, 7% Asian, 7% Hispanic, 3% Black, and 8% other. Medication needs existed among 595 (31%) patients, 196 (10%) faced food insecurity, and 292 (15%) needed mental health services. Regression results suggest, Blacks (OR1.86, $p<0.05$) had higher odds of being at risk of medication shortage than Whites; Blacks (OR2.30, $p<0.05$) and Hispanics (OR 2.30, $p<0.05$) had significantly higher odds of food insecurity than Whites. Higher odds for food insecurity referral were found among non-females (OR7.56, $p<0.05$) and Blacks (OR10.33, $p<0.05$). Blacks (OR13.34, $p<0.05$) and those living in 2nd quartile of HPI (OR2.57, $p<0.05$) had higher odds for mental health referrals. Conclusions: Significant disparities existed across gender, race, and community resource groups in need for food, medications, and mental health services. Findings underscore the imperatives for health and social services organizations to systematize outreach and follow-up services for vulnerable seniors.

C177

Essential, but still an afterthought: Evaluating Home Health Agency & Professionals Responsiveness to Safety Threats During COVID-19 in Older Adults Care Transitions

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Background: Home Health (HH) agencies are in a unique position to identify and address patient safety risks during the COVID-19 pandemic. National pandemic-related guidance has primarily focused on hospital or institutional settings. HH agencies need guidance that address patient safety during hospital-to-HH care transitions in the COVID-19 era. Objectives: Elicit novel threats to patient safety during care transitions and identify emerging HH agency best practices in two geographic areas impacted differently by the pandemic.

Methods: Qualitative study using semi-structured interviews of HH staff and front-line providers (nurses, rehab therapists) at two agencies (Baltimore, MD and New York City, NY). Interviews were audio-recorded and transcribed verbatim. At least two researchers independently coded each transcript using a content analysis approach. We used ATLAS.ti to facilitate data analysis.

Results: 34 participants (25 staff and 9 front-line providers) at the two sites were interviewed. Novel safety threats to care transition safety included lack of Personal Protective Equipment (PPE) access, increased acuity of patients, less patient/caregiver training prior to hospital discharge, staffing shortages, and lack of reimbursement for telehealth visits. Best practices included collaboration between healthcare institutions, implementation of COVID-19 messaging, increased frequency of staff meetings, screening of patients' medical information, and PPE strategic allocation. Participants reported feeling that more attention was needed to value the essential nature of these services.

Conclusions: We identified novel threats to older adults' safety in care transitions during the pandemic, and best practices for how HH agencies and providers adapted to these threats. Study findings will guide the development and dissemination for HH agencies by improving care for older adults during hospital-to-home care transitions.

C178

Success of Deprescribing in Medicare Enrollees Experiencing Hyperpolypharmacy

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Background

Twelve percent of older adults take 10 or more medications a week. Hyperpolypharmacy has many disadvantages including increased pill burden, risk of adverse events, and mortality among older adults. SCAN Heath Plan is a Medicare Advantage plan that works with Medical Groups (MG) to provide care for members. In efforts to reduce hyperpolypharmacy risk, SCAN sent reports to contracted MGs listing which members had hyperpolypharmacy. The purpose of this study was to assess the proportion of members still experiencing hyperpolypharmacy 4 months later.

Methods

Hyperpolypharmacy was defined as filling 10 or more chronic medications, excluding antibiotics and topicals. Members must have remained enrolled with SCAN during follow-up.

Results

There were 17,448 members with hyperpolypharmacy. Average age was 74 (SD 9.2) and 58% were female and 42% were male. The majority were Caucasian/White (38%), 24% Hispanic/Latinx, 17% declined to report, 5% Asian, 4% African American/Black, and 12% Mixed Race, other, or unknown.

At follow-up, 63% no longer had hyperpolypharmacy. The proportions were similar across race/ethnicities with a slight reduction in members who are African American/Black (65% of Hispanic/Latinx, 64% of Caucasian/White, 64% of Asian, and 60% of African American/Black members). By gender, 65% of females and 61% of males no longer had hyperpolypharmacy.

Conclusions

High proportions of members no longer had hyperpolypharmacy. There were several potential reasons why the report worked well in reducing hyperpolypharmacy. First, reports included prescriber-specific data of their proportion of members with hyperpolypharmacy, allowing outreach to specific providers. Second, suggestions for deprescribing opportunities were included when applicable (e.g. proton pump inhibitor (PPI) use > 12 weeks, use of drugs that increase fall risk, and other high-risk medications). Third, this report is sent quarterly (this study looked at one report) and allows MGs and prescribers to track hyperpolypharmacy metrics. During the same time period, prescriber-level faxes were sent encouraging deprescribing for members on both a DPP-4 inhibitor and GLP-1 agonist, with chronic PPI use, and those using drugs that increase fall risk, which may have contributed to the results seen. There was a slight disproportion in African American/Black and male members, requiring more evaluation.

C179

A Qualitative Assessment of Patient and Caregiver Experiences with a Virtual Memory Care Program

H. Bundy, L. Frazier, J. M. Woodward, T. Liu, Y. J. Taylor, W. Rossman, D. A. Mangieri. *Atrium Health, Charlotte, NC.*

BACKGROUND A burgeoning literature on dementia-related telehealth in the U.S. has found virtual care to be a technologically viable and broadly accepted modality for the treatment and diagnosing of people living with dementia (PLWD). In rural counties, where dementia care is either limited or lacking completely, access to virtual care is of paramount importance for memory patients and their caregivers. While several studies have sought to ascertain the feasibility and effectiveness of remote dementia care in rural settings, questions of how rural patients and caregivers use, negotiate, and experience virtual care have gone largely unexplored.

METHODS Semi-structured interviews were conducted with 10 PLWD/caregiver dyads (n=20) receiving services through a virtual memory care program. Themes, summative propositions used to make sense of and connect recurring ideas in the interviews, provided a framework to understand the commonalities and differences within and among interviews.

RESULTS The virtual clinic provided caregivers—often individuals with no previous care experience, suddenly saddled with the responsibilities of dementia care—with convenient and accessible memory care. Patients did not always believe they needed memory care, and often attended virtual memory clinic appointments grudgingly. Caregivers, by constrast, were eager to have a space to talk candidly with providers about the difficulties of caring for a loved one experiencing memory loss. During these remote appointments, many caregivers felt that they were finally being heard, as patients often did not recognize the severity of their own disease, and local primary care providers were frequently unable to discern initial signs of cognitive decline. In the virtual clinic caregivers felt validated, as their long-held suspicions were usually corroborated by clinic staff.

CONCLUSIONS Competing understandings and rivalling needs within PLWD/caregiver dyads may often inform an individuals' experience of remote memory care. Qualitative data collection can reveal how decisions of care are made and contested. Understanding the interpersonal dynamics inherent in managing memory problems in a rural setting is of the utmost import when implementing effective and sustainable remote care.

C180

Perceived Roles of Community Dwelling Multimorbid Older Adults in Medication Safety

K. M. Daniel,[1] F. Jallow,[1] E. Stehling,[1] Z. Sajwani,[1] A. Espinoza,[2] K. Fulda,[2] Y. Xiao.[1] *1. The University of Texas Arlington College of Nursing and Health Innovation, Arlington, TX; 2. Family Medicine, University of North Texas Health Science Center, Fort Worth, TX.*

Background:

Understanding perceived roles in medication safety may provide insights into risk factors ameliorable through education and process redesign. Medication related harm in primary care is high with estimated 700,000 emergency department visits and associated $0.8-1.8 billion in cost. We conducted a qualitative study to learn about perceived roles in medication safety of community dwelling multimorbid older adults taking 5 or more medications/day.

Methods:

Community dwelling older adults age 65 and over from 2 primary care clinics and an independent living facility who were prescribed 5 or more daily prescriptions were recruited for virtual interviews. Semi-structured interview questions included the topic of self-perceived roles in medication safety.

Results:

Seven of the 29 participants spoke Spanish with a mean age of 74.5 years (SD 6.9). Nine were men. The mean number of daily medications was 8 (SD 2.9). Reading materials provided at pharmacies or clinics was the main active role mentioned, while most participants perceived their roles in medication safety as passive. They described avoiding asking questions of doctors or pharmacists, even if they had doubts. They trusted that different providers communicated and coordinated drug therapies, maintained accurate records of medication histories, and prescribed in age appropriate ways. They trusted pharmacists and prescribers to prevent drug-drug interactions, to select mail order pharmacies for long-term medications and local pharmacies for short-term medications. They were not concerned with drug interaction, side effects, or dispensing errors. Participants seldom had questions about their medications for their PCP. One example quote is "She knows what I'm taking. I don't take [medications] with me [to visits]."

Conclusions:

Older adults perceive mainly passive roles in medication safety and rely on prescribers and pharmacists to maintain accurate medication information to prevent medication related harms. Prescribers should encourage patients to ask questions to understand their medications, since many patients do not question their understanding - which could be incorrect and contribute to harm. Prescribers and pharmacists should be aware of the perceived roles of older adults in medication safety.

C181

Factors That Influence Physical Activity in Hospitalized Patients with Dementia

B. Drazich,[1] A. Kuzmik,[3] E. Galik,[1] M. Boltz,[3] b. Resnick.[2] *1. School of Nursing, University of Maryland Baltimore, Baltimore, MD; 2. University of Maryland, Baltimore, MD; 3. School of Nursing, The Pennsylvania State University - University Park Campus, University Park, PA.*

Introduction: Despite current recommendations, hospitalized older adults, particularly those with dementia, continue to spend little time engaged in physical activity when hospitalized. The purpose of this study was to 1) describe activity among hospitalized older adults with dementia and 2) test the association between specific factors (age, gender, race, cognitive status, comorbidities, baseline function, quality of care interactions, admission diagnosis, and hospital setting) and their physical activity.

Methods: This was a descriptive study utilizing baseline data on the first 155 participants of a randomized clinical trial testing the impact of Function Focused Care for Acute Care using the Evidence Integration Triangle (FFC-AC-EIT). This study's major outcome variable of physical activity was based on accelerometry data (MotionWatch8) over the first 24 hours of admission. Three regression models were tested using linear regression and the stepwise approach.

Results: The 155 participants had a mean age of 83.5 years old, were 67.7% female, and 65.2% white. The participants spent an average of 1.3% of time in vigorous activity, 3.9% of time in moderate activity, 14.7% of time in low activity, and 80.1% of time in sedentary activity during the first 24 hours of hospitalization. Less cognitive impairment was associated with greater moderate activity (b=-93.408, p=.007) and better baseline mobility was associated with greater low activity (b=-949.453, p=.049). Alternatively, we found that higher age (b=189.350, p=.047), worse baseline mobility (b=2371.364, p=0.004), and non-white race (b=6705.916, p=<0.001) were associated with sedentary behavior. The examined factors for the moderate activity, low activity, and sedentary behavior models only explained 15%, 8%, and 22% of the variance respectively.

Conclusions: The findings from this study support the limited time spent in activity for older adults with dementia when hospitalized. This research highlights patient profiles that are particularly vulnerable to sedentary behavior in the hospital and should be identified for activity interventions. Future research should consider other factors such as providers' racial bias, COVID-19 related health professional staffing shortages and burn out, and patient motivation.

C182

Association between dyadic reports of wellbeing, depression and anxiety

N. R. Fowler,[1,2] M. Schroeder,[2] A. J. Perkins,[1] S. Park,[1] T. Bakas,[3] K. R. Head,[4] M. Boustani.[1,2] *1. Medicine, Indiana University School of Medicine, Indianapolis, IN; 2. IU Center for Aging Research, Indianapolis, IN; 3. College of Nursing, University of Cincinnati, Cincinnati, OH; 4. Communication Studies, Indiana University-Purdue University Indianapolis, Indianapolis, IN.*

Background: The involvement of family members (FM) in the health, wellbeing, and care of older adults is a common phenomenon. The Theory of Dyadic Illness Management proposes that dyads, such as spouses or parent-child, experience illness as an interdependent team and that the health of the dyad covaries. This study applies that theory to early identification of Alzheimer's disease and related dementias (ADRD) in older adults and measures the relationship of wellbeing in dyads of older adult primary care patients and FM who are participating in a large ADRD screening trial.

Methods: Baseline data from 1809 dyads enrolled in a RCT testing the benefits, risks, and burdens of ADRD screening on FM of older adults. FM outcomes include depression, anxiety, overall mental health, caregiver preparedness, and caregiving self-efficacy. Patient measures include functional status, depression, anxiety, and overall mental health. Linear regression to assess the relationship of FM caregiver preparedness score and caregiving self-efficacy score with FM depression, anxiety and mental health while adjusting for other FM and patient characteristics.

Results: Patient mean (SD) age is 73.7 (5.7) years; 53.1% women; 85.1% white; 13.4% black 1.2% Hispanic. FM mean (SD) age is 64.2 (13) years; 67.7% women; 13.4% black 0.8% Hispanic. 64.8% of FM are a patients' spouse/partner. After controlling for patient and family characteristics, increased FM age is associated with less FM anxiety measured by GAD-7 (p<0.05), depression measured by

PHQ-9 (p<0.001), and overall increased mental health measured by SF-36 MCS (p<0.001). Higher patient depression is associated with lower ratings of FM overall mental health (p=0.05) and higher ratings of FM caregiving self-efficacy are associated with less family member anxiety (p<0.001), depression (p<0.001), and overall increased mental health (p<0.001). More caregiver preparedness is associated with overall increased FM mental health (p<0.05).

Conclusion: In dyads participating in an ADRD screening trial, FM mental health and wellbeing covaries and is associated with patient depression, FM characteristics (age, education, income) and caregiving self-efficacy/preparedness.

C183

Unexpectedly High One-Year Mortality Rates in Patients Readmitted from SNF

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Background: Flum published that 26% of Medicare patients who are discharged from acute care hospital to SNF (Skilled Nursing Facility) die within 1 year of hospital discharge. If the patients were readmitted to the hospital from SNF, the mortality rate was 48%. However, there is little discussion of the poor prognosis for patients who require a SNF stay after hospital discharge. In order to validate the high mortality rate in our patient population and guide prognostication, we aim to identify key patient characteristics contributing to these high mortality rates.

Methods: Retrospective study of administrative billing data from an accountable care organization cohort of 847 patients aged >=65 who were discharged from hospital to SNF in 2019. Data analyzed included age, sex, length of stay in hospital and SNF, admission events, Medicare attribution reason, and date of death. Unique patient data were sorted into four categories based on readmission and mortality status within 400 days from hospital discharge. Major Diagnostic Category (MDC) was added for each encounter based on hospital Diagnosis Related Group (or admission diagnosis). The majority of patients (n=570) fell into four MDC groups. Mortality rates in readmitted vs non-readmitted patients were analyzed with chi-square testing.

Results: Within the four MDC subgroups, 65% were female and average ages ranged from 77 to 86. The table displays mortality rates in four MDC groups based on readmission status.

Conclusions: Patients with readmission to hospital within 30 days of discharge to SNF have nearly a three-fold higher one-year mortality rate for our most prevalent MDCs except for the circulatory group. These findings support the recommendation for hospitalists to focus on goals of care discussions with these vulnerable older adults prior to discharge to SNF, especially for readmitted patients. Future study is needed to better understand factors contributing to these mortality rates.

	No readmission to hospital within 30 days of discharge to SNF			Readmission to hospital within 30 days of discharge to SNF		
Major Diagnostic Category (MDC)	One year Mortality (n)	Hospital admissions (n)	Mortality Rate (%)	One year Mortality (n)	Hospital admissions (n)	Mortality Rate (%)
MDC 01 CNS (n=111)	18	95	18.9	9	16	56.3*
MDC 05 Circulatory (n=133)	30	91	33.0	16	42	38.1
MDC 08 Musculoskeletal (n=216)	27	192	14.1	9	24	37.5*
MDC 18 Infectious (n=110)	19	82	23.2	17	28	60.7*

*denotes p<= 0.04

C184

Is hospitalization an influential event for increasing long-term use of psychotropics among people with dementia?

M. E. Growdon,[1] S. Gan,[1] W. J. Boscardin,[1] A. Lee,[1] T. Anderson,[2] U. Muench,[3] K. Yaffe,[4] M. Steinman.[1] *1. Division of Geriatrics, University of California San Francisco, San Francisco, CA; 2. Division of General Medicine, Beth Israel Deaconess Medical Center, Boston, MA; 3. School of Nursing, Dept. of Social and Behavioral Sciences, University of California San Francisco, San Francisco, CA; 4. Depts. of Neurology, Psychiatry, Epi. & Biostats., University of California San Francisco, San Francisco, CA.*

Background: Psychotropic medications are often used to treat behavioral symptoms of dementia despite adverse outcomes and limited efficacy. Hospitalizations among people with dementia (PWD) are frequent, but the extent to which they contribute to long-term use of psychotropic drugs is unknown.

Methods: We used a 5% random sample of adults with traditional and Part D Medicare to assemble a cohort of PWD age ≥66 hospitalized from 7/1/2017 to 6/30/2018. We examined new use of psychotropic drugs post-discharge (i.e., from classes not used in 180 days prior to admission), defined as new fills of antipsychotics, sedative-hypnotics, antidepressants, or antiepileptics within 7 days of hospital or skilled nursing facility discharge. Prolonged use was defined as the proportion of new users who continued to fill newly prescribed drugs within 90–180 days of discharge. We used multivariable logistic regression to test associations between patient and hospital factors and post-discharge prescribing.

Results: The sample included 18,658 PWD with a mean age of 81 years; 64% were female. Prior to admission, 65% were using at least 1 psychotropic drug; 9% were using drugs from ≥3 psychotropic classes. These included antidepressants (used by 47% of PWD prior to admission), antiepileptics (26%, of which 20% were gabapentinoids), sedative-hypnotics (20%), and antipsychotics (12%). Post-discharge prescribing of new psychotropic drugs ranged from 1.9% (antipsychotics) to 2.9% (antiepileptics); 7% had at least one new class started. Prolonged use of newly prescribed drugs ranged from 35% (sedative-hypnotics) to 60% (antipsychotics) to 67% (antidepressants). Longer length of stay (≥median vs <median; aOR 1.6, 95% CI: 1.4-1.8) and delirium (aOR 1.6, 95%CI: 1.4-1.8) were associated with post-discharge prescribing of at least one new psychotropic drug.

Conclusions: Among hospitalized PWD, use of new psychotropics after discharge is relatively uncommon. Nevertheless, many psychotropics newly prescribed post discharge are continued long-term.

C185

Identification And Comparison Of Roles Among Older Adults, Family Caregivers And Home Health Providers During Post-Acute Care Transitions

S. Ho, C. Cai, S. Greyson, A. Arbaje. *Division of Geriatrics, Johns Hopkins Medicine, Baltimore, MD.*

ABSTRACT BODY

Background: Adverse events are common when older adults (OAs) transition between acute healthcare settings (hospital or skilled nursing facility, SNF) and home, particularly when skilled home healthcare (HH) services are required. Role ambiguity—lack of clarity regarding who is responsible for healthcare-related tasks—can be an important contributor to error. Objectives: 1) characterize roles of OA, family caregivers, HH providers during hospital- or SNF-to-home transitions, 2) identify contributors to role ambiguity, 3) evaluate instances of mismatched role expectations.

Methods: Qualitative study using semi-structured in-depth interviews of HH providers (nurse, rehab therapist) and OAs/caregivers receiving post-discharge HH services. We used the Systems Ambiguity Framework and the Omaha System of clinical terms

classification to guide analyses. Two researchers independently coded each transcript using a content analysis approach. Using ATLAS.ti to facilitate analyses, we identified recurring themes, compared OA's understanding of HH services to providers' self-reported roles, and identified instances of mismatched expectations of roles.

Results: We interviewed 23 pairs of OAs/caregivers and HH providers. Self-reported tasks by providers included 1) teaching, guidance or counseling, 2) contacting other healthcare providers regarding care plans, and 3) assessing safety in the home. OAs frequently recalled providers' role in counseling; OAs did not identify other provider roles. OAs felt lack of communication with inpatient providers contributed to role ambiguity. HH providers identified lack of caregiver support as a challenge. While some OAs expected HH providers to perform additional services; many were satisfied and reported that services exceeded their expectations.

Conclusions: HH providers most frequently conduct teaching, guidance, or counseling during care transitions. Lack of communication by inpatient providers and lack of caregiver support were noted as the most common challenging factors for OAs and HH providers, respectively. Study findings can guide hospital, SNF, and HH agency improvement efforts in expectation setting and service satisfaction to reduce adverse events in the post-acute period.

C186

CARES Act COVID-19 Telehealth Projects Sustainability

G. A. Hudgins, S. Ostertag. *College of Health, University of Montana, Missoula, MT.*

Background: In April 2020, the Montana Geriatric Workforce Enhancement Program (MGWEP) applied for CARES Act funding to use telehealth to prevent, prepare for, and respond to COVID-19. As a GWEP based in a College of Health with limited clinical facilities, MGWEP turned to its community partners to pursue this opportunity. The program ended April 30, 2020, and 18 months later MGWEP queried its partners to determine the sustainability of their projects.

Methods: A qualitative scripted telephone interview was used to determine the status of the telehealth projects. Each partner was asked about barriers to continuation, changes in project partners, funding, and individuals served.

Results: Five of the six projects are ongoing 18 months after the funding ended. Missoula Aging Services' Lifelong Connections provides wifi-enabled tablets, instruction and support to older adults to engage in telehealth and other uses. Ten participants have been added with plans to expand into rural areas; new partners added funding. Skaggs School of Pharmacy secured additional funding to continue use of a simulated EHR platform, training interdisciplinary student teams in a virtual environment. An additional 99 students and 21 instructors have participated in these events. MGWEP's two CHC partners used the funding to support the successful implementation of telehealth visits in their clinics. While the demand for telehealth medical visits has declined, the technology is still being used in behavioral health. The Montana Alzheimer's Association utilized the funding to engage 5 long-term care communities in Project Vital; each site received 2 wifi-enabled tablets for use by their residents. Three sites continued into a second year, but staffing issues may prevent continuation of the program. Mountain-Pacific Quality Health, Montana's QIO, attempted to recruit and train telehealth patient navigators to assist older adults. MPQH developed training materials but had difficulty recruiting individuals to complete the remote training. The project was discontinued after the MGWEP funding ended.

Conclusions: MGWEP had difficulty responding to the funding opportunity on short notice and with no direct access to clinical facilities. Our partners provided such access, but led to the question of sustainability of multiple projects. Four are successful with ongoing funding, one moderately so, and one did not continue. Depending on future opportunities that arise, MGWEP plans to involve its community partners.

POSTER SESSION D (STUDENTS & RESIDENTS)

Friday, May 13
2:45 pm – 3:45 pm

D1 Resident Presentation

Safe But Not Sound: Balancing Patient Safety and Autonomy

L. Appleton, M. Dale. *Internal Medicine, University of North Carolina System, Chapel Hill, NC.*

Case: An 82-year-old man with severe cervical and lumbar stenosis presented for progressive weakness over one week. He was seen previously by neurosurgery and decided that surgical intervention was not within his goals of care. He had been living at home with the support of home health and his wife but was brought in by EMS for inability to move from his wheelchair even with assistance. In the ED, he was again seen by neurosurgery and declined surgery. He conveyed understanding that without surgery, his condition would likely progress quickly. He expressed emotional and spiritual distress about hospitalization and that he wanted to be at home with time to tidy his affairs. He asked repeatedly to be discharged, but his wife stated that she could not help him into and out of the car. Given the unsafe nature of returning home, he was admitted for further planning. He was discharged days later with more durable medical equipment. A week later, he was readmitted despite restating his desire to go home. The next day, he entered hypercarbic respiratory failure, likely from diaphragmatic involvement of his spinal disease. He was transitioned to comfort care and died in the hospital.

Discussion: This patient presented with significant medical and social issues that pose a difficult but common ethical dilemma. Clinicians often use the Belmont Report and the Charter on Medical Professionalism as ethical frameworks, which agree that patient autonomy and welfare are essential pillars in patient care. However, they are challenged to balance these ideals with the needs of family members and patient safety. This is further complicated by feelings of being burdensome and caregiver burnout. As in this case, many patients are admitted in opposition to their autonomous desires as the conditions are clearly dangerous, which creates both an ethical and possibly legal challenge. In these instances, it is crucial for clinicians to remember and communicate that the goals of hospitalization are to help safely meet the patient's wishes, not to override their autonomy.

Conclusion: Caring for aging patients comes with many unique and sometimes competing challenges. Clear communication between patients, families and clinicians may help alleviate some of these issues, but often loss of autonomy is difficult to balance with safety concerns. This is further complicated by possible legal considerations, family dynamics, and lack of resources and flexibility within the healthcare system.

D2 Resident Presentation

Pancytopenia and Mushroom Supplement; An Under-Reported Adverse Event

m. baghal,[1] t. waykole,[1] P. Jandir,[1] M. Ibrahim,[1] A. Sarkar,[2] A. Lo.[1]
1. internal medicine, Palisades Medical Center, North Bergen, NJ; 2. Geriatric Medicine, Hackensack University Medical Center, Hackensack, NJ.

Mushroom supplements have been used throughout Asia for stimulating the immune system, treatment of infections. Ganoderma Lucidum has been used synergistically with chemotherapy for the treatment of cancer in Asia, with limited reports on immunosuppression as a side effect. Herein, we present a case of a 95-year-old male given a mushroom herbal supplement in order to boost the immune system with noted pancytopenia in his lab work.

A 95-year-old male patient presented due to altered mental status progressively worsening over the past 2 weeks. Prior to admission, he independently performed activities of daily living. The patient became

progressively confused and was only oriented to person, with reports of seeing insects crawling on the wall. The patient began taking an over-the-counter mushroom supplement to boost the immune system 3 weeks prior. On examination, vitals were unremarkable. The patient was found to have pancytopenia with WBC 3.5×109/L, Hgb 10.0g/dL, and platelet count 98,000/mL. His AST was 56 U/L, and his ALT was 149U/L. Laboratory data available from 3 months prior to this admission revealed WBC 7.3×109/L, Hgb 11g/dL, and platelet count 150,000/mL. The supplement was discontinued and the care team spoke with the family at length about stopping the supplement at home. 5 days after discontinuation of the supplement, the patient's mental status showed slight improvement. Repeat laboratory values demonstrated WBC 5.2×109/L, Hgb 10.2 g/dL and platelet count 106,000/mL.

Jung et al. reported four cases of aplastic anemia in one family after ingestion of G. Lucidum, 3 of them were admitted to a hospital due to fever and pancytopenia[3]. In three cases, a bone marrow biopsy showed hypocellularity. In our case, improvement of labs was noted 7 days after holding on admission. This reversible pancytopenia was also reported by Yoon et al as well [4]. The direct cause of immunosuppression remains unclear, but effects of immunosuppression were noted to occur 2-4 weeks after ingestion.

In lieu of the widespread use of mushroom supplements containing G. Lucidum and L. Edodes, we urge our readers to remain vigilant of a possible correlation between mushroom supplements and pancytopenia or drug-induced liver injury. More prospective studies and clinical trials are needed to understand the full spectrum of side effects of mushroom supplements.

D3 Resident Presentation
When the Challenges to Health Are So Loud, it's Deafening: A Case Report

A. Beard, D. Mohess. *Inova, Fairfax, VA.*

Language barriers often interfere with hospital care of the geriatric population. According to the US census, people who speak English less than "very well" make up 8.4% of the population. The non-English speaking population receives a lower quality of care based on several metrics such as understanding of treatment plans, patient satisfaction, and incidence of medical errors. Another common barrier is hearing loss. An estimated 26.8% of adults in the United States ages 60-69 have hearing loss and this number climbs to 55.1% in the 70-79 age group and to 79.1% after 80 years of age.

Mr. S was a 72-year-old man originally from Afghanistan, hospitalized with a T11 compression fracture after he fell down a flight of stairs. His problem list included dementia, severe hearing impairment and recurrent falls. He required a walker for ambulation but lived in a second floor apartment and used public transportation to run errands. He was under-insured, financially distressed, with limited access to food and medications.

Hearing impairment, moderate frailty, severe malnutrition, ambulatory dysfunction and cognitive impairment were identified geriatric syndromes by clinical assessment.

Severe hearing impairment limited the use of a telephone or video interpreter. Farsi was listed as his primary language in the electronic medical record but his preferred language was actually Dari. He was often labelled as demented, delirious, uncooperative or nonadherent to healthcare. This miscommunication led to inaccurate cognitive assessments, prevented his autonomy and goal concordant care as many providers deferred to his family instead of engaging him on what matters most. He was almost sent home again based on his family's wishes.

Once the patient's correct language was identified, an in-person interpreter was able to facilitate effective communication. The Age Friendly 4 M's framework was applied and he was able to express his needs, values and goals. He felt unsafe at home and requested discharge to a skilled nursing facility with the option for long term care to get basic needs met.

This case highlighted the interplay of the biopsychosocial model of health. Complex social dynamics can negatively impact healthcare cost, quality and safety. It is crucial to explore the social determinants of health, identify and mitigate barriers as we strive for clinical excellence and equitable care.

D4 Resident Presentation
Breaking the Mold: An Atypical Presentation of Exertional Dyspnea

D. Boccaccio, L. Farmer, M. Dale, D. Bynum, D. H. Lynch. *Internal Medicine, University of North Carolina System, Chapel Hill, NC.*

Case: A 79-year-old man with a history of HTN presented with two weeks of exertional dyspnea and productive cough. He was a lifelong nonsmoker with no chronic respiratory issues but noticed significant mold in his walls after roof damage led to water entry several weeks prior. Cross-sectional imaging showed central bronchiectasis with mucous impaction, and his serum IgE was elevated to 1864. He responded well to prednisone and was discharged with a presumptive diagnosis of ABPA. He re-presented with identical symptoms after completion of steroid taper. In the interim, his ABPA panel came back negative, as did AFB culture, allergen panel, and auto-immune workup. During this second hospitalization, his IgE rose to 2215, but symptoms and hypoxia again resolved with steroids, and he was discharged on a prednisone taper. Outpatient PFTs were inconsistent with asthma. Despite close follow-up with pulmonology and geriatrics, his diagnosis remains a mystery. Despite this, respiratory symptoms continued to improve on prednisone, ICS/LABA, and airway clearance.

Discussion: Allergic bronchopulmonary aspergillosis (ABPA) is a complex hypersensitivity reaction that responds to Aspergillus airway colonization. Classically ABPA presents with central bronchiectasis, elevated IgE, and wheezing in patients with asthma or cystic fibrosis. Rarely, alternate fungi have been implicated, termed allergic bronchopulmonary mycosis (ABPM). Treatment consists of systemic glucocorticoids for acute exacerbations, occasionally with antifungals; chronic management consists of inhaled glucocorticoids. This patient's robust response to steroids plus demonstrated mold exposure point to ABPM, but lack of predisposing pulmonary disease undermines this theory. For some older adults, the importance of symptom relief far outweighs the pursuit of a diagnosis.

Conclusion: Exertional dyspnea erodes quality of life. Suspicion for ABPA should be high for patients with suggestive history, as treatment quickly improves symptoms and functional status. Continued exploration is warranted for patients who do not fit neatly into a diagnosis but respond to its treatment. When a diagnostic search concludes unsatisfactorily, clinicians can take solace in reminding ourselves that the imperative to improve quality of life and physical function trumps the academic exercise of diagnosis.

D5 Resident Presentation
Loosing Control: An Atypical Presentation of Cocaine Ingestion in an Elderly Lesbian Female

H. Chaudhry, M. Ahmad. *Henry Ford Allegiance Health Psychiatry, Henry Ford Health System, Detroit, MI.*

Substance use has increased during the pandemic by 13%. There is variation in stimulant use among sexual minorities in the United States (US) per one study it was heterosexual (3.7%) and bisexual males (11.3%), and for heterosexual (1.8%), bisexual (4.8%), and lesbian women (6.3%). Per limited studies, lesbian and bisexual women reported significantly higher lifetime rates of ecstasy, cocaine, methamphetamine, and LSD use compared to heterosexual women.

To aid in the timely initiation of treatment in atypical populations, a case presentation of likely ingestion of fentanyl or synthetic-opioid contaminated cocaine in an elderly lesbian female.

Methods:

We used Pubmed, Scopus, and Web of Science using the keywords and search strategy {(cocaine+ fentanyl), (cocaine + bradycardia + hypotension), (cocaine + toxidromes), (fentanyl + toxidromes) (fentanyl + bradycardia + hypotension)} 383 articles found, (cocaine or fentanyl + mirtazapine) 17 articles found (Lesbian or sexual minority or LTBQ + cocaine) 21 articles were found, 9 combined all LTBQ+ people in analysis, 2 combined lesbian and bisexual women, and 1 separated people by the genders of their sexual partners

Case/Results:

A 72-year-old Caucasian woman who identifies a lesbian arrived with bradycardia, hypotension, respiratory alkalosis, metabolic alkalosis, GSC of 3, miosis, and urine toxicology positive for cocaine was intubated and then extubated after four hours. Electroencephalography, CT head, CTA head and neck, other laboratory studies were nonconcerning. EKG showed Qtc of 520ms with a normal transthoracic echocardiogram. No evidence of intentional overdose or medication non-adherence, and was continued on duloxetine 60mg and mirtazapine 30mg QHS for depressive symptoms.

Discussion:

Fentanyl-related respiratory depression peaks at 5 minutes and requires 4 hours to recover. Fentanyl can cause QTC-prolongation. Naloxone efficacy is inconsistent. Mirtazapine can have altered pharmacokinetics CYP3A4 with concurrent use of cocaine and fentanyl, but can potentially reduce anxiety and depressive-like behavior during cocaine withdrawal. With reportedly higher use of stimulants for lesbians and the increase of cocaine with fentanyl, this case hopes to help with an education gap so that timely management can occur and hopefully improved outcomes, especially as deaths from cocaine increase in the US and overall worse health outcomes for sexual minorities.

D6 Resident Presentation

The implementation of nonpharmacologic interventions to mitigate delirium in an older adult with multisensory deficits

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Case presentation: A 77 year old woman with monocular blindness, multifactorial deafness present since youth and associated communication impairment was admitted to the hospital for altered mental status and hyperkalemia after weeks of shortened outpatient dialysis runs. Infectious workup on presentation also revealed pneumonia. During her admission electrolyte abnormalities normalized with regular dialysis and she completed a course of antibiotics for pneumonia. Despite this, her altered mental status persisted in a waxing and waning pattern concerning for delirium. Given communication barriers related to her sensory deficits, redirection was limited during episodes of agitation and she required antipsychotics and restraints. On hospital day seven, geriatrics was consulted and implemented nonpharmacologic interventions to mitigate her delirium. While a white board had been used for communication, a series of printed questions and a calendar were kept at her bedside table to assess mood, pain and orientation. Clear masks were provided to her care team in an effort to facilitate lip reading. A sign with her name was placed on her door to orient her back to her room after walking the halls or returning from dialysis. Finally, family was encouraged to bring in her glasses, photos and knitting needles and to visit regularly to provide familiar conversation partners. With these interventions, mentation improved and she was able to discharge home.

Discussion: Delirium is common in hospitalized patients as one third of adults older than 70 develop the condition. Predisposing and precipitating factors contribute to one's risk of developing delirium. Predisposing factors include one's age, baseline cognition and the presence of sensory deficits like vision or hearing loss, while precipitating factors include infection, electrolyte abnormalities and medications. Delirium can be costly as it may increase length of stay, change discharge disposition and prolong recovery. Because of this, it is important to identify and manage delirium early, with a focus on implementing multicomponent, nonpharmacologic interventions like improved environment, regular reorientation and enhanced sensory support.

Conclusion: Individuals at high risk for delirium because of age or sensory deficits should be identified as early as possible during a hospital admission in an effort to implement interventions to prevent delirium.

D7 Resident Presentation

Not just delirium: A case of steroid-induced psychosis

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Background: Delirium is a common cause of hospital admissions in older adults. However, other conditions can present similarly to delirium. It is necessary to have a broad differential of altered mental status in older adults to avoid premature diagnostic closure. Here we present a case of steroid-induced psychosis that exemplifies the importance of a thorough evaluation to minimize diagnostic confounding in the setting of AMS.

Case: Ms. X is an 85-year-old woman with a pertinent medical history of temporal artery vasculitis and hospitalized for decreased appetite and confusion. She had word-finding difficulties, visual hallucinations, and inability to recognize her surroundings, with an examination notable for a flat affect and labile mood. The admission diagnosis was delirium with no identifiable trigger. She underwent an extensive workup, including a CMP, CT brain, MRI brain, and EEG, which were unremarkable. Geriatrics was consulted, and a thorough medication reconciliation was completed. The patient was identified to receive prednisone 60 mg daily for the past 20 days for TAV. As such, the differential included SIP. After a rapid taper of prednisone to 10 mg daily, the patient became redirectable, conversant, and back to her baseline mental status.

Discussion: Steroids are known to cause neuropsychiatric effects with a reported incidence of SIP at 14-62%. Although no data specific to the incidence/prevalence of SIP in older adults is available, they are known to be more susceptible to the effects of steroids. Delirium and SIP can present with overlapping features; however, SIP is distinct and characterized by its development after exposure to the medication and not exclusively during delirium. Diagnosis with delirium can accompany an actual diagnosis of SIP, causing diagnostic confounding. SIP in older adults is reported to occur with oral, intra-articular, and intravenous forms. Unfortunately, prolonged exposure to high-dose steroids (> 40 mg prednisone/day) increases the risk of developing persistent psychotic symptoms necessitating the use of antipsychotics.

Conclusion: Although delirium is a common diagnosis in older adults, it is important to consider other causes in evaluating altered mental status. Steroids are well-known to cause neuropsychiatric manifestations, and SIP should be considered a culprit especially at high doses in older adults.

D8 Resident Presentation

Not All Urinary Frequency is a UTI

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Background

Geriatric women may have symptoms that can be misconstrued as a urinary tract infection (UTI), such as pelvic discomfort, urinary frequency and dysuria. However, these symptoms are often

nonspecific for UTI in the elderly population. This case presentation demonstrates the importance of further evaluation and imaging in patients who are non-responders to conventional therapy.

Case Description

A 94-year-old with a past medical history of pelvic organ prolapse on vaginal estrogen with recent pessary removal, dementia, prior tobacco use, and recurrent UTIs presented to the emergency department with worsening mental status and pelvic pain for one week. She was receiving antibiotics for suspected UTI due to increased frequency and moaning with urination. Despite antibiotics she had worsening pain and foul-smelling urine.

She had a white blood cell count at 15.2 with BUN 30, Creatinine 1.0. She had three recent urine cultures, one showed no growth and the others grew multiple organisms. Urinalysis on admission had 2+ blood and 2+ leukocyte esterase. She was started on IV antibiotics. Her WBC normalized, she remained afebrile but her presenting symptoms continued. A renal ultrasound was notable for a mass within the bladder. Computed tomography of her abdomen and pelvis confirmed a 2.5cm mass within the bladder with significant thickening along the bladder wall.

Urology suspected her pelvic pain was likely from bladder spasms in the setting of the mass. She underwent transurethral resection of bladder tumor and was found to have >10cm bladder mass invading the bladder wall. Pathology confirmed invasive urothelial carcinoma. After operation she recovered well without episodes of dysuria or pelvic pain.

Discussion

This demonstrates that geriatric patients often have chronic urogynecological symptoms that can present as recurrent UTIs. However, it is likely that her pelvic pain was likely related to bladder spasms secondary to bladder cancer over recurrent UTIs given inconclusive previous urinary cultures, persistent pain after antibiotics, and improvement in symptoms after resection. Current guidelines recommend against routine imaging of the urinary tract for recurrent UTIs unless atypical symptoms or presence of hematuria after resolution of infection. This case shows the importance of further evaluation, including imaging studies in patients who do not demonstrate clinical improvement after appropriate treatment.

D9 Resident Presentation

Non-Hodgkin lymphoma in a nonagenarian: trick or treat?

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Keywords: diffuse large B cell lymphoma, aegism

Background: Diffuse large B cell lymphoma (DLBLCL) primarily occurs in older adults and can be challenging to manage due to the heterogeneity of this population. The decision to treat or not requires a careful assessment of the patient's performance status, which is an independent prognostic factor for DLBCL in addition to comorbidities, and the patient's goals of care.

Case: A 92-year-old female with a past medical history of hypertension and type 2 diabetes presented to the hospital with intermittent urinary and bowel incontinence for two months. At baseline, she was responsible for all her ADLs (activities of daily living) and most of her IADLs (independent activities of daily living). CT imaging was pursued with the aim of ruling out cord compression, which was suggestive of a metastatic tumor. The patient's chart included language such as 'she seems to have a very good functional status based on her age', 'despite her excellent overall health…the patient likely has poor prognosis', and 'given her advanced age at 92 years surgery is not a reasonable option for the patient'. She was found to have DLBCL on lymph node pathology. The patient's active functional status and goals of care were used to guide decision-making regarding treatment. She received her first cycle of chemotherapy in the hospital, which she tolerated well. Further outpatient treatment was planned, and the patient was discharged.

Discussion: Ageist ideologies are frequently encountered in the geriatric oncology setting and have been seen as an obstacle to patient care, often resulting in under treatment of older adults. The older adult population is heterogeneous regarding frailty, functionality, and presence of comorbidities, which should all be considered when deciding whether or not to pursue treatment and how aggressively to pursue it. In our case, ageist assumptions were avoided and were not a barrier in her pursuing treatment that was in line with her goals.

Conclusion: To meet the needs of a growing older adult population, it is now more important than ever to discourage ageist biases, educate patients and keep their goals at the forefront of medical decisions. This will allow us to provide high-quality, goal concordant care to our older patients.

D10 Resident Presentation

Drug-induced pulmonary toxicity in older adults: A treatment with the consequences

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Introduction

Several medications can cause drug-induced pulmonary toxicity (DIPT). The most common agents include amiodarone, nitrofurantoin, and chemotherapeutic drugs. Symptoms range from mild respiratory symptoms to fatal events. The elderly are at higher risk of being prescribed these medications, as multiple comorbidities increase with aging. We report two elderly patients who suffer from drug-induced pulmonary toxicity.

Case 1

A 92-year-old male presented with chest pain because of atrial fibrillation with a rapid ventricular response. He received amiodarone for rhythm control. Two months later, he developed dyspnea on exertion and hypoxic respiratory distress. Laboratory findings revealed hypothyroidism and transaminitis. The chest CT showed diffused bilateral ground-glass infiltration concerning interstitial lung disease. His symptoms were suspected of amiodarone toxicity and medication was terminated. Treatment included a high dose of corticosteroids, which yielded a minimal improvement. The patient subsequently depended on long-term oxygen therapy.

Case 2

An 80-year-old female presented to the emergency department with 1 month of progressive fatigue, shortness of breath, and fever. Her physical examination was remarkable for diffused bilateral rhonchi. She had leukocytosis and transaminitis. Her CT chest revealed diffused bilateral ground-glass infiltration. The infectious, inflammatory, and autoimmune panels were all unrevealing. The review of medication included nitrofurantoin for recurrent urinary tract infections. Lung injury from chronic use of nitrofurantoin was suspected. Nitrofurantoin was discontinued, and her symptoms gradually improved with high-dose corticosteroids.

Discussion

Amiodarone and nitrofurantoin are the most frequent causes of DIPT. These agents are regularly prescribed to older adults as atrial fibrillation and urinary tract infections are at high prevalence. Common symptoms mimic hypersensitivity reactions, such as dry cough, dyspnea, and fatigue. Laboratory finding is often nonspecific leukocytosis or transaminitis. Chest imaging typically shows bilateral air-dense opacities without a dominant pattern of zonal distribution. Diagnosis is made by exclusion. Crucial treatment is early recognization and medication discontinuation. Corticosteroids could be helpful in moderate-to-severe cases.

D11 Resident Presentation

Can an atraumatic forehead lump cause geriatric syndrome?

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Introduction

Multiple myeloma is a neoplasm of plasma cells with monoclonal immunoglobulin production. About 85% of myeloma cases occur in those over 65 years, and extramedullary myeloma accounts for only 6-8% of the cases. Typical clinical features include bone pain and constitutional symptoms related to anemia, renal disease, and hypercalcemia. We present a unique case of a right scalp lump that turned out to be extramedullary myeloma without hypercalcemia.

Case Description

A 67-year-old male with heart failure, renal cell carcinoma treated with partial nephrectomy, chronic kidney disease stage 5, and IgA kappa MGUS had recurrent hospitalizations due to fluid overload. Each time he had been treated with diuretics. His third hospitalization was complicated by geriatric syndrome, including delirium, a fall, and physical deconditioning. Basic labs showed BUN 95 mg/dl (high), Cr 5.6 mg/dl (high), ionized calcium 1.09 mmol/L (low), hemoglobin 8.9 Gm/dl (low). Head CT obtained for fall due to delirium revealed a 2 cm lytic lesion in the right frontal calvarium. A subsequent PET scan demonstrated diffusely increased FDG activity in the frontal calvarium and other bones. Additional labs showed significantly elevated free kappa light chains of 450.5 mg/L, free Kappa/lambda ratio 14.9, and IgA 1201mg/dl. The core biopsies of the right scalp and bone marrow biopsy of the right iliac crest confirmed plasma cell neoplasm suggesting progression of MGUS to multiple myeloma.

Discussion

Asymptomatic scalp lump is a rare presentation of multiple myeloma. It was only after his third hospitalization that persistent delirium with a fall that led to the diagnosis of multiple myeloma. Had delirium not been worked up for the underlying etiology, the diagnosis of multiple myeloma would have been delayed. In hindsight, the progression of multiple myeloma also contributed to recurrent fluid overload via renal involvement and high output heart failure. This case exemplifies the importance of a thorough workup for a new-onset geriatric syndrome as it is not part of normal aging and may lead to a new diagnosis.

Conclusion

The new onset of geriatric syndrome is an alarming sign. It requires a thorough investigation, as illustrated by our rare case of a scalp lump turning out to be myeloma of the frontal calvarium.

D12 Student Presentation

Early Onset Memory Deficits Following Systemic Lupus Erythema Diagnosis

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The American College of Rheumatologists recognizes several syndromes in association with Neuropsychiatric Systemic Lupus Erythematous (NPSLE). Cognitive dysfunction is one of the most detrimental and difficult to quantify, affecting somewhere between 20-80% of SLE patients. More specifically, common areas of deficit are often attention and memory which was seen in this patient.

A 49-year-old male with a history significant for SLE presented to a geriatric physician after three years of ongoing cognitive changes. His short-term memory was most impacted, affecting his work with forgotten conversations and tasks. He experienced periods of "brain fog" where he is unaware of what he is doing. In 2019 he received neuropsychological testing. This reported weakness in memory, word-retrieval, and sustained attention relative to his intellect and advanced educational background, but no diagnosis was passed. Memory problems persisted and he was seen again in 2020. Cognitive testing via MOCA revealed a score of 26/30, significant for delayed recall; unchanged from prior. An MRI of the brain showed a small right hippocampus, however, an FDG PET-CT of the brain and blood work to rule out reversible or metabolic causes of memory loss were normal. He is taking hydroxychloroquine and prednisone daily to manage SLE symptoms and his cognitive deficits have been stable. Therefore, the goal of his treatment is to preserve current function by preventing further flare-ups with diligent medication adherence. His cognition will continue to be followed for changes over time.

This case illustrates the need for awareness of potential cognitive presentations of SLE. Despite the overwhelmingly high prevalence in females, recognition in males is also critical for early intervention to control flare-ups and prevent further decline.

The challenges with diagnosis and early recognition are that measurement of cognitive function is not always initially performed. Common screening tools such as the Mini-Mental State Examination (MMSE) and the Montreal Cognitive Assessment (MOCA) are also insufficient in assessing NPSLE and structural MRI techniques can also yield limited results. By implementing the right tools, such as complete neuropsychological testing and imaging techniques like fluid-attenuated inversion recovery (FLAIR) or diffusion-weighted imaging (DWI) to better detect lesions, and functional MRI (fMRI) can better measure metabolism and neuronal activity.

D13 Student Presentation

A case of brain metastases masquerading as cognitive decline

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Introduction:

Cognitive decline in the elderly is a diagnostic challenge - one that must consider numerous differential diagnoses, including dementia. Given the profound impact of one's cognition on functional status and quality of life, early recognition of reversible and treatable causes of cognitive decline, especially when it occurs at a rate faster than expected, is critical.

Case Presentation:

An 86-year-old female was admitted from long-term care for a 2-week history of cognitive decline, hypoxia, and vomiting that began after receiving the second dose of the COVID vaccine. Her past medical history was significant for dementia, right middle cerebral artery stroke, benign left parietal neoplasm under surveillance, and pulmonary emboli. Investigations for her hypoxia were unremarkable; thus, it was thought to be due to aspiration from emesis. Initially, the patient's cognitive decline was presumed to be secondary to her dementia, which has been progressive for the past 5 years, leading to her eventual admission to long-term care. However, it was highlighted that the patient's cognition rapidly declined in a period of weeks. Despite her dementia, at baseline, the patient could engage in full conversations. However, over the past few weeks, the patient could only communicate with a few words and became newly dependent with ADLs. The patient was not delirious, given the non-fluctuating cognitive decline with normal attention and level of consciousness. Laboratory studies, including TSH and vitamin B12, were normal. CT Brain was completed given patient's history of parietal neoplasm, demonstrating a new left occipital lobe lesion with vasogenic edema. The patient was started on dexamethasone given the size of the lesion and edema. With this, her cognition significantly improved over days, allowing the patient to be involved in the decision-making of her care. Unfortunately, the patient had an aspiration event during her admission. As per her wishes, she was discharged to long-term care with symptom-focused, comfort care.

Discussion:

In this case, we discuss our approach to cognitive decline and highlight the importance of maintaining a broad differential, even in the face of known dementia. Finding reversible causes of cognitive

decline can not only improve quality of life, but as seen in our patient, it can allow individuals to participate in meaningful decisions regarding their goals of care.

D14 Resident Presentation
Beware: A Cautionary Tale of Ciprofloxacin Use in an Older Adult

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Background:

Achilles tendon rupture (ATR) secondary to fluoroquinolones is well documented in the literature, however, bilateral ruptures are rare. We present ciprofloxacin-induced bilateral achilles tendon rupture resulting in severe disability in a patient on long-term steroids.

Case Report:

An 80 year old male with PMHx of T2DM, polymyalgia rheumatica on prednisone, history of DVT/PE on warfarin, and recurrent UTIs on suppressive TMP-SMX therapy was evaluated for generalized malaise. His workup was unremarkable, except for a urinalysis revealing pyuria and bacteriuria. Bactrim was held and prescribed ciprofloxacin 250mg BID for 7 days. 4-days later, patient reported severe pain bilaterally along the posterior ankles; ciprofloxacin was discontinued. He developed extensive bilateral ecchymoses over his calves over 2-3 days. MRI of the ankles revealed complete rupture of both his Achilles tendons. He opted for conservative management due to concerns of peri-operative risks. He received rehabilitation for 12 weeks; however, his range of motion and overall function did not improve. He has since reported multiple falls, injuries, impaired ADLs, and is confined to a wheelchair.

Discussion:

FDA gave its strongest warning on fluroquinolones regarding disabling and potentially permanent side effects in 2016 involving tendons, muscles, joints, nerves, and the central nervous system. Achilles tendonitis or rupture constitutes 89.8% of cases, but other tendinopathies have also been described. In patients >60, there is a 1.5-fold increase in tendon disorders and a 2.7-fold risk for development of ATR. There is also a 46-fold increase of ATR with concurrent corticosteroids. Males are more commonly affected than females (2:1). Risk factors include renal impairment, history of organ transplant, and musculoskeletal disorders. The risk of ATR appears to depend on timing, dose, increasing age, risk factors, and concomitant exposure to corticosteroids. Oftentimes, symptoms of tendinitis precede ATR by up to 2 weeks.

Conclusion:

Fluoroquinolones remain an excellent antibiotic for treating patients with infections, but healthcare providers should be aware that fluoroquinolones can induce bilateral tendon ruptures resulting in severe disability. This antibiotic class should be used infrequently in older adults, except in those conditions with no alternative treatment options.

D15 Resident Presentation
Premature closure: Reconsidering a nursing home patient with likely Cushing's induced myopathy

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Background:

Nursing home patients represent an area at risk of diagnostic biases such as diagnostic momentum and premature closure, with the plan of care often being continued from the discharging inpatient team. We present a case where analysis of a patient's medical record and complaints helped lead to a likely diagnosis of Cushing's induced myopathy. This case is illustrative that substantial workup is still possible and may be needed once a patient reaches the nursing home setting.

Methods:

This is a case report with review of the patient's chart.

Case report:

A 73-year-old female was at our facility for deconditioning after a recent hospital admission for cellulitis. She was at our facility for several months with multiple admissions to the hospital. Since presentation the patient had a sizeable decline in her functional status, now bed bound. The patient endorsed generalized weakness with difficulty moving all her extremities in both proximal and distal groups in a symmetrical distribution. Her decline has been evaluated by multiple neurologists, with considerable workup all not explaining her decline. The patient also notably had a flat affect on exam. Staff at our facility noted poor effort by our patient when working with PT/OT with the accepted diagnosis by hospital teams/neurology being severe depression leading to demotivation and her decline.

Due to family concern, we performed a deep dive into her record and found an incidental 3 x 2.4 cm right adrenal mass on abdominal CT prompting us to consider Cushing's syndrome with an associated myopathy explaining her symptoms. While still at our facility we performed a low dose dexamethasone suppression test which was abnormal with cortisol being 12.4 mcg/dL after dexamethasone challenge. To confirm our suspicion a nocturnal salivary cortisol was collected, also being abnormal at 0.19 mcg/dL with the cutoff of normal being ≤0.09 mcg/dL. With two tests being abnormal our patient likely indeed had Cushing's syndrome with associated myopathy as the source of her weakness/decline.

Conclusions:

This case illustrates the importance of continuing to reevaluate patients in the nursing home setting for potential diagnostic biases leading to inadequately worked up problems. The case also illustrates that it is feasible to still preform significant workup in a nursing home setting.

D16 Resident Presentation
Shared Decision Making and Deprescribing

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Background: Shared decision-making is an integral part of deprescribing. Literature suggests that patients are more willing to have medications deprescribed if their physician recommends so. Our case highlights the intricacies of shared decision-making in deprescribing through a case of an older woman taking conjugated estrogens after a hysterectomy who later developed a stroke.

Case Presentation: Here, we present a case of an eighty-two-year-old female with a relevant past medical history of hypertension, hypercholesterolemia, and surgical history of total hysterectomy. She smoked one-half to a pack of cigarettes daily for at least thirty years. Since her hysterectomy fifty years ago, she had been taking oral conjugated estrogens daily. Given the risks associated with conjugated estrogens and in the setting of ongoing tobacco use, her primary care physician engaged in multiple discussions emphasizing her risk of stroke and cardiovascular disease. Despite being informed of these risks, she expressed preference to continue her current medication regimen. One year later, the patient developed an ischemic stroke and soon thereafter passed away.

Discussion: Shared decision making is a key component of patient-centered health care. It is a process that involves discussing risks, benefits, and consequences of different treatment options in the context of a person's life and values. The obstacles physicians face when deprescribing are infrequently discussed, as patients are typically receptive to shortening their medication list. Our patient's goals were consistent with continuing her longstanding estrogen supplementation despite being well informed of the medication's adverse effect

profile. Conscientious shared decision-making involves identifying the patient's primary concerns and priorities and tailoring their plan of care accordingly. Applying this approach to deprescribing is an essential part of patient-centered care, just as it is with prescribing.

Conclusion: Shared decision making is a lifelong process that should be initiated from the time a medication is first prescribed and should subsequently be refined with every visit. This ensures the crucial alignment of treatment with our patients' goals of care.

D17 Resident Presentation

The Million Dollar Vitamin Deficiency

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Background

Vitamin B12 (VB12) deficiency is common in older adults. It manifests as hematological abnormalities or neurological symptoms but rarely with sole neuropsychiatric presentations. We present a case of VB12 deficiency leading to acute neuropsychiatric symptoms in an older adult.

Case

Mr.X is a healthy 72-year-old male who presents to the ED with confusion, dizziness, and falls for one week. His examination was notable for aphasia but no focal neurological deficits. The patient had a good functional status prior, being independent in his ADL/IADLs. He underwent an extensive workup to rule out toxic metabolic encephalopathy, paraneoplastic and autoimmune encephalitis, Creutzfeldt-Jakob disease, and seizure disorder. His 'million-dollar workup' included a 50+ day hospital stay, wherein a full metabolic panel, autoimmune antibody studies, CT head, three brain MRIs, CSF analysis, and EEG were completed. The workup was remarkable for a low VB12, normal Hb, MCV, and folate. MRI brain showed a high-intensity signal in the periventricular white matter consistent with VB12 deficiency. Following B12 replacement, the patient's mental status improved but did not return to his baseline, supporting the diagnosis of rapidly progressive dementia due to VB12 deficiency.

Discussion

VB12 deficiency is common in the older adult population, with an estimated prevalence of 40%. The most important causes in this population are malabsorption due to lower stomach acidity or medications impairing absorption like metformin. The resultant elevation of homocysteine is neurotoxic and associated with neuropsychiatric manifestations. However, acute neuropsychiatric syndromes in the absence of other neurological/hematological symptoms are rare. It is commonly overlooked by physicians leading to a delay in initiation of treatment and progressing to irreversible damage. Although supplementation can reduce symptoms, the cognitive function of those with mild/moderate dementia is not significantly improved.

Conclusion

Our case highlights the importance of considering VB12 deficiency as a cause of acute neuropsychiatric syndrome in older adults, even if not accompanied by other features. Older adults are more likely to develop it due to physiological changes associated with aging. Incorporating VB12 studies into a standard workup of altered mental status is encouraged in this population.

D18 Student Presentation

Diagnosing Duodenal Diverticulum

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Background

The duodenum is an uncommon location for diverticula to form, accounting for 22% of diverticula. Although a majority of duodenal diverticula (DD) are asymptomatic, a small percentage develop symptoms such as hemorrhage, diverticulitis, or perforation[1]. This case highlights the uncommon presentation of a symptomatic DD in an elderly patient resulting in a major upper gastrointestinal bleed (UGIB).

Case

A 75-year-old female with a past medical history of Type 2 diabetes mellitus, hypertension, and obstructive sleep apnea on CPAP presented with a T12 burst fracture, treated with large quantities of NSAIDS. Further work-up uncovered deep vein thromboses (DVT) and a saddle embolus for which heparin anticoagulation was initiated. She subsequently experienced hematemesis and melena, suggestive of an UGIB. Stool occult blood and H pylori antigen tests resulted positive. CBC was significant for a drop in hemoglobin (10.7 to 6.5) and hematocrit (34.1 to 30.7%), requiring 2 units of packed RBC transfusion. An upper endoscopy revealed a large diverticulum in the descending duodenum with a slowly oozing AVM.

Discussion

The duodenum is an uncommon location for diverticula formation (approximately 22%) making it the second most common diverticulum site. Because less than 10% of DD are symptomatic, they are typically diagnosed incidentally[3]. Of characterized DD, 60% were found in the descending duodenum and 40% in the inferior [3]. Complications of symptomatic DD include hemorrhage, diverticulitis and perforation, with symptoms mimicking peptic ulcer disease or cholangitis [2, 3]. Our patient's presentation was atypical due to the location of her diverticulum, development of clinical symptoms and severity of her UGIB. During the endoscopy, her UGIB was successfully cauterized with no further bleeding. Given her complex PMH, a discussion was conducted about initiating anticoagulation therapy for her DVT/PE given her HAS-BLED score of 5. Ultimately the patient and her family decided to focus on palliative care measures. She was ultimately discharged to inpatient rehab.

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D19 Student Presentation

Commonly prescribed BPH medication may cause serious adverse events such as syncope

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Background: Tamsulosin is widely used in patients with symptoms of benign prostatic hyperplasia (BPH). Although tamsulosin is generally well tolerated, older adults can experience adverse drug reactions, especially those with multiple comorbid conditions.

Methods: We describe an 84 y/o man with coronary artery disease, type II diabetes, and BPH on tamsulosin who presents with syncope without prodromal symptoms.

Results: Patient recalled being in usual state of health at home when he walked 3-4 steps, had sudden onset of syncope and fell. Endorsed transient loss of consciousness with awareness of fall. No preceding dizziness, lightheadedness, or vertigo. Denied jerky movements, incontinence, slurred speech, chest pain, shortness of breath, or palpitations. In ER, labs and CXR were unremarkable. Echo showed normal left ventricular size and function without wall motion artifacts. Orthostatic VS showed tachycardia (HR 70 > 101) without change in blood pressure. Patient received IV fluids and was discharged without medication adjustment.

Over the next two months, patient reported ongoing lightheadedness with head turning. Patch monitoring over 12 days revealed sinus rhythm with 26 episodes of supraventricular tachycardia (max 193 bpm) and rare atrial ectopy. Given orthostatic tachycardia with ongoing positional lightheadedness, tamsulosin, a selective alpha-antagonist, was discontinued. Patient reported improvement in lightheadedness with no additional episodes of syncope.

Conclusions: Here we describe a case of syncope in an older patient that improves with pharmacological de-escalation. Tamsulosin is widely used to manage BPH in older adults and is generally well-tolerated. While selective for alpha-1 receptors in the prostate, tamsulosin may have vasodilatory activity via alpha-2 receptors and increase risk for syncope in vulnerable patients. Older adults are especially susceptible to adverse drug reactions. Reviewing medications, de-escalating, and de-prescribing are critical to identifying and addressing serious adverse events. Careful prescription and close monitoring may help reduce serious adverse events in the geriatric population.

D20 Student Presentation

A Case of Suspected Covid-19 Booster-Induced Thromboembolism in a Nonagenarian

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Background:

mRNA vaccines have been instrumental in fighting the Covid-19 pandemic. Due to waning immunity, booster doses have received emergency use authorization.[1] While awaiting FDA approval, physicians should continue to report adverse effects. Here, we present a 90 year old incidentally found to have bilateral pulmonary emboli 6 days after receiving a Covid-19 booster vaccine.

Case:

WR is a 90 year old male with HTN, HLD, T2DM, CKD, CVA, osteoporosis, and prostate cancer in remission who presented to the ED after falling. He complained only of left hip pain. He denied chest pain, cough, or shortness of breath. X-ray revealed left hip fracture. CTA head and neck demonstrated concern for acute PE. Follow-up CTA chest showed large central pulmonary emboli extending into every lobe bilaterally and right heart strain. Notably, he received a mRNA Covid-19 booster vaccine 6 days prior. His first 2 vaccinations were uncomplicated. He had no personal or family history of blood clots.

Vitals in ED: temp 36.8°C, HR 87, RR 24, BP 126/61, SaO2 87% on room air with improvement to 91% on 4L via nasal cannula. Physical exam was unremarkable except for tenderness and deformity of the left leg. Labs were significant for Cr 2.18 (baseline 1.7), troponin-HS 1990, and CPK 1514. Heparin was started, and he was admitted to the hospital.

Discussion:

We report the case of a nonagenarian incidentally found after a fall to have severe, yet asymptomatic, thromboembolism in the setting of a recent mRNA Covid-19 booster vaccine.

The CDC recommends booster doses for people older than 50 and for those living in long-term care[2], which is common among the elderly. Although there is evidence that some Covid-19 vaccines are associated with higher risk of blood clots than placebo, the absolute risk is substantially smaller compared to a similar event occurring after Covid-19 infection.[3] There is not enough data right now to determine if booster doses affect these risks. However, it is reasonable to closely monitor those at higher risk for blood clots, such as geriatric patients who are prone to falling or prolonged periods of limited mobility.

References:

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2. "Covid-19 Vaccine Booster Shots." *CDC.*

3. "Risk of Thrombocytopenia and Thromboembolism after Covid-19 Vaccination and SARS-COV-2 Positive Testing: Self-Controlled Case Series Study." *The BMJ.*

D21 Resident Presentation

A Quetiapine Quandary

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Background:

Xerostermia, or "dry mouth", refers to inadequate saliva production to maintain sufficient oral hydration. Xerostomia is a potential side effect of quetiapine due to its anticholinergic properties. As a result of salivary stasis, bacterial seeding of Stensen's duct may result in acute bacterial parotitis. Although anticholinergic side effects of antipsychotics like quetiapine are well known, few case reports associate quetiapine with side effect induced complications. We present a case of acute parotitis as a function of xerostomia secondary to quetiapine use.

Case Presentation:

An 81 year old female with an undefined psychiatric disorder originally presented for swelling of the left side of her face. Over 48 hours, her face developed rapid swelling, erythema, and tenderness, prompting presentation to the emergency room. A CT neck with contrast revealed thickening of the left base of the tongue, partial effacement of left glossotonsillary sulcus, and enlargement and edema of the left submandibular and parotid glands. Otolaryngology and oral maxillofacial surgery were consulted for acute parotitis. No airway or surgical intervention was required and the patient was admitted to the geriatric medicine service. Empiric antibiotic therapy was initiated. Parotid pus and blood culture grew Methicillin-resistant Staphylococcus aureus. Infectious disease was consulted and the patient was started on 4 weeks of IV vancomycin, 10 days of amoxicillin/ clavulanate, and 7 days of nystatin rinse with resolution of symptoms in a few days and swelling in a few weeks.

We were informed by the patient's daughter that following the patient's partner's death a few months prior, the patient had spiraled downward from a memory and mood perspective. For this, quetiapine was prescribed, which was increased to 100 mg twice daily 10 days prior to presentation.

Discussion:

Estimates of xerostomia from quetiapine among older adults range from 9 to 44% with a dose-dependent relationship. Case reports have identified parotitis following initiation of similar antipsychotics such as clozapine, but after evaluation of current available literature, there have been no specific reports of quetiapine-related parotitis.

Conclusion:

When prescribing medications, complications resulting from side effects must be considered, particularly when prescribing antipsychotic medications. This case illustrates xerostomia leading to parotitis in a patient prescribed quetiapine.

D22 Student Presentation

Unloading Discussions on Firearm Safety with Geriatric Patients

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A 79-year-old male with history of atrial fibrillation, third-degree heart block, hearing loss, obstructive sleep apnea, and depression presents to clinic for declining memory. Family notes decline in ability to recall names, dates, details of recent conversations, and he is easily agitated and quick to anger. The patient is independent in activities of daily living, is still driving, and managing his medications. His wife manages their home and finances. On exam, the patient cannot recall the number of grandchildren he has or his favorite football team. Vision is 20/100. Patient has appropriate affect but is socially disinhibited with comments that are borderline inappropriate. Family history is relevant for a son who committed suicide by firearm. The patient denies depression or suicidal ideation today, however, mentions if he did, their son "showed him what to do". He has several guns at home - one loaded in his bedside table. Neuropsychology testing reveals deficits in attention, visual-motor processing speed, memory, and visual construction skills. The patient was diagnosed with mild cognitive impairment. At follow-up, patient was resistant to recommendations regarding gun safety.

Elderly patients with cognitive changes represent a vulnerable segment of the population at risk of injury from improper handling of firearms. In 2019, 6,965 Americans over the age of 65 died by firearm-related injury, of which 91% were by suicide. Additionally, one study found 60% of households containing a person diagnosed with dementia had a firearm, with 44% of these firearms kept loaded. Patients with dementia can exhibit memory loss, personality changes, confusion, and anxiety, which affect a person's ability to safely own and operate a firearm. Most physicians agree on the importance of counseling patients on gun safety, yet only 25% of physicians report consistently having the discussion. A study of pediatricians indicated physicians do not discuss gun safety with patients due to their discomfort and lack of knowledge on the subject. For the sake of public health, it is imperative to train providers in having these conversations.

We recommend developing formal teaching programs during medical school about firearm safety regarding geriatric patients with cognitive impairment and how to counsel families on firearm safety. Normalizing the conversation may help dispel the discomfort surrounding discussions on gun safety.

D23 Resident Presentation

To Scan or Not to Scan: *Weighing the Risks/Benefits of Testing*

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Case:

Ms. G is an 80 year-old woman with atrial fibrillation and hypertension who initially presented to the ED with abdominal pain, weakness and flank pain. She was diagnosed with a urinary tract infection and discharged home with cephalexin. Symptoms worsened over the next week, so she returned to the ED, where she was diagnosed with pyelonephritis, acute kidney injury and atrial fibrillation with rapid ventricular response. She was started on IV ceftriaxone and symptoms mildly improved. However despite 72 hours of IV antibiotics, she still had severe flank pain requiring opioids, so antibiotics were transitioned to ciprofloxacin. She continued to have a mild leukocytosis and her heart rates remained difficult to control despite metoprolol. Renal ultrasounds (hospital day 3 and 6) were unremarkable for hydronephrosis or abscess. Given the persistent pain, on day 7 it was decided that the benefit of the more sensitive imaging test to rule out a renal abscess outweighed the risk of contrast-induced nephropathy (CIN). A CT with IV contrast showed the development of an abscess in the upper pole of the left kidney.

Discussion:

Appropriate treatment of pyelonephritis typically leads to significant clinical improvement within the first 72 hours. In this patient, there was suspicion for a more complicated process when she did not respond as expected to initial treatment of her infection. CT with IV contrast is the test of choice given its high sensitivity, however there was hesitation given her kidney injury. Despite some clinical improvement and the unremarkable serial renal ultrasounds, her continued pain raised concern for another underlying cause that was not being adequately addressed. In situations such as this, when the clinical presentation appears inconsistent with the usual course of disease, acute or chronic renal failure should not be considered an absolute contraindication to IV contrast if it could significantly change management.

Conclusion:

Most patients with pyelonephritis improve rapidly with appropriate antibiotics. Despite the risk of CIN with the use of iodinated contrast in patients with acute or chronic renal failure, this should not be considered an absolute contraindication to IV contrast use, especially if the clinical presentation raises suspicion for more complicated pathology than what alternative, "safer" imaging with less sensitivity shows.

D24 Resident Presentation, Encore Presentation

Bingo was a No-Go!

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Background: Social isolation increases the risk of developing mental health disorders or exacerbate underlying psychiatric conditions. In older adults, conditions such as severe depression can be confused for hypoactive delirium, prompting extensive medical work up and unnecessary treatments. Herein we describe an older adult who was repeatedly hospitalized for decreased responsiveness due to prolonged isolation in the setting of the COVID-19 pandemic.

Case: A 94 years-old -female with a history of sensorineural hearing loss and mixed dementia who was frequently transferred to the hospital when nursing staff was unable to arouse the patient upon repetitive physical and verbal stimulation. While no acute cause for her symptoms was revealed after each admission, a pattern emerged of frequent periods of unresponsiveness which only occurred upon return to her long-term care facility (LTCF). Initially, her symptoms were attributed to hypoactive delirium, but these would abate whenever she would have more frequent contact with healthcare staff or family members. On this admission, she was started on antidepressant medication and discharged back to her LTCF with the recommendation to utilize social activities and group interactions. Regrettably, she could not interact with others, play bingo, or have visitors at her facility due to strict quarantine policies. Ironically, the policies designed to prevent COVID-19 exposure ultimately accelerated her return to the hospital where the risk of exposure was much greater.

Discussion: The impact of the COVID-19 pandemic goes far beyond the morbidity and mortality associated with the disease. There is significant collateral damage that social isolation has brought to the older adult population. This raises concerns about a fine balance between protecting from life-threatening illnesses while maintaining mental health and honoring human dignity. The enforcement of quarantining within LTCFs worsened an already fragile healthcare delivery system, resulting in a lack of communication, discontinuity of care, and inadequate attention to patients' basic needs and social supports.

Conclusion: The impact of social isolation used to prevent the spread of COVID-19 among the older adult population in LTCFs cannot be ignored. More research is needed to assess the impact of isolation to help develop patient-centered, holistic treatment plans which prioritize quality of life alongside diagnostic evaluations and therapeutic interventions.

D25 Resident Presentation

Evolving Frailty in a Patient with a Solitary Metastatic Brain Tumor

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This case describes a 79-year-old woman with a solitary metastatic brain lesion demonstrating rapid impairment and increasing Comprehensive Geriatric Assessment Frailty Index (CGA-FI). She was fully independent with an active lifestyle and over 10 years in remission from Stage IV metastatic colorectal cancer (CRC). Treatment included partial colectomy and resection of pulmonary and hepatic metastases. Her baseline CGA-FI was 0.022. One month prior to admission, she developed cognitive impairment and weakness, resulting in a fall and right hip fracture. Initial workup included head computed tomography (CT), which revealed a left cerebellar mass. Magnetic resonance imaging (MRI) confirmed a solitary calcified left cerebellar tumor believed to be a meningioma. Her CGA-FI increased to 0.152. She then had open reduction and internal fixation of the right hip. Resection of the brain tumor was planned, however, the patient sustained another fall associated with increased confusion. Repeat CT showed a large left cerebellar hemorrhagic mass with edema, hydrocephalus, and compression of the 4th ventricle. MRI showed no evidence to suggest metastatic disease. Her CGA-FI increased to 0.587 and her delirium worsened. She subsequently underwent retrosigmoid craniotomy to remove the left cerebellar mass and ventriculoperitoneal (VP) shunt placement. Pathology was consistent with CRC. Despite best efforts, stable parenchymal hemorrhage, and appropriate VP shunt position, the patient declined post-operatively. She was ultimately discharged to hospice 25 days later. This case emphasizes the need for heightened suspicion of metastasis even when a single brain lesion is identified or the patient has remote history of primary malignancy. This is crucial as the appropriate treatment and surgical outcomes for meningioma and metastatic lesions are drastically different. It also demonstrates the rapidly evolving nature of frailty in geriatric and oncologic patients. The patient deteriorated from a CGA-FI of 0.022 to 0.587 within two months. This decline was likely multifactorial, including delirium, hip fracture, metastatic tumor, and neurosurgery. This case supports the need to constantly reevaluate frailty in geriatric populations to aid clinicians in their goal of delivering patient-centered care. More research is needed to determine both indications and the ideal frequency for the reassessment of frailty.

D26 Student Presentation, Encore Presentation

Exploring the Facilitators and Barriers Toward the Use of Clinical Decision- Support Tools by Healthcare Providers

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Background: Clinical decision-support (CDS) tools are systems that provide healthcare professionals (HCPs) with recommendations based on knowledge and patient-specific factors to facilitate informed judgments. **Objectives:** To identify the key components of a CDS tool that are most important to HCPs in caring for older adults with a renal diagnosis, and to understand the facilitators and barriers toward using CDS tools in daily clinical practice. **Methods:** An anonymous, online, cross-sectional survey of Canadian HCPs who were affiliated with a provincial college, nephrology organization, or advocacy body was conducted in September 2021. A 12-question (59-items) questionnaire was composed of a mix of question types to cover the main themes of the study. **Results:** Sixty-three participants completed the questionnaire. Physicians (60%) and pharmacists (22%) composed the majority of the participants, most of them were specialized in nephrology (65%), family medicine (16%) and geriatrics (11%). The most important components in a CDS tool were the safety and efficacy of the medication (89%), the goal of therapy (89%), and patient's quality of life (87%). Forty percent agreed that time was not a barrier to using CDS tools in daily practice, as 90% were willing to use them and 57% are already using some CDS tools for prescribing. The majority of participants agreed that the value of CDS tools is their ability to assist in making decisions based on evidence-based medicine (91%) and agreed that they help in discussing decisions with patients (81%). The majority of the participants agreed that the validation of CDS tools (95%), accompanying the recommendations by the supporting evidence (84%), and the affiliation of the tools with known organizations (84%), were factors that facilitate the use of CDS tools. **Conclusion**: CDS tools are being used and accepted by HCPs and are valued for their assistance in engaging patients in making well-informed decisions.

D27 Student Presentation

The Design of a Clinical Decision-Support Algorithm for the Prescribing of Renin-Angiotensin-Aldosterone System Inhibitors for Diabetic Nephroprotection in Older Patients

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Background: Older adults are undertreated for diabetic nephropathy. Current clinical practice guidelines do not incorporate the concept of personalized-care. Clinical decision support (CDS) algorithms that consider both evidence and personalized-care to improve patient outcomes can improve the care of older adults. The aim of this research is to design a CDS tool for prescribing renin-angiotensin-aldosterone system inhibitors (RAASi) in older patients with diabetes. **Methods:** The design of the CDS tool included the following phases: 1. A systematic review and a meta-analysis of randomized clinical trials to determine the number needed to treat (NNT) and time-to-benefit (TTB) values applicable to our target population for use in the algorithm. 2. Building pool of all potential cases based on the presence of the following conditions; chronic kidney disease, albuminuria, and hypertension. Each scenario addressed the prescribing questions (starting, adding, or switching to RAASi in patients with controlled or uncontrolled blood pressure). 3. Reviewing relevant guidelines and extracting all recommendations related to prescribing RAASi for the prevention or slowing of diabetic nephropathy. 4. Matching NNT and TTB with specific clinical cases. **Results:** We have created a CDS algorithm that covered 17 possible scenarios, 23 decision points, and 17 recommendations. The calculated and matched NNT and TTB values contributed in identifying 11 personalized recommendations for older adults, considering their life expectancy and functional capacity. **Conclusion:** We designed an evidence-informed CDS algorithm that integrates considerations often overlooked in clinical practice guidelines, including frailty, medication burden, and functional status. The tool is developed and ready for testing in a clinical trial to study if it is able to achieve predictable and realistic clinical goals, less healthcare system use and cost, and maintain quality of life in older adults.

D28 Resident Presentation
Advanced Care Planning in an Outpatient Clinic

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Background: Life threatening injury and illness can come at any time. Our geriatric population is at higher risk for mortality due to other co-morbidities that come with aging. End of life healthcare decisions are difficult, especially when family is involved. The time to make advanced care choices is before you need them. In the state of Texas, advanced care planning forms can be difficult to explain to the layperson compared to Physicians Orders For Life-Sustaining Treatment (POLST) forms established in other states.

Methods: During a three month study period, four members of a Family Medicine residency team put emphasis on discussing advanced care planning forms during outpatient visits with patients over age 65. These forms included Medical Power of Attorney (MPOA), Directive to Physicians and Family or Surrogates, and Out-of-Hospital Do-Not-Resuscitate Order (OOH-DNR). The Texas Advance Health Care Directive from prepareforyourcare.org was used to help patients understand the formal documents. Ten random patient encounters from each team member during this period were compared to ten random patient encounters from the three months prior to the study period. Main outcomes assessed were if advanced care planning was discussed, and if completed forms were uploaded into the medical record.

Results: During the study period, advanced care planning was discussed, and forms were provided to 20/40 patients, compared to 0/31 patients in the pre-study period. 4/40 patients had advanced care forms uploaded into the medical record after the study period, compared to 1/31 patients in the pre-study period.

Conclusions: Advanced care planning is vital to give patients a voice in how they want to be cared for at the end of life. Our study showed that in the outpatient setting, the major barriers to discussion of this topic was time and focus. Especially given the complex wording of documents in Texas, 10-20 minutes could be spent explaining the forms, depending on patient understanding. When a focus was placed on advanced care planning prior to the encounter, a discussion was had in 50% of visits, compared to 0% when this was not made a priority. Even after advance care education, additional hurdles were found in getting the completed forms returned to the clinic and uploaded in to the medical record. Future work in this area includes facilitating completion of the documents by patients through easy access to a notary public and advocating for simpler forms like POLST in Texas.

D29 Student Presentation
Expanded Trauma Alert Criteria for Geriatric Patients Increases Discharge Home

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Background: Geriatric trauma patients (≥65 years old) are at increased risk for poor outcomes following trauma, as the degree of physiologic derangement following trauma may be underestimated. In June 2020, trauma alert criteria for geriatric patients presenting at a Level 1 trauma center was expanded based on age-adjusted physiological variables including heart rate (100 from 120), blood pressure (systolic <110 mmHg from <100 mmHg) and Glasgow Coma Score (≤14) and mechanisms including geriatric patients with a fall from any height, struck pedestrian, long bone fracture, or injuries requiring admission. We hypothesized that these more conservative criteria may result in over-triage but could improve patient-centered outcomes.

Methods:A retrospective review of our trauma registry identified geriatric trauma patients presenting at a Level 1 Trauma center from June 2019 to June 2021 (one year pre/post implementation). Continuous variables are summarized as medians and inter-quartile ranges [IQR] and compared between study periods using Wilcoxon rank-sum tests. Categorical variables are reported as frequencies (%) and compared using χ^2 tests. Primary outcomes assessed include length of stay (LOS), intensive care unit (ICU) days, and discharge disposition.

Results:Analysis included 1826 patients with similar demographics pre- and post-implementation; the majority suffered blunt trauma (98.14%). The median injury severity score (ISS) increased from 8 [IQR: 4-10] prior to implementation of new criteria to 9 [IQR: 4-10] after implementation (p=0.048). LOS did not change significantly after criteria expansion(p=0.070); however, ICU length of stay increased (p<0.001). The number of patients who were discharged home (vs long term care facility, etc) increased significantly post-implementation (Before 44.76%, After 49.46%,p=0.046).

Conclusion: Expanded geriatric trauma alert criteria may result in more patients being discharged to home, despite higher median ISS and longer ICU LOS. Our results suggest expanded alert criteria may increase over-triage rates but can ultimately improve outcomes.

D30 Resident Presentation
Evaluation of monitoring practices of injectable antiresorptive therapies for use in osteoporosis at the South Texas Veterans Health Care System

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BACKGROUND: Osteoporosis is a major concern with advancing age. Low bone mineral density (BMD) is associated with fragility fractures. Denosumab, a receptor activator of nuclear factor kappa-B ligand (RANKL) inhibitor, and zoledronic acid, a bisphosphonate, are injectable antiresorptive therapies available to reduce risks associated with bone loss. Bisphosphonates are considered first-line agents and denosumab is often reserved for second-line therapy or those with contraindications or intolerance to bisphosphonates. While both agents have benefits, there are several monitoring parameters that should be assessed at baseline and throughout therapy. Recommended monitoring includes dental clearance, calcium, vitamin D, phosphorous, magnesium, renal function, and BMD.

METHODS: This was a retrospective chart review to evaluate appropriate monitoring of zoledronic acid and denosumab from August 6, 2020 to August 6, 2021 at the South Texas Veterans Health Care System (STVHCS). Patients with an active cancer diagnosis being seen by hematology/oncology or receiving outside care for injectable antiresorptive agents were excluded. Initial monitoring parameters included creatinine, vitamin D, calcium, and dental clearance. Follow-up monitoring parameters included vitamin D, calcium, creatinine, phosphorus, magnesium, and repeat BMDs. Results were analyzed using descriptive statistics.

RESULTS: A total of 48 patients were reviewed. Fourteen patients (29.2%) received denosumab and 34 (70.8%) zoledronic acid. Renal function was monitored prior to initiation in all patients. Initial vitamin D levels were not obtained in 7 (14.6%) patients. At follow-up, renal function and calcium were monitored in all patients. Follow-up phosphorus, magnesium, and vitamin D were not monitored in 11 patients (22.9%), 32 patients (66.7%), and 4 patients (8.3%), respectively. For those on therapy for more than two years (n=26), follow-up BMDs were not obtained in 8 patients (30.7%). Twenty-two patients (45.8%) were not on therapy for more than two years.

CONCLUSIONS: Parameters were not monitored consistently across all patients. The findings will be used to optimize monitoring practices for injectable antiresorptive therapies for osteoporosis at STVHCS.

D31 Student Presentation

Impact of Remote Vital Sign Monitoring on Patient Comfort and Sleep During Hospitalization

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Background:

Older patients disproportionately develop delirium during hospitalization. Sleep disruption is a major provoker of delirium and affects all inpatients. Wearable remote vital sign monitoring devices (VSMD) are an emerging alternative to overnight vital sign checks, but whether patients tolerate these devices is unclear. This study explores patient attitudes toward use of a VSMD (Caretaker-4) on their comfort and sleep.

Methods:

In this prospective cohort study, we enrolled adults admitted to a neurosciences unit and provided them with a wrist-attached Caretaker-4, which collects continuous blood pressure, heart and respiratory rate, oxygen saturation, and temperature. Questionnaires were administered on study completion after device was worn for at least one night. Patients continued to receive vital checks by nursing staff as prescribed during the study period. The questionnaire included a Likert scale range from strongly disagree (1) to strongly agree (5).

Results:

We enrolled 21 patients over two months. Median age was 42 (IQR 29, 50) with three patients ≥ 60. 12 (57%) patients reported at least one device-associated reason for sleep disruption: device weight (29%), pulse oximeter discomfort (24%) and finger cuff discomfort (19%). One patient ≥ 60 years noted skin irritation/abrasion from the wrist strap. Patients were neutral toward the device being pleasant to wear overnight (average score 3.0±1.0). Overall, patients reported the device was less disruptive (average score 4.1±0.8) and posited that most patients would prefer this device to nurse-collected vital checks overnight (average score 4.3±0.9). However, 15 (83) patients < 60 would be willing to use this device again, while only 1 (33%) patient ≥ 60 would.

Conclusions:

While some aspects of this device disrupted sleep, it was overall preferable to manual vital sign checks overnight. Improvements in its form factor could make the Caretaker-4 more comfortable, particularly modifications to make it gentler and lighter-weight for older adults. Remote continuous vital sign monitors are a promising way to reduce sleep disruption and should be studied in a larger population of older adults who would most benefit from sleep promotion initiatives.

D32 Resident Presentation

Denosumab (Prolia): Analysis of an Outpatient Osteoporosis Management Service

W. A. Beathard, A. Grimes. *Pharmacy, UPMC, Pittsburgh, PA.*

Background: Osteoporotic fractures increase in prevalence in both women and men after age 55 years and 65 years, respectively. In this population, fractures have been shown to result in bone-mineral-related morbidities, associated increase in mortality at 1-year, and elevated healthcare cost.[1,2] In patients who prefer alternative therapy or are precluded from bisphosphate use, denosumab reduces incidence of fracture and increase bone mineral density (BMD).[3] A local osteoporosis liaison service after hip fracture demonstrated comparable treatment rates to the national average reflecting 78% of patients went untreated for a disease that could lead to significant morbidity and mortality. This project aims to characterize the existing denosumab care pathway embedded within the liaison service and evaluate the safety and efficacy of administration. This will identify any procedural shortcomings within the service with an emphasis on increasing treatment rate and appropriate use of denosumab.

Methods: A multiple site, retrospective chart review will be conducted to capture all patients prescribed denosumab from two outpatient geriatric primary care practices from 11/1/2018 to 11/1/2021. Patient data will be collected from billing and electronic health record reports and will include variables necessary to determine safety endpoints, changes in BMD and evidence of fractures while on therapy, and workflow parameters for adherence and practicality through chart review.

Results: Preliminary population data reflects 34 total patients prescribed denosumab during the previous 3 years. Of these, 13 patients (38%) are on active therapy managed as a part of the osteoporosis liaison service, 4 patients (17%) are recent consults, and 17 patients (50%) are managed by rheumatology, have an alternate indication, not currently on therapy, or are deceased.

Conclusions: We anticipate finding high adherence to the established care pathway with respect to appropriately timed pre- and post-laboratory follow-up, low rates of drug related adverse effects, and a pattern of non-actionable pre-laboratory results exclusive of initial work-up. We also expect to find lower rates of secondary work-up prior to treatment and a trend in higher copayments reflective of better coding through rheumatology referral.

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D33 Resident Presentation

Characterization of SGLT2-inhibitor use in an Outpatient Geriatric Primary Care Practice

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Background: Type 2 diabetes mellitus (DM) is a significant risk factor for both heart failure (HF) and chronic kidney disease.[1] In recent years, utility of sodium-glucose cotransporter 2 inhibitors (SGLT2i) has expanded far past the singular indication for DM. Emergence of cardiorenal benefit suggested in clinical trials assessing the benefit of these agents in DM led to study for additional indications.[1,2] Subsequent trials have demonstrated benefit in both heart failure (HF) and chronic kidney disease (CKD) for select SLGT2i.[3,4] While indications exclusive of DM have been established, prescribing practice often does not reflect this. This project will describe how geriatric clinical pharmacists impact physician confidence in prescribing SLGT2s for novel indications through education and quantify this change with patient level interventions.

Methods: Patient level data will be obtained by electronic health record data request and will be incorporated into a pharmacist-led educational intervention supplemented with a pre/post-educational survey. The primary, qualitative outcome of this study is to identify changes in GCC provider confidence, perception of increased medical knowledge, and prescribing habits related to SLGT2i as evidenced by thematic analysis. The secondary, quantitative outcome of this study will measure pharmacist impact on practice-level prescribing of SLGT2i for HF and CKD through individualized patient care interventions.

Results: We anticipate finding a large proportion of eligible patients that are not prescribed SLGT2i due in part to the novelty of the supporting literature. Results of the pre/post-educational intervention are projected to suggest an increase in SLGT2i prescribing confidence for HF and CKD, a perceived elevation in medical knowledge involving these agents, and a shift in prescribing habits to reflect this.

Conclusions: The anticipated shift in provider confidence will ultimately lead to an increase in prescribed SLGT2i in patients with HF and/or CKD.

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D34 Resident Presentation
Improving Advance Care Planning(ACP) Discussions
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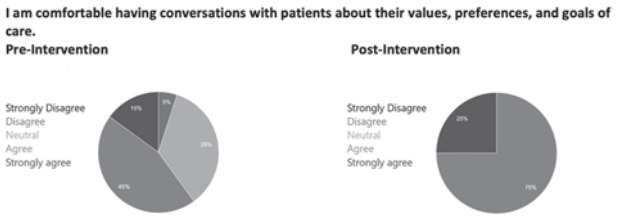
Background: While most physicians in recent studies agreed that Advance Care Planning (ACP) conversations are important to have, ACP continues to be underutilized. One reason is a lack of training during undergraduate medical education and residency. This project aims to improve family medicine residents' levels of comfort and knowledge on ACP discussions via simulation lab training. **Methods:** Pre and Post-intervention surveys were administered to the residents regarding their knowledge and comfort level with ACP discussions. A paired T test was utilized to compare pre and post data. Clinical data on ACP with patients 65 years and older was extracted from the electronic medical record pre and post- intervention. The intervention included a didactics session for family medicine residents which consisted of a lecture about different communication approaches to ACP discussions followed by small group interactions with standardized patients. **Results:** Post intervention surveys demonstrated a significant increase in residents' comfort in having ACP discussions (image attached). Very few encounters utilized ICD-10 or CPT codes related to ACP. **Conclusions:** Based on ICD-10 and CPT codes, very few ACP discussions were documented in the extracted data set. There was a marginal increase in ACP discussions in the clinic setting following the didactics session, though fewer discussions resulted in ACP documents scanned into patient charts. In terms of the intervention, there was a considerable increase in comfort level among residents with having these discussions after the didactics session. Therefore, further study is required to explore other barriers to having ACP discussions and their documentation, such as time during outpatient clinic visits.



Data from question asked of family medicine residents pre and post intervention.

D35 Student Presentation
Understanding Racial and Ethnic Differences in Switching from Combustible Cigarettes to E-Cigarettes in COPD Patients
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Background: Electronic cigarettes (EC) have been proposed as a harm-reducing alternative in smokers with COPD. Racial and ethnic differences can affect the extent to which smokers in the general population switch from combustible cigarettes (CC) to EC. To help design a targeted intervention for smokers with COPD, we conducted a mixed methods study assessing the relationship between race/ethnicity and switching from CC to EC; and evaluated whether it is mediated by social norms, risk perception, and overall opinions of CC and EC.

Methods: We recruited patients with COPD, aged 21 to 75, listed as current smokers in the NYU Langone Health electronic health record by phone, mail, and MyChart. Smokers who had moderate COPD (based on the COPD Assessment Test score (CAT)), who smoked ≥5 CC a day at least 4 days a week and were interested in quitting were eligible. We randomized participants to EC or nicotine replacement therapy (NRT) for switching from CC. Over 12 weeks, participants received 5 counseling sessions and were asked about their COPD symptoms, CC use, NRT/EC use, and nicotine withdrawal symptoms. We used Ecological Momentary Assessment (four text messages/day) to assess current EC/NRT and CC use. We analyzed the influence of race and ethnicity on switching, considering social norms, risk perception, media influence and overall opinions of tobacco and EC as possible mediators. We conducted in-depth interviews to gain descriptive explanations of study experience and reasons for switching or lack thereof. We used chi squared tests to compare categorical variables and analysis of variance for continuous ones.

Results: Among the 48 participants, the average age was 60 (STD 8.2) years and 54% were female. Races/ethnicities were 8% Black; 8% Hispanic/Latino; 81% White; and 3% Other/Not Reported. There was a trend towards decreased dyspnea and COPD symptoms, as well as decreased CC use, in the EC arm compared to the NRT arm. We are still collecting the qualitative data on switching perceptions.

Conclusions: Understanding the extent to which racial and ethnic differences in switching from CC to EC can be attributed to social norms, risk perception, media influence, and overall opinions of tobacco and EC; may allow us to design a more effective, more engaging smoking cessation intervention.

D36 Resident Presentation
Evaluation of high-risk medication cumulative burden on cognition in patients with dementia within Caring for Older Adults and Caregivers at Home (COACH) program
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Background: Dementia is a progressive disease that can negatively impact caregiver burden and health care utilization. Medications, such as agents that increase anticholinergic burden and those affecting the central nervous system, may increase risk for cognitive decline. The COACH program at Durham VA Health Care System (DVAHCS) is a multidisciplinary group that provides home-based support to Veterans with dementia and their caregivers. The purpose of this study is to evaluate high-risk medication's cumulative burden impact on cognition in Veterans enrolled in COACH.

Methods: This retrospective cohort study included patients 65 years and older, enrolled in COACH from (2/1/11-2/29/20) with at least 2 documented cognitive assessments. Patients were excluded if they did not receive VA prescribed medications or were lost to follow up. Utilizing a DVAHCS developed Drug Burden Index (DBI) tool, high-risk medications were quantified based on literature recommended minimum effective dose in adults 65 years and older. Cumulative DBI scores were calculated at time of admission to COACH, as well as at annual follow up to assess for association between cumulative drug burden and changes in cognition based on standardized evaluation. The preferred cognitive evaluation utilized by COACH changed from Mini-Mental State Examination (MMSE) to Montreal Cognitive Assessment (MoCA) during this time frame, therefore use of either was included for review.

Results: Four-hundred-fifty-eight Veterans were included for evaluation. Study participants were on average 83 years old, 98.5% male, and 56.6% white. Average initial cognition assessments reflected moderate-severe dementia (MMSE=17.45, MoCA=12.40),

with DBI average of 1.23. At 1 year follow up, average cognition scores (MMSE=15.36, MoCA=10.52) declined, while average DBI scores slightly increased to 1.28.

Conclusion: Dementia is a progressive disease, where cognition is expected to decline over time despite medication optimization. Further research is needed to assess the association of cumulative anticholinergic and sedative medication burden on rate of cognitive decline in this patient population. Future directions may include expanded pharmacy consultation services to reduce high-risk agents identified through a DBI.

D37 Student Presentation

Targeting Potentially Inappropriate Medications in Hospitalized Elderly Patients: Description of a Process to Optimize Yield of Quality Improvement Efforts

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Background

Given the number and heterogeneity of potentially inappropriate medications (PIMs) that quality improvement efforts may target, it is essential to systematically identify high-yield PIMs. We describe a 3-tiered proposal for selecting PIMs in hospitalized elderly to be targeted in a crossover randomized controlled trial (RCT) across an urban health system (10 hospitals).

Methods

In **step 1** a literature review identified >11 explicit criteria endorsed by geriatric associations. Most referenced were the AGS Beers Criteria and Screening Tool of Older People's Prescription (STOPP); these were scanned for overlapping PIMs. In **step 2** we queried how often these drugs were prescribed in our health system, and the discrepancy between lowest recommended dose (source: *Geriatrics At Your Fingertips*) and prescribed doses. Based on this, in **step 3**, a list of 25 PIMs was presented to an interdisciplinary "High Value Care" council; members voted on 10 PIMs to be targeted in a planned RCT.

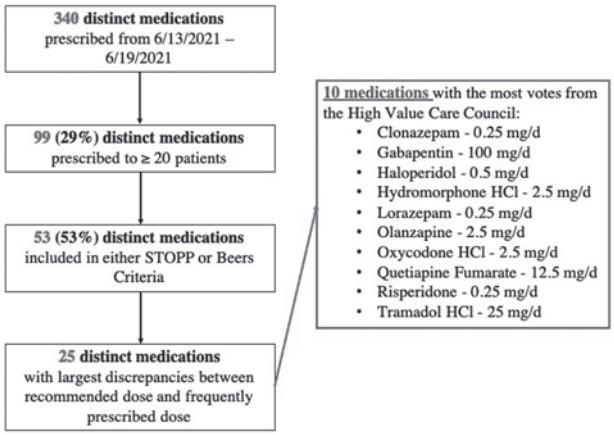
Results

Of 340 medications initially identified, 53 were included in either STOPP or Beers criteria. Selection steps are presented in Figure 1; the 10 PIMs with the most votes (i.e., highest-yield based on various inputs) were selected to be targeted in an RCT.

Conclusion

The presented systematic approach to select targets for our planned quality improvement RCT may be useful in other contexts and will advance efforts to standardize quality improvement projects.

Figure 1: Selection process for PIMs in hospitalized elderly to be addressed in an electronic health record-based crossover randomized controlled trial



D38 Student Presentation

Older Adult Perceptions of Technology in Medicine

T. garfield, K. Cruz, J. Knebl, M. Nguyen. *Texas College of Osteopathic Medicine, Fort Worth, TX.*

Technologies' growing involvement in health care has led to continuous improvement in efficiency and quality of care, but specific challenges lie with addressing the barriers that impair the geriatric population from benefitting the use of new technology. The purpose of this quality improvement initiative was to obtain feedback from older adults and their caregivers regarding a new electronic check in process in a geriatric primary care clinic. A cross sectional survey was administered to 70 older adults aged 65 and older between May – October 2021. Outcomes of interest included Internet access, device access, as well as user confidence with technology, and ability to effectively utilize new technologies. Findings indicated 40% of the primary population were unable to complete the electronic check-in themselves; defaulting to assistance from their caregivers; who reported ease in completing the check in process. An average of 68% of participants reported an interest in learning more about technology from their health care provider. Our results indicate that although the geriatric population faced some hardship in navigating the online check in system, they are willing to adopt and learn about new technology. These findings provide a basis for how physicians can meet patient expectations and provide a future avenue of patient education to improve quality care to the geriatric population.

D39 Resident Presentation

Impact of deprescribing acetylcholinesterse inhibitors for patients with Alzheimer's disease

L. C. Della Grotta, K. Leman, H. Sakely, A. Grimes. *St. Margaret Geriatric Care Center, UPMC, Pittsburgh, PA.*

Background: Acetylcholinesterase inhibitors (AChEIs), such as donepezil, rivastigmine, and galantamine, are the primary medications for symptomatic management of Alzheimer's disease (AD). Deprescribing AChEIs may be warranted for some patients given potential adverse events and limited effectiveness.[1-4] One barrier to deprescribing is the potential worsening of behavioral and psychological symptoms and subsequent high-risk antipsychotic prescribing.[3-5] Therefore, the objective of the study was to evaluate the rate of AChEI deprescribing in outpatients of two geriatric clinics. Secondary outcomes included incidence of tapering versus abruptly stopping AChEI's, the rate of subsequent cognitive and behavioral decline, and incident antipsychotic prescribing.

Methods: A retrospective analysis was conducted of patients with AD taking an AChEI with an office visit within the last 5 years (2016-2021) at two geriatric primary care practices. The study included outpatients aged 65 years and older with a diagnosis of AD prescribed an AChEI identified through an EPIC data request. Psychiatric patients of the practice and patients residing in a skilled nursing facility within 3 months of deprescribing were excluded. Descriptive statistics were used to compare baseline characteristics and outcome incidences.

Results: The primary outcome of the study was to evaluate the rate of AChEI deprescribing as reported by physicians in the electronic medical record (EHR). Secondary outcomes included the rate of subsequent cognitive and behavioral changes as defined by documented changes in mental status, delirium, agitation, anxiety, and insomnia in the 3 months following AChEI discontinuation in the EHR. Additional outcomes included incidence of tapered versus abruptly stopped AChEI's and antipsychotic prescribing as reported by physicians through EHR documentation.

Conclusions: We anticipate the incidence of AChEI discontinuation to occur in approximately 30% of our population.[2] Data collected from this project will help characterize withdrawal symptoms experienced by patients with dementia in our usual practice in which an AChEI has been deprescribed.

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D40 Resident Presentation

Describing the incidence of COPD among outpatients of an interprofessional geriatric practice

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Background: Chronic Obstructive Pulmonary Disease (COPD) is one of the top three causes of death worldwide and a major preventable and treatable cause of morbidity and mortality.[1] Over 16 million Americans have COPD, and millions more suffer from it but are not diagnosed or treated.[2] Pharmacological therapy can reduce COPD symptoms, frequency and severity of exacerbations, and mortality.[1] The purpose of the study was to describe the prevalence of COPD in two interprofessional geriatric clinics and to evaluate the population for medication appropriateness.

Methods: A retrospective analysis was performed from a cohort of active patients at two academic Geriatric Care Centers (GCC) to describe the prevalence of COPD and evaluate the population for treatment appropriateness. Included patients were 65 years and older with an outpatient office visit at the GCC within the last 3 years (2019 to present). Patients were identified if they had a prescription fill or historical medication for any bronchodilator (e.g. long or short acting beta-agonist, corticosteroid, muscarinic antagonist, or combination), a diagnosis of COPD or related diagnosis based on International Classification of Diseases, Tenth Revision (ICD-10) codes, or had spirometry performed per electronic medical records. Secondary outcomes included prevalence of treatment appropriateness as defined by indication, exacerbation history, and spirometry in concordance with Global Initiative for Chronic Obstructive Lung Disease (GOLD) recommendations. Descriptive statistics were used to compare baseline characteristics and incidences of subsequent outcomes.

Results: We anticipate the primary outcome of COPD prevalence in our population to be lower than the national average of 6.6% given limited interaction with this population in our daily practice.[3] Early results indicate most patients are appropriately prescribed bronchodilators based on indication, exacerbation history, and spirometry.

Conclusions: The project aims to positively impact patient identification, documentation, and management of COPD in our practice.

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D41 Student Presentation

Medication Usage in Independent Living: A Continuing Care Retirement Community Aging in Place Initiative

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Background: Continuing Care Retirement Communities (CCRCs) are intended to support residents as they age in place. These communities tend to be well resourced but less studied. This survey attempts to identify medication use concerns in this population. Mirabella CCRC has 324 Independent living (IL) residents, 82 of which are couples. The average age is 85 years. The current cost of an IL unit is from $4673- 6545 per month. This survey is part of a larger initiative to better understand barriers to aging in place in this specific population.

Methods: A ten-question survey was provided to all 324 residents. Residents self-completed the survey. Questions included medication numbers, frequency, aid in administration, ease of access, and ease of self-administration. We also surveyed over-the-counter medications (OTC), supplements, and future concerns of medication management. Residents could leave comments.

Results: There was a response rate of 217 (67%). Thirty eight percent were taking more than 5 medications, 91% took medications once or twice a day, 9% took meds three times a day or more. Eighteen percent had aid in medication management, 22% and 20% had difficulty opening/closing and reading bottles respectively. Medication access was an issue for 1%. Nine percent experienced side effects (SE), 5% being CNS SE. Vitamins or supplements were taken by 85% with 14% taking OTC sleep aids. Over the counter pain medications (Tylenol, NSAIDS) were taken by 36%. Concerns about managing medicines in the future were noted by 23% with 5% having concerns that cognitive problems may affect self-medication management. Difficulty remembering medications was noted by 12%.

Conclusion: CCRCs represent unique communities requiring unique considerations for medication usage. Cost was not noted to be of concern. There was concern of opening, closing, and reading labels. The common use of OTC medications for pain and sleep presents a potential area of intervention. Pharmacy involvement (newsletters, online talks) could address non-medication pain reduction, limitation of sleep medications, and aid in providing appropriate medication bottles. Qualitative analysis could be used to further address resident concerns of cognitive decline and ability to self-manage medications.

D42 Resident Presentation

Improving Provider Response to Positive Falls Screening Among Older Adults in Community-Based Primary Care

B. Ding, M. Gover, R. Chalmer. *Montefiore Health System, Bronx, NY.*

Background: Falls are the leading cause of injury among older adults in the United States. Falls risk can be reduced, but less than 40% of primary care providers (PCPs) regularly screen for falls. Implemented in 2019, the Medicare Annual Wellness Visit (AWV) improved rates of falls screening by nursing staff at our federally qualified health center serving a racially and ethnically diverse, socioeconomically disadvantaged population in Bronx, New York. However, the impact of screening on patient care was limited by low provider engagement with results. This pilot study aims to improve PCP response to positive falls screenings.

Methods: Electronic medical record (EMR) search query extracted all patients aged 65 and older with a positive falls screening (affirmative response to any fall in the prior year) during the months of January 2019, 2020, and 2021. Charts were reviewed for provider documentation and intervention for positive screenings. In June 2021, a 30-minute education session, attended by 25 PCPs (83% of clinic total), reviewed general information on falls risk and reduction and where to find results in EMR. Parallel EMR query with targeted chart review was repeated for the month of August 2021.

Results: Falls screening was completed in 846 (39%) of 2167 visits for older adults in January 2019-2021 (pre-intervention) and August 2021 (post-intervention) with 105 (12.4%) positive screens. Charts were excluded from analysis if fall was the chief complaint and/or the patient had a prior diagnosis of fall or gait impairment. Pre-intervention, 11.3% (7/62) of positive screenings were recognized by PCPs; post-intervention, 31.8% (7/22) were recognized, representing an absolute rate increase of 20.5% (Fisher's Exact Test, p=0.043).

Conclusion: Brief quality improvement intervention consisting of academic detailing with attention to EMR workflows can improve provider response to falls screening in a resource-limited setting caring for a predominantly racial and ethnic minority population. Further

study will reveal durability of impact, assess robustness of results to a broader definition of increased falls risk, and examine impact of screening recognition on provider clinical interventions.

D43 Student Presentation

Providing Virtual Technological Training to Older Adults in Response to COVID-19 Social Distancing

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Background: In America there are currently many older adults living alone in hopes of maintaining their independence. COVID-19 emphasized the pre-existing issue of social isolation among older adults, especially with society's ever-increasing dependence on technology. In response to the pandemic, the HealthWise program was created to teach older adults about technology, using Zoom©, to increase comfortability and confidence when using technology.

Methods: To participate in HealthWise, participants needed to be 55 or better, have WIFI connection and the ability to participate in sessions for the duration of the program. All participants were assigned to trained coaches, who were students at Eastern Virginia Medical School. During the first session each participant signed a consent form and completed a 14-question survey. Questions included multiple choice and Likert scales pertaining to age, race, educational level, frequency of technology use, and their level of comfort using technology. One-hour sessions were conducted twice a week for three months. The goal was for participants to gain proficiency in the following skills: WIFI, Zoom©, email and the Birdsong App, an internet-based software for older adults.

Results: There were 66 participants total. 56% of all participants lived alone, while 24% lived with their spouse. 24% completed some college but have no degree, 20% had a bachelor's degree, 18% had a master's degree, 15% had a high school degree (or equivalent) and 12% had an associate degree. 88% of participants use technology more than five plus times per week, while only 12% use technology less than five times. Of those using technology consistently, only 40% are comfortable with their abilities. Participants with an associate degree or higher reported to be more comfortable using technology compared to participants with a high school education or lower (p-value, 0.025).

Conclusion: The pre-survey data demonstrates there is a need within the older adult population to receive technological training. In addition, the data shows an interest among older adults to receive training despite education level and current levels of comfort using technology. Additional research will be conducted to gather data on retention of skills and comfortability using technology.

D44 Student Presentation

The Peer-2-PACT (P2P) Program: A peer-led, home-visit needs assessment intervention for high-need high-risk older veterans

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Background: Attending to the unmet needs of older high-need high-risk (HNHR) veterans by designing targeted interventions is critical to reducing institutionalization and hospitalization. P2P implemented Veteran Peer Specialists (PS) as home extensions of primary care Patient-Aligned Care Team (PACT), to conduct home visits and targeted data gathering to link HNHR Veterans to needed services. This pilot aims to evaluate the effect of the P2P intervention on health care engagement and to evaluate implementation barriers and facilitators.

Methods: In this open-label, single-arm trial, eligible veterans were from Miami VA's HNHR list or referred by PACT for poor care engagement. A 3-month pre-post analysis measured differences in the number of PACT encounters from nursing, social work, and pharmacy using paired sample t-tests. Qualitative data analysis followed a general inductive approach. A mixture of detailed notetaking and audio-recorded semi-structured interviews was conducted.

Results: Participants (N=25) were mostly 75 ±10.4 -year-old white (55%) males (92%) with a mean CAN and JFI score of 93.2 and 6.6, respectively. The most common needs identified were managing mental or physical health (52%), medical supplies (48%), home safety devices (44%), transportation (32%), food insecurity (28%), assistive devices (28%), ADL/IADL assistance (28%), and medication refills (24%). Mean PACT encounters increased in the 3 months after beginning the P2P intervention from 0.52 to 2.36 ($p<.01$) for social work, 1.76 to 3.72 ($p<.01$) for nursing, and 1 to 3.36 for pharmacy ($p<.01$). Qualitative data identified intervention improvements including improved communication to close the loop on identified problems, development of an electronic medical record template for needs assessment, and flexible follow-up period.

Conclusion: This study is ongoing, but preliminary data show that PS may help bridge the gap between PACT and HNHR veterans by evaluating veteran needs outside of the clinic and linking veterans to resources and services. A PS-led home visit is a promising tool to identify unmet needs and increase veteran engagement and use of needed services.

D45 Student Presentation

Provider Perspectives on an Electronic Clinical Tool for Older Adults with Chronic Pain

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Background

Chronic pain is common in older adults and management may be complicated by multimorbidity, polypharmacy, and geriatric syndromes. Furthermore, little work has been done to transfer knowledge about optimal chronic pain and opioid management in older adults to generalists. We developed I-COPE, a clinical decision support tool, to improve chronic pain management in older adults. I-COPE consists of four main components: a pre-visit patient questionnaire about symptoms and treatment preferences, an adaptive electronic health record order set with comprehensive multimodal treatment options, a conversation tool to facilitate shared decision-making, and patient education materials. The objective of this study was to conduct qualitative interviews with providers within pilot sites to better understand the implementation context.

Methods

A standardized interview guide was created using the Consolidated Framework for Implementation Research, an operationalized qualitative framework for studying barriers and facilitators in local settings. Participants included physicians and advanced practice nurses from two pilot clinics who were recruited via email. Interviews were conducted over the Zoom web platform and transcribed. A template-analysis approach was used to code interviews and discrepancies were resolved by discussion.

Results

Eighteen interviews were conducted to reach theme saturation. Providers disclosed several barriers to chronic pain management in older adults which complicate patient care; the most frequent were limited time, comorbidities/side effects, and non-financial barriers to chronic pain treatment such as hindered access to physical therapy and substance use resources. Many providers expressed frustration with a scarcity of resources for managing patients with chronic pain.

Providers were enthusiastic about I-COPE's ease of use within their current practices, design quality and packaging, and ability to meet clinical decision-making needs.

Conclusion

Our findings indicate that although providers feel overwhelmed with the fractured nature of chronic pain care and rushed clinical encounters, I-COPE appears to be a promising tool to strengthen shared decision-making in this field and emphasize multimodal treatment options.

D46 Student Presentation

Reducing Time to Treatment for Urinary Tract Infections (UTIs) in Older Adults in the Outpatient Setting: A Quality Improvement Project

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BACKGROUND

Adults 65 years and older are three times more likely to be admitted for UTI than younger adults. Providers often struggle with making a definitive diagnosis in a timely manner since UTI symptoms may be vague in older patients. Previous research has focused primarily on addressing issues related to overdiagnosis and unnecessary antibiotic treatment. Our concern was that we are not treating all UTIs in a timely fashion. Using a quality improvement format, our goal was to review the process of identification and treatment of UTIs in older adults in a General Internal Medicine Clinic.

METHODS

In a retrospective chart review using Heron, a health care research data repository, we identified charts of patients seen in General Internal Medicine Clinic from January to March 2019, age 65 and older, and with a billing ICD-10 code of N39.0 (UTI). Our team met with the clinic nurse manager and medical director and developed a process map. Using this map, we determined critical components regarding identification and treatment of UTIs are time-sensitive. Data recorded include demographics and calculated Charlson Comorbidity Index as well as a chart review focusing on time stamps of each of these events in the medical record --who and when symptoms were reported, times of communication back to order urinalysis, collection, results released, reviewed.

RESULTS

Our process map revealed many complex steps in the process of UTI diagnosis and treatment in older adults. 436 patients met inclusion criteria, ages 65 to 88 years, median 73 years. 57% female, 43% male. 68% white, 22% black, 10% other races. Chart review is in process.

CONCLUSIONS

Time is of the essence in the identification and treatment of UTIs in older adults. Therefore, innovative process changes may be able to speed up treatment and hopefully positively influence outcomes.

D47 Resident Presentation

Exploring system, site, and patient level factors affecting implementation of a dementia care support program in a safety net health system

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Background

The LA County Department of Health Services (LAC DHS) implemented The Care Ecosystem[1], a phone-based dementia care support and education program utilizing Dementia Navigators (DNs) to address unmet needs of patients with dementia and their caregivers (dyads). This is the first time that this program has been implemented in an underserved, multilingual and multicultural population. We used the Replicating Effective Programs (REP) framework to identify implementation barriers at multiple levels including patient, staff, system and external barriers. Barriers and challenges not identified by REP were captured by the Practical, Robust Implementation and Sustainability Model (PRISM).

Methods

The program was implemented in 4 distinct DHS clinical sites over 18 months. Dyads were enrolled in months 11-18. Monthly meetings were used to track enrollment data and staff engagement as well as to identify barriers at the patient, site, and systems levels.

Results

One hundred and three patients were referred to the program across all 4 sites, and 47 were enrolled (45.6%). The site with the highest level of PI engagement had the highest number of referrals (N = 63) and patients enrolled (N=22). The site with the highest level of DN engagement had the highest percentage (78.3%) of enrolled patients (N=18) from those referred (N = 23). REP-PRISM factors impacting staff engagement, patient referral, and enrollment identified during the monthly meetings include staff turnover, competing obligations, and administrative support. Other factors include dyad health status, stigma associated with dementia diagnosis, and access to communication technology. COVID-19, an external factor, significantly impacted the implementation process.

Conclusions

The REP-PRISM framework helped identify implementation barriers at multiple levels while establishing a dementia support program in a safety net health system, and will help inform future implementation projects within this population. Engagement by all study personnel in regular meetings improved program implementation by enhancing communication, support and problem-solving.

References

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D48 Resident Presentation

Systematic deprescribing through VIONE implementation in the home-based primary care (HBPC) setting

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Background:

There are limited system and center specific resources that support a standardized approach to deprescribing – VIONE, a tool developed by the Central Arkansas VA Healthcare System, is a simple medication management methodology to guide clinicians to thoughtfully reduce polypharmacy and improve patient safety by identifying medications that are vital, important, optional or not indicated. Benefits have been described in the primary care setting but are not yet available in the home-based primary care (HBPC) setting.

Methods:

This is a single center, retrospective, quality improvement study conducted at the VA Boston Medical Center to evaluate the impact of VIONE implementation within HPBC. We used a phased implementation strategy including: 1) a didactic and case-based presentation focused on the VIONE tool and the implementation process to educate the interdisciplinary team; 2) use of the VIONE risk-score in initial HBPC pharmacist medication review notes; 3) use of a templated note to standardize documentation; and 4) survey of the interdisciplinary team pre and post implementation to evaluate satisfaction, self-efficacy, and knowledge of VIONE and deprescribing. The primary outcome of our study is to evaluate the number of medications deprescribed per patient. Secondary outcomes will include HBPC interdisciplinary team self-efficacy, knowledge and satisfaction, medication classes discontinued, number of pharmacist interventions and total cost avoidance.

Results:

Our initial deprescribing and VIONE educational session was performed in October 2021 for the interdisciplinary HBPC team. Pre-implementation survey results (n = 15) indicated that the majority of team members (60%) are not confident in deprescribing and (60%) feel they do not have the time or resources available.

Conclusion:

Baseline results revealed low confidence in deprescribing and concern for lack of education, time and resources among HBPC team members. Additional interventions for VIONE deprescribing implementation will occur over the next 6 months including educational sessions, use of a risk score, and a templated pharmacist note; post-implementation evaluation will be performed.

D49 Resident Presentation

More Hands on Deck? Developing a Dementia Decision Support Tool for Care Partners

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Background: For care partners of persons with dementia, decisions about care needs can be challenging and may feel unexpected. There is a need for clinically useful decision support tools to help patients, care partners and providers anticipate these needs. This mixed-methods study iteratively assessed geriatric provider team and care partner feedback on a dementia decision support tool for future care planning.

Methods: Multidisciplinary geriatric primary care staff and family care partners of persons with dementia were recruited through an academic practice. Surveys assessed acceptability and usability of the decision support tool. Semi-structured interviews of providers focused on current barriers to dementia-related decision making and feedback on a paper version of the tool. Qualitative analysis included team-based thematic analysis to identify key themes.

Results: Ten staff and 8 care partners participated. Clinical team respondents were female (n=7), staff were mostly physicians (n=5), as well as behavioral health (n=2), advanced practice providers (n=2), and social work (n=1). For care partners, mean age was 69 years old, 88% were female, 13% were African American, and were equal parts spouse or child relationships. Clinicians reported the decision support tool was easy to understand (70%) and reported the tool to be at least somewhat helpful (50%) or very helpful (40%) for dementia decision making, and all reported that they would probably or definitely recommend use of the tool to other providers. Care partner report of helpfulness varied from 38% thinking it was a little helpful to 50% thinking it was very helpful in clarifying values, and 38% reporting the tool would be very helpful and 38% reporting it to be somewhat helpful in making a decision related to dementia care. Key themes from clinicians included a) patient factors influencing use of the tool, b) anticipated outcomes of use, c) limitations of the tool in primary care, and d) perceived benefits of the support tool.

Conclusions: Providers and care partners perceived the proposed dementia support tool as acceptable. Many reported the tool may be useful to reduce current gaps in long-term care planning related to a lack of information and dementia education upon diagnosis. Further evaluation of the dementia support tool including interviews with care partners, and with a larger, racially and ethnically diverse sample is warranted.

D50 Resident Presentation

Barriers to Completion of Medicare Annual Wellness Visits in an Internal Medicine Resident Primary Care Practice

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Background: The Medicare Annual Wellness Visit (AWV) provides an opportunity to focus on preventive health in the primary care setting. In one group practice that has separate faculty and resident continuity practices, we analyzed rates of completion of the AWV and surveyed residents on barriers to completion.

Methods: Aggregate data on completion rates of the AWV for faculty and residents at the Bayview Medical Center internal medicine practice was obtained from Johns Hopkins Tableau (an electronic data set) for the 12 months ending May 2021. Separately, 40 out of 47 internal medicine residents with 1-3 years of training at Bayview Medical Center (85%) responded to an online Qualtrics survey regarding their three biggest barriers to completion of the AWV.

Results: The faculty practice completed 816 of 1,296 eligible Medicare Annual Wellness Visits (63%), while the resident practice completed 186 of 410 (45%) during the 12 month time frame.

Eight-four percent of residents identified limited time and availability as one of their top barriers to completion. Other commonly identified barriers were patient awareness of the AWV benefit (45%), scheduling challenges (32%), lack of technical training (29%), and challenges coordinating with medical assistants who often assisted in asking the questions (26%). Additionally, 76% of residents stated they preferred in-person AWVs over telemedicine AWVs, because in-person allowed them to assess pertinent health risk assessment findings, build relationships with the patient, and circumvent technological barriers. Only one of the 40 residents preferred telemedicine for these visits.

Conclusions: Medicare Annual Wellness Visits have the potential to serve as an important preventive health tool for older adults in primary care. In one internal medicine primary care practice, we found that the rates of completion were significantly higher for faculty than for resident trainees. Residents identified barriers to completion that will form the basis of quality and process improvement activities for the practice.

D51 Student Presentation

Evaluating the Feasibility of Implementing a Remote Injury Prevention Service in Skilled Nursing Facilities

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Background

Falls are the leading cause of injury, hospitalization, and disability amongst older adults in skilled nursing facilities. NH-PRIDE is a novel Injury Prevention Service (IPS) model that provides remote consultation to multiple facilities to address risk factors for injurious falls amongst long-stay residents. The objective of the study was to evaluate implementation of the IPS model in 3 facilities using elements of the RE-AIM framework.

Methods

The IPS consisted of 1. Identification of long-stay residents at high risk for injury using an automated model and staff referral; 2. A remote IPS nurse made individualized medication recommendations for select residents through chart review and virtual "huddles" with staff; 3. Monthly educational conferences. Each facility participated in the study for approximately 6 months. Implementation was assessed using surveys and open-ended questions with direct care staff

following participation. Data responses were grouped by themes and presented using elements of the RE-AIM Framework (Effectiveness, Adoptability, and Implementation).

Results

Eleven staff members from 3 facilities were surveyed, with 1-5 staff members attending 18 roundtable meetings. Table 1 classifies responses to survey questions categorized by the RE-AIM Framework to evaluate the IPS model. Major barriers identified included limited staff and concerns about pill burden.

Conclusion

Amongst nursing home staff, most found the IPS model to be effective and adoptable, yet staff were rarely able to implement ideas from roundtable meetings. We are presently completing the pilot on an additional 2 facilities to improve the model before testing its efficacy in a randomized control trial.

Table 1

RE-AIM	Survey Question	Survey Response (N=11)
Effectiveness	Very satisfied with the NH-PRIDE study	7
	Team meetings/huddles were helpful	11
Implementation	Estimated time per month spent on NH-PRIDE activities	1-2 hours (5) <1 hour (3)
	The Nursing Home Pride Study adds work for me	2
	Followed recommendations for deprescribing	6
	Followed recommendations to prescribe osteoporosis drugs	7
	Ideas from roundtable meetings were implemented often	4
Adoption	Very Likely to recommend NH-PRIDE study to a colleague	7

NH staff reported they were rarely (3) able to implement ideas from roundtable meetings.

D52 Resident Presentation

Improving Transitions in Care: Patient Handoffs from Inpatient to Skilled Nursing Facility

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Background & Aims:

Poor communication between healthcare providers at times of transition in patient care has been recognized as one of the leading causes of patient readmissions to the hospital. In 2/2019, VCU Health launched a hospital-wide paging system designed for inpatient providers to contact the nursing facility attending service (NFAS) at local skilled nursing facilities (SNFs) to perform patient handoffs. The primary outcome was the rate of complete inpatient to SNF handoffs.

Methods:

Surveys were administered to internal medicine house staff and SNF providers to evaluate baseline awareness and value of the handoff process. The rate of completed handoffs was recorded by a care coordinator each month. A focus group was held in 5/2019 to identify barriers to completing handoffs with the current paging system. PDSA cycle 1 was initiated in 6/2019: the handoff process was revised so that the accepting NFAS paged the inpatient team when ready for handoff. Education was provided to internal medicine house staff, geriatricians and care coordinators about the handoff system before and after the process change.

Results:

In 5/2019, 62 internal medicine house staff and 4 SNF providers were surveyed about transitions in care. When asked about the current paging system for handoffs, 68% of house staff were not aware that the pager existed and of those who were aware, the pager was being used at time of discharge <10% of the time. 79% of house staff and 100% of SNF providers agreed or strongly agreed that handoffs are important to patient care and will help reduce hospital readmissions. From 2/2019 – 7/2019 the monthly completed handoff rate was 20-30%. After PDSA cycle 1, the process was streamlined and the revised paging system was launched in 8/2019. The monthly handoff completion rate increased to 47% for the month of August with the highest rates among the hospital medicine service and internal medicine house staff; and the lowest rates among the trauma and orthopedic surgery departments.

Conclusion:

Provider to provider handoffs at times of patient transitions is essential to safe and quality care. The rate of completed handoffs increases when SNF providers have a platform to contact inpatient providers. The rate of completed handoffs is still being followed with the goal to correlate this measure with hospital readmission rates.

D53 Resident Presentation

Feasibility of implementing a patient education intervention focused on deprescribing benzodiazepines

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Background Long-term benzodiazepine (BZD) use is common among older adults despite known risks. In the EMPOWER (Eliminating Medications Through Patient Ownership of End Results) study in Quebec, Canada, a patient education intervention, 27% of patients receiving the mailed educational materials discontinued BZDs compared to 5% in the control group after 6 months. Our objective was to examine the feasibility and potential effectiveness of implementing this educational intervention as part of a quality improvement project in the U.S.

Methods We used a pre-post design. 4 primary care physicians were engaged in the intervention in December 2021; 20 of their patients who had at ≥ 60 days' supply of prescribed benzodiazepines and ≥1 risk factor (≥ 65 years of age, a concurrent high-risk medication prescribed, or a valium equivalent daily dose (VEDD) >10) were mailed an educational brochure, physician letter, and flyer detailing the risks of BZD use in February 2021. Baseline, 3-month follow-up and 6-month follow-up VEDD were recorded via detailed chart review. Referrals to a pharmacy BZD tapering program and/or behavioral health professionals and documented discussions regarding the risks of benzodiazepine use were recorded.

Results Baseline VEDD was 6.255, 3-month follow-up was 4.25, and 6-month follow-up was 3.375. At the 6-month follow-up, 7 patients (35%) had tapered off completely, with 2 patients (10%) tapering off prior to receiving the intervention but after providers had been engaged in deprescribing; 2 patients (10%) had decreased benzodiazepine dosages. 4 patients (20%) were sent referrals to the pharmacy BZD taper program. Providers wrote referrals to behavioral health professionals for 4 patients (20%), including psychiatry and psychotherapy. There were also 5 (25%) documented discussions regarding the risks of benzodiazepine use.

Conclusions The results from this exploratory quality improvement project indicate that direct patient education has the potential to motivate patients to initiate deprescribing discussions with their providers in the U.S., where the culture of benzodiazepine use may significantly differ from Canada. This study also recognized health system enablers that make deprescribing possible (e.g., availability of a pharmacy-led BZD tapering program). Findings suggest how actively engaging providers could motivate them to initiate discussions with patients during the deprescribing intervention.

D54 Student Presentation

Caregiver Burden Survey: A Tool for Assessing the Stress Burden in Caregivers of Elderly Patients

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Background: Due to a multitude of inexplicable factors, the true pervasiveness of the caregiver burden is severely underreported, and as a result, the magnitude of this health crisis remains vastly understated. In order to help bring this issue to light, we developed an anonymous questionnaire intended to analyze the resulting effects of caregiving on various aspects of the caregiver's quality of life.

Methods: A qualitative survey assessing the stress burden associated with caregiving was administered to caregivers in Arkansas (n=94, 71 females, 13 males, 10 unreported). The survey inquired about the caregivers' overall mental and physical wellbeing by exploring the various components of their lives and how they have potentially been impacted by the burden of caregiving.

Results: 51.7% of surveyed caregivers were white and 39.3% were African American; 58.4% were ≥60 years of age. More than half (54.6%) reported a household income of <$60,000, as well as no college degree (51.1%). Furthermore, 64.3% of patients lived in the same home as the caregiver, propagating financial hardships, with 41.3% of caregivers admitting to difficulties paying bills, and 50.6% noting changes in their work performance. 71.2% also claimed that caregiving had impacted their relationships. 44.8% reported newly diagnosed medical conditions since taking on caregiving and 44.8% admitting to <7 hours of sleep per night. In addition, 34.5% reported not receiving adequate information, and 41.1% never had the opportunity to speak with the patient's provider separately.

Conclusion: The coalescence of an aging population and a recent upswing in diagnosed mental health disorders has led to a rapidly rising prevalence of caregiver burden in the United States. The degree of burden is growing in severity due to an increasing number of patients requiring more complex care and longer life expectancies. Moreover, the compounding financial and emotional setbacks experienced by these caregivers may lead to declining health, further increasing the burden. Thus, the intricate etiology of the caregiver burden is multifactorial in nature, highlighting the need for a multi-disciplinary approach to mitigate the burden experienced by caregivers.

D55 Resident Presentation

Impact of a Pharmacist Led Deprescribing Initiative (IMPROVE) in Geriatric Patients at the VA Eastern Colorado Health Care System

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Background: The Integrated Management and Polypharmacy Review of Vulnerable Elders (IMPROVE) initiative was implemented at the VA Eastern Colorado Health Care System (ECHCS) in the fall of 2021. IMPROVE provides veterans an appointment with a Clinical Pharmacist Practitioner to optimize medication regimens and associated health outcomes by deprescribing inappropriate medications and addressing medication barriers in the context of patient-centered goals. IMPROVE visits were provided for patients consulted to the Geriatric Patient Aligned Care Team (PACT), Virtual Geriatrics, and Home Based Primary Care (HBPC) clinics. Appointments were conducted by phone to improve access to rural patients and those with limited transportation.

Methods: This retrospective chart review evaluated IMPROVE visits at VA ECHCS between 10/1/21 and 11/3/21. The primary outcome was the number of medications deprescribed, as recommended by a pharmacist, within 14 days after an IMPROVE visit. Deprescribing was defined as medication dose reduction or discontinuation. Secondary outcomes included total number of potentially inappropriate medications, as informed by the AGS Beers Criteria®, deprescribed within 14 days after visit, number of recommendations provided to the provider, and number of interventions made by the pharmacist.

Results: A total of 24 patients were included in this review. The mean age was 79 years (range 64 to 92 years). Seventeen (71%) patients identified as White, 2 (0.1%) as Black or African American, 1 (0.05%) as Native Hawaiian or Other Pacific Islander and 4 (0.15%) patients did not disclose their race. Eleven medications were deprescribed as recommended by the pharmacist. Of those, 7 (63.6%) were potentially inappropriate medications. Pharmacists provided 46 recommendations to the provider and 14 (30.4%) of those recommendations were acted upon within 14 days. A total of 44 interventions were completed by pharmacists during IMPROVE visits. Of these, 36 (81.8%) were medication related and 8 (18.2%) were not medication related.

Conclusion: IMPROVE phone visits by Clinical Pharmacist Practitioners can identify opportunities to optimize medication regimens for older veterans.

D56 Student Presentation

Advancing Geriatric Care in the Emergency Department: A Multi-site Study across the University of California Healthcare System

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Despite the geriatric patient's high utilization (20%) of the Emergency Department (ED), the care delivery models guiding traditional emergency care fail to address the complexity of the older adult, thus resulting in poor patient outcomes. In response, geriatric emergency experts have developed the Geriatric ED Accreditation and the 2014 consensus guideline to standardize best practice; despite these efforts, geriatric emergency care remains heterogenous as most EDs struggle to implement the guideline due to identifiable barriers. An analysis of innovations to establish Geriatric EDs across the University of California (UC) healthcare system, with a focus on two recently implemented initiatives, will highlight lessons learned and paths to advance geriatric care. This qualitative study aimed to characterize and evaluate team member composition (Geriatric Emergency Nurse Initiative Expert to Geriatric Expert Practitioner), as well as structures and processes in Geriatric EDs across the UC healthcare system. Data from open-ended, semi-structured interviews with geriatric emergency leaders and observations in two leading Geriatric EDs, were analyzed for content and themes. Geriatric emergency leaders reported widespread recognition that geriatric expertise, as currently implemented across the healthcare system, lacks a foundational care delivery model for implementation. Specifically, this analysis generated the following recommendations: advanced practice nursing to guide capacity development; a framework for assessment and care coordination; and a multidisciplinary team-based approach to care delivery. Importantly, institutional leaders also reported a high level of organizational readiness for change. The slow development of geriatric expertise in the ED stems from the absence of well-evidenced, model-based care delivery and assessment. Implementation of geriatric assessment grounded in the Comprehensive Geriatric Assessment Model, and geriatric emergency care delivery founded upon the Geriatric Practitioner Model, will serve to inform role development, develop successful care processes, and improve team coordination. Adoption of a model-based approach to geriatric expertise in the ED may become the pathway toward increasing the current number of accredited Geriatric EDs (5%), and importantly, toward improving the delivery of competent and compassionate geriatric emergency care.

D57 Student Presentation

Cardiovascular Disease in Movies : Missed Opportunities to Drive Social Change and Improve Shared Decision Making

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Background: Cardiovascular diseases (CVD) are the leading cause of death and disability. Their prevalence in the United States is expected to rise 10% between 2010 and 2030. Interventions that improve self-care behavior, or cardiovascular outcomes in most vulnerable population are generally lacking. Films have been the interactive medium to create awareness in the society on different social issues. Shaping perception of illness through films may enhance patient care and stimulate conversations about shared decision-making

patient self-management and patient reported outcomes. We examine films representation of women, black, and racial minorities with cardiovascular disease.

Methods: Cardiovascular diseases including Myocardial Infarction (MI), Stroke, Hypertension (HTN), Heart Failure represented in films were identified through various search engines including Internet Movie Database (IMDb), the NIH PubMed system: The representations of the different illnesses were reviewed separately. The Commonsense Model used as theoretical framework to outline illness perceptions and trajectory in films reviewed.

Results: Most films represented middle aged white men from middle to high socioeconomics class. Myocardial infarction followed by stroke were most depicted. Qualitative analysis identified

three main themes: (a) Social construct of who is at risk for cardiovascular disease; (b) Portrayal of certain risk reducing strategies, and (c) Disempowerment and delegation of responsibility for women with cardiovascular illness.

Conclusions: Film portrayal of who is at risk of cardiovascular illness may limit awareness among marginalized demographics including women, black and minority racial backgrounds and those from lower socio-economic status. Filmmakers as advocate for social change should bridge the awareness gap between films and real-world persons at risk of illness.

D58 Resident Presentation

Implementation of a Telephone-Based Cognitive Rehabilitation Group for Older Adult Veterans

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Background: Cognitive rehabilitation group therapies, such as Motivationally Enhanced Compensatory Cognitive Training for Mild Cognitive Impairment (ME-CCT-MCI), are associated with improvements in cognitive functioning, cognitive complaints, and subjective daily functioning domains. While traditionally delivered via in-person, the COVID-19 pandemic resulted in a transition to video visit delivery by many providers and health organizations, including the VA. However, many older adults are unable to participate in video telehealth due to low technological literacy or lack of internet access. Expanding dissemination approaches to include telephone-based delivery may improve access to cognitive rehabilitation services for many older adults. This study assessed the feasibility, acceptability, and preliminary efficacy of an 8-week, telephone-based ME-CCT-MCI group for older adult veterans without technical literacy during the COVID-19 pandemic.

Methods: A convenience sample of eleven older adult veterans (M^{age}=77.72, SD=4.12) with subjective memory complaints and stated inability to use the VA's Video Connect system for video visits was recruited from geriatric clinics within a Veterans Affairs Medical Center. Two rounds of 8-week ME-CCT-MCI groups were conducted, with each group meeting by telephone for one hour a week. Participants completed a battery of measures before and after participation and change over time was evaluated using paired samples t-tests. Measures included the Montreal Cognitive Assessment – Blind, Multifactorial Memory Questionnaire, Geriatric Depression Scale, Geriatric Anxiety Scale, Short Form Health Survey (SF-12) and a group satisfaction questionnaire.

Results: Feasibility was demonstrated through good rates of session attendance (M = 6.72 out of 8 sessions), and acceptability was demonstrated through excellent self-reported measures of group satisfaction (M = 9.18/10). Participants demonstrated significant improvements in cognitive functioning (p = .03), subjective memory satisfaction (p = .01) and subjective memory abilities (p < .01) between pre-test and post-test measures. No differences were found for subjective memory strategies, depression, anxiety, or perceived health.

Conclusions: Findings offer preliminary support for the feasibility, acceptability, and efficacy of telephone-based ME-CCT-MCI for technologically unready older veterans.

D59 Student Presentation, Encore Presentation

Racial and Ethnic Disparities in Analgesics and Antipsychotics Use among Persons with Advanced Dementia in Home Hospice

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Background: Significant racial and ethnic disparities exist in the community in underprescribing analgesics for pain and overprescribing antipsychotics for behavioral symptoms in persons with dementia. In hospice these drugs are commonly used to provide comfort, but little is known about prescription patterns in minoritized populations. We aimed to identify prescribing patterns in minoritized racial and ethnic groups among persons with living advanced dementia in home hospice.

Methods: A cross-sectional study of 6,874 participants with advanced dementia from eight hospices across the United States. Demographics, antipsychotic (typical, atypical) and analgesic (opioid, non-opioid) prescriptions at admission, days of prescription use in hospice and length of stay were collected from electronic records. Descriptive statistics were calculated and hurdle regression models estimated to examine the association between race/ethnicity and prescription rates for each drug (days of drug use per 100 person-days).

Results: Participants were 10.7% Black, 34.8% Hispanic, 51.1% white, and 3.3% from other racial and ethnic groups. On admission, Hispanics and Blacks had similar rates of antipsychotic prescription that were lower than whites (11.9% & 12.3% vs 16.8%) and Hispanics had substantially lower non-opioid analgesic prescription vs Blacks and whites (23.3% vs 36.0% & 37.3%); During the hospice stay, Hispanics were prescribed antipsychotics (atypical RR =1.03, 95 % CI: 1.02-1.04; typical RR:1.04, 95% CI: 1.01-1.07) and analgesics (opioid RR =1.03, 95% CI: 1.02-1.04; non-opioid RR = 1.03, 95% CI = 1.02-1.03) for more days than whites. Blacks were prescribed analgesics (opioid RR =1.09, 95% CI 1.08-1.11; non-opioid RR = 1.01, 95% CI: 1-1.02) for more days than whites.

Conclusions: Disparities in analgesic and antipsychotic use on admission amongst Blacks and Hispanics were found, yet hospice narrowed this gap significantly. While less likely to be prescribed opioids, Blacks and Hispanics had more person days on analgesics overall. However, there was divergence in antipsychotic use over time between groups that requires further investigation given the controversial role of antipsychotics in management of dementia symptoms.

D60 Student Presentation

Can an Intelligent Virtual Assistant (IVA) Meet Older Adult Health-Related Needs in the Context of a Geriatric 5Ms Framework?

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Background: Older adults are the fastest growing group of digital technology users. IVAs embodied in smart speakers such as Amazon Echo® are popular and because they do not require visual or tactile interaction, they are accessible to people with sensory, physical and cognitive impairments. Utilizing the Geriatric 5Ms: Medications, Mind, Mobility, what Matters Most and Multicomplexity, geriatrics healthcare professionals address the complex care needs of older adults. In this study, we examined data on older adults' views of how an IVA could be useful for their health-related needs and ascertained if these identified uses for an IVA fit into the Geriatrics 5Ms framework.

Methods: We re-analyzed qualitative data from interviews among older adults about barriers to managing their health-related

needs that IVAs might address. Two authors independently assigned a subset of the original codes into themes corresponding to the 5Ms.

Results: Participants (N=16) were ages 68-90, 56% women, 75% White. We reassigned 111 codes into the 5Ms (26.1% Medication, 13.5% Mind, 13.5% Mobility, 35.1% what Matters Most and 11.7% Multicomplexity). The Medication theme included quotes addressing difficulty remembering complex medication schedules and how IVAs might provide reminders to take medications. The Mind theme included quotes related to isolation, depression, anxiety and memory loss. An IVA could be used to provide companionship, behavioral interventions and memory aids. Quotes included in the Mobility theme related to exercise. An IVA could remind one to exercise, and could provide incentives and ideas to do so. The what Matters Most theme included quotes related to the particular health concern of the participant such as nutrition. IVAs could support good nutritional practices by suggesting nutritious foods, and ordering them from local stores. Multicomplexity included quotes on reducing caregiver burden, and managing multimorbidity. IVAs could also be used to assist caregivers by providing information, and communicating with health care providers for example.

Conclusions: Overall, we found that older adult participants' needs and recommendations for an IVA related to health needs can be put into a 5Ms framework. Moreover, numerous uses for an IVA were identified utilizing this older adult needs-focused framework.

D61 Student Presentation, Encore Presentation

Medical Students' Reflections on Engaging with Older Adults During the COVID-19 Pandemic

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Background: The Caring Companions initiative was founded at Rutgers Robert Wood Johnson Medical School to address social isolation born from the COVID-19 pandemic while providing students with a unique opportunity to interact with older adults outside of a medical setting. First-year medical students were paired with older adults in New Jersey to foster longitudinal relationships. Few studies have explored similar opportunities in the pre-clinical years. We examined student reflections on this experience to provide insight on the students' perception of older adults in a non-clinical context.

Methods: 31 first-year medical students and their companions conversed once a month through audio or video calls from September 2020 to May 2021. After each call, students wrote a 300-word reflection about general feelings, information learned, or topics discussed. Reflections were deidentified and coded based on themes determined from a preliminary reading of reflections. Using the framework of learning about patients in context, we coded reflections using the following categories: family, social support, living settings, socioeconomics; and individual patient characteristics, including acute, chronic, and psychological conditions.

Results: Medical students met with their companions over an average of 7 months (range: 5-9 months). All students reflected on their companions' family dynamics, and 94% wrote about the companions' social support systems. Furthermore, 84% reflected on their companion's living conditions, while 58% noted their companion's description of their current or previous jobs. Interestingly, 68% of the students reflected on their companions' chronic health conditions. Finally, 61% noted their companions' psychological conditions, including anxiety or depression based on companion reports or student evaluations.

Conclusion: Based on the 7-month interaction between medical students and their companions, nearly all students reflected on companions' family and social support systems. Furthermore, most students commented on companions' chronic and psychological conditions. Implementation of longitudinal programs distinct from the clinical setting enriches medical students' understanding of older adults' holistic wellbeing within their own unique contexts.

D62 Resident Presentation

The Effect of Cognitive Impairment and Medical Co-morbidities on Healthcare Utilization Rates

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Background:

Our study examined how the severity of cognitive impairment and number of medical co-morbidities affect healthcare utilization in patients participating in a Medicare fee for service accountable care organization. This population was identified to have heightened risk for healthcare utilization via predictive analytics and primary care physician referral. We hypothesized that patients with mild cognitive impairment (MCI) would have the highest utilization rates, compared to patients with no known cognitive impairment or dementia.

Methods:

This retrospective cohort study divided 79 patients into 4 groups: dementia, MCI, normal, and unknown cognition. We analyzed the percentage of emergency room (ED) visits, hospital admissions, and 30-day readmissions in each group over one year and compared these to each group's predicted risk scores, percentage of major co-morbidities, and functional capacity assessed by Activity Measure for Post-Acute Care (AMPAC) scores.

Results: (table)

Conclusions:

Contrary to our initial hypothesis, patients with normal cognition had the highest rates of healthcare utilization. We suspect that this may be due to the greater number of co-morbidities present in the normal group, compared to the other groups. Regarding risk scores, the EDUR (which did not include dementia as a variable) was a poor predictor of ED visits, but the CCRS and RRS (which did include dementia) were predictive of ED visits and readmissions. The AMPAC scores correlated with the expected functional capacity of the four groups, thus confirming the internal validity of the groups given the known relationship between dementia and poor functional capacity. More study is needed to elucidate the role of cognitive impairment in healthcare utilization risk.

Results

	Avg Age	ED visits (%)	Hosp (%)	Readm (%)	Co-morb (%)	EDUR (% inc risk)	CCRS (% high risk)	RRS (% high risk)	Avg AM-PAC
Dementia N=29	81	79	66	28	17	52	28	55	13
MCI N=15	74	73	60	20	20	33	20	53	17
Normal N=12	75	83	75	50	33	42	50	75	21
Unknown N=23	79	73	78	17	21	42	50	52	19

Hosp = % of patients with hospital admission(s); Readm = % of patients with 30-day readmission(s); Co-morb = % of patients with greater than 7 major co-morbidities; EDUR= % of patients with medium or high ED Utilization Risk scores, CCRS = % of patients with high Complex Care Risk Scores, RRS score = % of patients with high predicted Readmission Risk Score

D63 Student Presentation

Characterizing the Complexity of Dementia Care Management

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Background: Care managers provide a substantial amount of dementia care, however there is limited data characterizing the care they provide. As part of a study to increase dementia care quality and effectiveness, we sought to describe the kinds of care and core tasks completed by care managers on behalf of caregivers for persons with dementia.

Methods: We identified 54 patients living with dementia whose caregivers were provided support within an existing outpatient high-need, high-cost care management program. We then conducted a qualitative content analysis of care management documentation data in the medical records of each patient between January and June 2021. Our work utilized a mixed inductive and deductive approach, with the inductive portion informed by core dementia care coordination components identified by Possin et al. Each record was double coded.

Results: Our analysis captured 10 major activities conducted by care managers with caregivers accompanied by 46 subtasks. These major activities included identification and guidance around behavior management, safety, advance care planning and decision making, long term care, and reducing barriers to care. Examples of subtasks included assessing and managing caregiver exhaustion, addressing financial wellbeing, coaching on dyadic communication strategies, and deprescribing medications.

Conclusions: Care managers face significant care complexities that cover many different key activities of dementia care. To do this work well, care managers need focused training on dementia care and caregiver support, as well as ongoing guidance from dementia content experts. This study clearly defines different domains of care and support provided by care managers and helps to create a standard for training and optimization of dementia care models.

D64 Student Presentation

Impact of Dementia Care Training on Nurse Care Manager's Interactions with Patients and Caregivers

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Background: Care managers provide a great amount of care for persons with dementia (PWD); however, they often do not receive formal instruction in dementia care or related care management. CRESCENT (CaRe EcoSystem iCmp dEmeNTia) is a telephone-based dementia care intervention adapted from the Care EcoSystem model. For this study, we aimed to measure intervention fidelity and understand how dementia care training impacted care managers' interactions with PWD and caregivers.

Methods: We recruited 30 active nurse care managers; 15 were randomly assigned to early training and 15 to delayed training. After the early training group completed training and prior to training of the delayed training group, we randomly selected 1-3 patients with documented dementia in each nurse's care during January-June 2021. To assess training uptake and fidelity, we looked for documentation of CRESCENT care topic areas and protocols (7) in the medical records by care managers. We conducted a qualitative content analysis of care management documentation of all identified patients. We compared attention to key dementia topic areas between the early trained (intervention) and delayed training (control) groups.

Results: Within the trained group only, community resources, followed by safety, medication reconciliation, and advanced care planning topic areas were addressed most frequently (>30%), while the behavior management training showed the smallest uptake (11.4%). Trained nurses were more likely to address aspects of caregiver well-being (p=0.01), provision of community resources (p=0.001), and safety risks (p=0.02) in their documentation compared to those without training. There was no difference between groups in the amount of care coordination provided (p=0.64).

Conclusions: Results from this study demonstrate that dementia care training enriches care conversations in important topic areas for PWD and caregivers. Whether behavior management training was utilized less frequently due to low prevalence rates of disruptive behaviors or lower self-efficacy cannot be determined. Future research will clarify how best to sustain and optimize high quality dementia care in care management programs.

D65 Student Presentation

Baseline Characteristics of Participants in a Telenovela Intervention for Caregivers of Patients Receiving Hospice Care: A Pilot Study

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Background: Hospice family caregivers (HFCGs) are particularly vulnerable to anxiety due to stressors, including lack of preparedness for challenges relating to patient care, pain management, self-care, and end-of-life decisions. Existing literature suggests that enhancing caregiver self-efficacy by providing relevant information helps alleviate distress. NOVELA (short for telenovela) is such an educational intervention presented in video-based format. Study objectives included examining characteristics of HFCGs enrolled November 2020 - June 2021 in a pilot NOVELA assessment and identifying factors associated with baseline self-efficacy and anxiety.

Methods: This pilot study tested theory-based NOVELA, using a single-group pretest-posttest design. HFCGs participated in four sessions, each comprising a telenovela chapter and telehealth discussion with an interventionist. The Caregiver Self-Efficacy Scale (CaSES) and the General Anxiety Disorder questionnaire (GAD-7) were administered at baseline and post-intervention. Descriptive and inferential statistics for baseline data were computed.

Results: Twenty HFCGs were recruited from two mid-Atlantic U.S. hospices. Eighteen completed the baseline survey. Participants (mean age, 58 years) were mainly female (75%), White (55%), well-educated (65%), and caring for a parent (40%) or spouse/life partner (25%). Most care recipients resided at home (95%) and had cancer (55%). HFGCs reported moderate self-efficacy (3.1±0.54) and mild anxiety (7.8±4.83), with 42% presenting significant anxiety (GAD-7 score ≥10). CaSES scores were significantly inversely associated with total GAD-7 scores ($r_p(19) = -.51$, $p = .026$). Mean self-efficacy scores were lower, and mean anxiety scores were higher, for participants caring for a spouse/life partner.

Conclusions: Demographic composition of participants generally reflected that found nationally in other reports of HFGCs. We found a significant relationship between self-efficacy and anxiety. We also identified subgroups demonstrating lower self-efficacy and higher anxiety at baseline for whom intervention may be especially beneficial. These findings support the study of NOVELA's potential to boost self-efficacy and reduce anxiety.

D66 Student Presentation

Providing Interest-based Activity Choices in Acute Care to Prevent Delirium: A Multicomponent Quality Improvement Project for a Hospital Elder Life Program (HELP)

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Background: Delirium is prevalent among hospitalized older adults. The use of interest-based activities for delirium prevention in acute care hospitals has not been extensively studied. This quality improvement (QI) project was developed for the Hospital Elder Life Program (HELP) to explore the feasibility of providing an interest-based multicomponent intervention to enhance delirium prevention.

Method: This QI project was completed on four designated HELP units in an acute care magnet hospital. HELP provides daily volunteer visits to assist with daily needs (i.e., hydration) for patients who are 70 years and older to reduce the risk of delirium. A 10-week multi-component intervention including an adapted Modified Interest Checklist, personalized interest-based activities, caregiver education, and orientation cards was implemented by an occupational therapy doctoral student, 5 days per week. Additionally, the QI participants received routine HELP visits over the weekends. This QI project was IRB approved. Verbal consent was obtained from all QI participants. A process evaluation was conducted to determine the protocol's feasibility using daily logs and discharge satisfaction surveys. In addition, the researchers used the electronic health record to track delirium incidence (DI) and falls for the QI participants. Descriptive data analysis was completed using Statistical Package for the Social Sciences (SPSS).

Results: Thirty-two patients (mean=79.63 years) received at least one component of the QI intervention. The most selected interest-based activities were cognitive stimulation activities such as word searches, and reading activities related to home instrumental activities of daily living, like gardening. Twenty-five satisfaction surveys were completed. A total of 24 (96%) participants reported that they felt "very supported" by the project. The survey showed 76.1% (16/21) participants "regularly" or "sometimes" engaging in the activities. Only two QI participants developed delirium, and no participants had a reported fall.

Conclusion: The addition of the interest-based multicomponent intervention into HELP was well received and readily implemented. Continued study of the impact of this multi-component intervention on delirium prevention and length of hospital stay is warranted.

D67 Resident Presentation

Independent Older Adults Who Self-Administer their Medications have Lower Medication Adherence

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Background: Medication adherence is a challenge in the treatment of older patients. Non-adherence is associated with poorer health outcomes and increased healthcare costs. Previous studies have shown that polypharmacy, complex medication regimes and poor health literacy are important factors contributing to non-adherence in older adults. In Singapore, medication adherence amongst older adults has not been widely studied. This study aims to assess adherence and barriers so as to design interventions to improve adherence.

Methods: Older adults ≥75 years old admitted under Geriatric Medicine at an Academic Medical Centre between August and September 2021 and their caregivers (if available) were interviewed. Data on demographics, functional and cognitive status and adherence were collected. Self-reported adherence was calculated based on patient/caregivers response to the question 'over the past 2 weeks, how many days have you not taken your medications as prescribed'. Formal medication review was performed by a pharmacist.

Results: Results are from subgroup analysis of ongoing quality improvement project. A total of 48 patients with a mean age of 83, 70% females were interviewed. 19 patients (40%) self-administered their own medications. Patient/caregiver self-reported adherence was 66% compared with 60% obtained from formal medication review. Amongst patients who were independent and self-administered their medications, self-reported adherence was 36% compared with 25% from formal medication review. The mean number of medications per patient was 7 and polypharmacy was prevalent in ≥80% of patients. The most commonly cited reasons for poor adherence were forgetfulness (29%), lack of immediate consequence from missed doses (25%) and polypharmacy (17%). Many felt that cutting down medications, simplifying medication regime and having a medical professional to review their medications regularly would help with adherence.

Conclusion: Independent patients who self-administered their medications had lower overall adherence especially in the formal medication review group. Interventions such as reduction of polypharmacy and inappropriate prescribing, pharmacy outreach program and patient education may improve medication adherence and are being studied.

D68 Student Presentation

Types of Telehealth services preferred by geriatric patients during the COVID-19 pandemic

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Technologies' growing involvement in health care has led to continuous improvement in access, efficiency and quality of care, but specific challenges lie with addressing the barriers that impair the geriatric population from benefitting the use of new technology. The purpose of this quality improvement initiative was to obtain feedback from older adults and their caregivers regarding the usage of telehealth services during routine clinic care and their preferences for each type of visit. A convenience sample survey was administered to 55 geriatric patients older than 50 years old between June – October 2021 who have their medical at the University of North Texas Health Science Center – Center of Older Adults' ambulatory clinic. The survey included questions about the patients' demographic, the survey taker's relationship to the patient if not the patient, and their experiences with telehealth services. Additionally, the survey included questions using a Likert scale where the patient or caregiver ranked types of clinical visits they would prefer telehealth services for. The results indicated that the majority of patients and caregivers preferred the following types of visits as a telehealth visit: reviewing prescriptions, review of laboratory results, blood pressure management, and questions/screening about COVID-19. All other types of clinic visits, such as routine clinic visits for chronic conditions, acute illness symptoms, acute or chronic pain conditions, psychosocial needs and advanced care planning were preferred to be done in person. When asking about their experiences with telehealth services, geriatric patients used the telephone the most often for their medical needs. These findings indicate that geriatric patients prefer to continue traditional in person clinic visits for their acute and chronic disease management but are open to having discussions about their laboratory values, blood pressure management, reviewing medications and Covid-19 screening through telehealth. The high telephone telehealth usage suggests that the majority of geriatric patients are not comfortable and familiar with other forms of telehealth that includes the use of virtual platforms that has developed over recent years. Although telehealth cannot be used as a means to replace in person visits, it has been shown to have a place in clinical care for geriatric patients and their caregivers depending on the clinical needs.

D69 Resident Presentation

Implementation of Individualized Priorities-Directed Care in a Home-Based Primary Care Program

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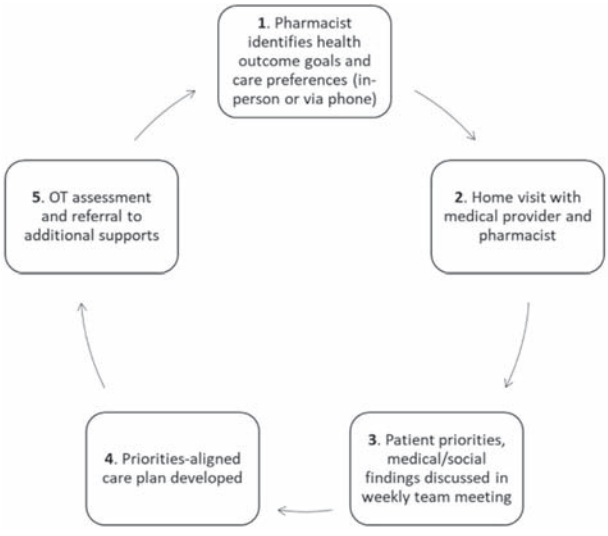
Background: Home-Based Primary Care (HBPC) is an innovative healthcare model that expands care to populations with limited access, including older adults. An HBPC program established in 2020 within a large family medicine practice employs Patient Priorities Care (PPC), an interdisciplinary, team-based approach to identify patients' health priorities and align care with what matters most to them. The purpose of this study is to describe the successful implementation of PPC within an HBPC population.

Methods: PPC was implemented within a homebound, rural and suburban population consisting of 100 Medicare and dual-eligible patients. Participants included men and women (average age 76), 77% white, 12% black, and 11% unknown ethnicity.

Results: Depicted in diagram included below.

Conclusions: Patient priority conversations were successfully implemented within an HBPC population. Examining care alignment through evaluation of current therapies and services may allow interdisciplinary teams to ensure they are providing appropriate care based on the patient's goals.



D70 Student Presentation

Screening for Elder Abuse in Healthcare Settings

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Background: Healthcare providers gain unique insights into the lives of older adult patients, some of whom may be otherwise homebound. This access allows for disclosure of sensitive information, including their experience with elder abuse, that may not be shared with other individuals. However, standard approaches to screening do not exist across healthcare settings. The lack of standard recommendations is one of many barriers to healthcare practitioners taking a proactive approach to screening for abuse. This poster will present findings from a scoping literature review to answer the question: how common is screening for elder abuse in clinical settings, and what barriers to screening exist? This work was undertaken to lay the foundation for developing a national survey of elder abuse screening practices that exist in a range of healthcare settings.

Methods: A scoping review was conducted to explore prevalence of and barriers to screening for elder abuse in primary care settings. Queries were conducted in PubMED for peer-reviewed articles in August and September 2021 using the search terms "elder abuse/mistreatment screening," and "barriers."

Results: Data examining the prevalence of elder abuse screening, particularly in healthcare settings, were extremely limited. This can be attributed to an apparent lack of screening in most healthcare practices. A variety of barriers that providers face can interfere with screening and may explain why screening for elder abuse has been lacking. We propose grouping the barriers that have been reported across multiple studies (n=8) into three categories: patient-focused, provider-focused, and logistics-focused. Some patient-focused barriers include possible patient discomfort and compromised patient-physician relationships. The overall lack of provider training for screening along with reluctance to trigger the mandated report are key provider-focused barriers. Logistics-focused barriers include lack of clinical time and lack of privacy with the patient.

Conclusion: Based on these findings, barriers that healthcare providers face when screening for elder abuse can be categorized as provider-focused, patient-focused, and logistics-focused. Having a better understanding of what types of barriers exist in general and for specific practices can inform future development and implementation of screening procedures.

D71 Student Presentation

Social and Functional Needs of Frail Older Adults: a qualitative analysis of patients' voices

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Background: Unmet social needs among frail older adults are associated with functional decline and an increased risk of poor health. Yet, little is known about the most prevalent social needs and the barriers and facilitators to engaging with available community resources in the older adult population. We conducted this qualitative study to better characterize the social needs and perceived facilitators/barriers to social, community, and healthcare support for older adults with frailty and at risk for unmet social needs.

Methods: This qualitative study used semi-structured, telephone-based interviews with frail older adults. Using electronic health record data, we included adults aged 65+ registered in one of the Wake Forest Baptist Health-associated accountable care organizations (ACOs) with both frailty (defined as an electronic frailty index (eFI) >0.21) and an increased geographic risk of unmet social needs (defined as an Area Deprivation Index >75th percentile). Those eligible were contacted by phone. Interviews were digitally recorded and transcribed. We developed a coding scheme and analyzed narrative data using a modified grounded theory approach and the constant comparative method to identify themes of potential unmet needs.

Results: We contacted 160 eligible older adults, of whom 23 (14%) participated in interviews. Of those interviewed, 73.9% were Black and 78.3% were female, with a mean age of 75 years (SD=8.8). We identified 4 primary themes for both social and functional needs. Social needs included themes of unreliable transportation, barriers to food access, competing financial demands, and social isolation/loneliness. Functional needs included themes of mobility challenges, insufficient in-home aide, hesitancy to be screened for social/functional needs, and reluctance to be connected with community resources.

Conclusions: Frail older adults experience a wide array of unmet social and functional needs. Although healthcare and community resources that address these needs do exist, they are often underutilized

due to financial, transportation, and communication-related challenges. An opportunity exists to bridge community and healthcare resources so as to better address the unique social and functional needs of frail older adults.

D72 Student Presentation
A Geriatric Resources Navigation Program in Federally Qualified Health Center Clinics

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Background: The Los Angeles County Department of Health Services launched the Geriatrics eConsult Navigation Program (Geri eConsult) in 2018 to help primary care providers (PCPs) address the unmet social needs of low-income older adults and provide patients resource navigation support. We piloted this program with Federally Qualified Health Center (FQHC) clinics caring for uninsured low-income older adults and explored perspectives of participating patients.

Methods: PCPs referred patients 50 years and older ineligible for health insurance to community resource navigators who provided telephonic social needs screening and language concordant support. In this observational cohort study, we conducted baseline and 1-month follow-up surveys and conducted a descriptive analysis to explore resource utilization, patient knowledge of local resources, and navigation service satisfaction.

Results: Over 6 months, 15 patients (average age 69, 80% female, 100% Spanish-speaking Latinx) were referred, and 11 received resource information. Top referral reasons were food and financial needs (67%). All patients had cellphone access, and 25% lacked internet or computer access. Competing time demands and fear of being denied prevented patients from accessing resources (25% utilization rate). At follow-up, more patients somewhat/strongly agreed with knowing local resources (63% difference), how to contact them (57% difference), and who to ask for help (88% difference). Patients named their primary care clinic as a central hub for social resources (64% at baseline, 75% at follow-up). To improve resource utilization, patients recommended that the organizations initiate contact and navigators help submit applications.

Conclusions: After using Geri eConsult, more patients were familiar with local resources and how to access them. However, providing contact information to patients is insufficient; primary care clinics must invest in personnel to provide individualized, longitudinal resource navigation support for patients to successfully access these resources. Robust social navigation support is of utmost importance for uninsured, older adults living in poverty, who may face barriers such as fear, language, literacy, and technology access.

D73 Resident Presentation
Association of Drug Burden Index (DBI) on Emergency Department (ED) visits and Readmissions in VA Perioperative Optimization of Senior Health (POSH) Initiative

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Background: Various non-modifiable risk factors are linked to post-operative delirium. Drug induced post-operative delirium is a modifiable risk factor which pharmacists can impact. The DBI is a tool used to quantify cumulative burden of anticholinergic and sedative medications in older adults. The POSH program at Durham VA Health Care System is a multidisciplinary team that prepares older adults for surgery. The purpose of this project is to determine the relationship between DBI and post-operative outcomes including hospital readmissions, ED visits, and delirium.

Methods: This quality improvement project was conducted within a single VA Health Care System utilizing data from the Corporate Data Warehouse and chart review. The presence of delirium was obtained via chart review. Veterans included were admitted for elective surgery and were seen pre-operatively in POSH clinic. Veterans were excluded if post-operative delirium was not assessed or if death occurred during surgery. The primary endpoint was the rate of hospital readmission 30 days post-discharge. Secondary endpoints included incidence of ED visits 30 days post-discharge and post-operative delirium. All endpoint were stratified by exposure or non-exposure to DBI medications.

Results: Six-hundred-fifty-one Veterans were included for evaluation. Readmission rates were higher in the exposed group compared to non-exposed (14.7% vs 9.4%; p-value = 0.04). ED visits were also higher in the exposed group (27.3% vs 14.8%; p value <0.01). The incidence of post-operative delirium did not significantly differ between those who were exposed to DBI medications and those who were not (8.71% vs 8.81%; p-value = 0.96).

Conclusion: Exposure to anticholinergic and sedative medications was associated with increased hospital readmission in our cohort. Utilizing pharmacy consultation may help identify high risk medications and potentially reduce the incidence of costly readmissions and ED visits. Larger studies may be needed to identify the impact of DBI scores on post-operative delirium.

D74 Resident Presentation, Encore Presentation
Becoming an Age-Friendly Health Systems Participant: A Process so Simple, Even a Resident Can Do It!

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Background: Per the Institute for Healthcare Improvement (IHI), Age-Friendly Health Systems (AFHS) is an initiative designed to improve the practice of providing evidence-based care to older adults during every stage of care at health care institutions. While there are over 2400 AFHS recognized systems across the United States, significant work remains to spread this model of care, especially across Veterans Affairs (VA) facilities who have the goal to become the largest integrated AFHS in the country. As has been seen in our facility, the George E. Wahlen VA in Salt Lake City, we suspect many find it daunting to review current practices to move towards achieving AFHS participant status. Our goal is to share our process, utilizing a resident as the leader in this initiative, to demonstrate the ease in achieving AFHS participant status.

Methods: Using the IHI AFHS: Guide to Using the 4Ms (What Matters, Medication, Mentation, and Mobility) in the Care of Older Adults, we analyzed the use of the 4Ms in our geriatric and home-based primary care clinics. We performed a clinic walkthrough, from patient check-in to check-out and randomly chart reviewed approximately 20% of our patients' last primary care appointment documentation to assess areas of strength and need for improvement for the 4Ms. Using a multidisciplinary approach, we discussed the implementation of the 4Ms in clinic with our nurses, providers, and pharmacists. We set timelines for steps in our process to keep the team accountable and on-track.

Results: We found providers were consistently addressing and documenting What Matters, Medication was addressed by our providers and pharmacists at every visit, and Mentation was covered with reminders that were addressed by the nurse at check-in. We found that we needed to improve our assessment and documentation in Mobility. To do so, we implemented the Timed Up and Go (TUG) test in our clinic by educating nurses to perform this test on every patient

upon check-in. To find and analyze the TUG data, we created a short, searchable note template in the EMR. After assessing each of the 4Ms, we completed the AFHS 4Ms Care Description on IHS website and plan for submission in early December 2021.

Conclusions: We have demonstrated the ease of an organized review and submission to encourage other facilities to follow suit to achieve AFHS participant status.

D75 Resident Presentation

Better Medical Care at Assisted Living Facilities: Bring the Team On-Site

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Background: Home visits were an essential former practice where a patient is evaluated and treated in their own house. With a growing elderly population in personal care homes, some homebound visits on-site become a more necessary service. During the COVID-19 pandemic the need of healthcare providers on-site has become imperative due to restrictions for leaving the facilities. Telemedicine visits are difficult for elderly in Assisted Living Facilities (ALF) where WiFi and smart phone technology are limited. While the need for medical care remains at higher demand during the pandemic, it is important to provide accessible and high-quality care to patients in these facilities. Surveys are used to assess if on-site visits are favored by patients and families.

Design: We built a survey questionnaire that focused on patient/family satisfaction of having provider visits on-site. The survey was conducted after an on-site visit and was done or via phone call. If the patient was unable to meaningfully answer the survey, the family member or POA was contacted via phone. The patient satisfaction survey was used to translate their satisfaction in measurable and comparable data to classic office visits.

Results: Overall, 100% of responders had a favorable opinion of the on-site physician visits and preferred them to in-person office visits. The survey demonstrates that patients are able to recognize the on-site visits as more convenient and less stressful with the same quality as in-office visits. Some families also pointed out that on-site visits are financially more favorable as there is no need for transportation organization and fees.

Conclusion: On-site visits by the physician or APP were very favorable in this survey. This service is bringing comprehensive care to patients directly at their facilities in the community. Patients are benefiting from on-site visits with the same high quality of care while having the convenience of remaining in their own home at the ALF.

D76 Resident Presentation

Transitions of Care: Once Again the Social Worker Needs to Warm the Seat

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Background: Long Term residents generally do not move to other Nursing Homes (NH), but if a NH plans to cease operations, this requires complying to legal requirements and a discharge/transition of care plan needs to be developed. Although legal requirements are clear and publicly posted, the implementation process is not clearly outlined. This may be due to uncertainties in the matching process between patients and accepting facilities. Social workers play an important role in all steps of transitions of care while providing psychosocial support to families. There is limited knowledge and algorithms for social worker guidance through this process.

Methods: All phone calls to families and facilities were reviewed for every NH resident in retrospective. The social worker involvement was reviewed by number of calls, type of calls, and length of time spent on each call. Additional analyses were done depending on the type of accepting facility and level of care.

Results: 56 patients had successful transitions of care to other skilled and domiciliary facilities or to home. 43 patients transitioned to other NHs. 5 patients went to Assisted Living Facilities (ALF) and 8 further utilized Community Based Home Services. All calls were done by the social workers. The calls were categorized as: Informational, looking into facilities and negotiation, and finial planning of the transition. For each resident 8-10 calls were needed. Calls lasted from 10-40 minutes, averaging 20 minutes. Transition of care to other NHs took more calls for acceptance of the transfers (lasting 15-30 minutes). Transition to an ALF required more calls for arranging transport, organizing belongings, orders, and medical care continuity (lasting 20-40 minutes).

Conclusion: There is a need for creating a generalized approach to organizing transfers of care. This approach can be built and developed using algorithms. This will help all interdisciplinary teams to communicate easier and more effectively. Social workers are essential in providing information to families and facilities and in contributing to the creation of these algorithms.

D77 Resident Presentation

Breaking the Cycle: Improving Handoffs after Osteoporotic Fracture

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Background: Secondary fractures represent a major source of morbidity and mortality. Despite compelling evidence for treatment and therapies, many older adults remain undertreated for osteoporosis after a fragility fracture. Multidisciplinary systems of care, such as fracture liaison services, have been developed to bridge this gap. However, an effective way to transition care between disciplines remains unknown. This quality improvement project sought to evaluate and improve the process of handoffs between a fracture liaison clinic (FLC) and primary care providers (PCP) to enhance fidelity of communication and improve rates of osteoporosis treatment in this vulnerable group.

Methods: An analysis was conducted to understand the workflow of information after fracture and possible causes of undertreatment. Next, surveys were distributed to institutional stakeholders in post fracture care. A baseline chart analysis of 87 individuals seen in an FLC assessed the documentation of (1) osteoporosis diagnosis (2) risk factors (3) management guidance (4) handoff to PCP (5) initiation of therapy. Based on process model analytics a multicomponent intervention was developed and included a post-fracture management guide for patients, a template for FLC provider documentation, and handoff education for FLC providers. A post intervention chart analysis and stakeholder surveys analyzed the impact on post fracture care.

Results: 45% of survey respondents were “not confident” or “somewhat confident” in determining class of medication to prescribe osteoporosis. 31% were “not confident” or “somewhat confident” in assessing fracture risk. 56% of pre-intervention patients were given a diagnosis of osteoporosis or osteopenia vs. 92% of individuals post-intervention.

Conclusions: A structured handoff between bone specialists and PCPs improved rates of appropriate diagnosis, initiation, and adherence to treatment after osteoporotic fracture. This intervention has potential for use in the management of other chronic conditions requiring multispecialty systems of care.

D78 Resident Presentation

Opioid Deprescribing in Skilled Nursing Facilities

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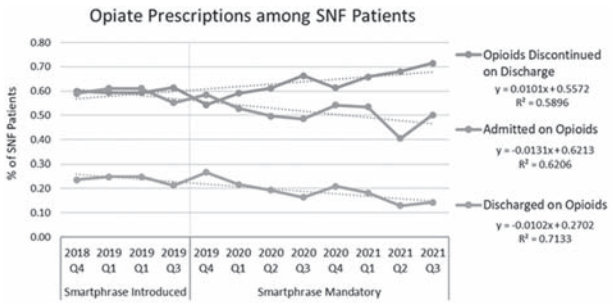
Background: The risks of polypharmacy for older adults is well known. However, while many older adults' post-hospitalization care continues at skilled nursing facilities (SNFs), opioid use in this setting has not been fully examined. This study aimed to determine whether mandatory utilization of an Opiate Use Assessment smartphrase, as well as documentation of Prescription Monitoring Program (PMP) checks, impacted opioid prescription.

Methods: This study was conducted at nine Maine SNFs from 2018 Q4 to 2021 Q3. An Epic Opiate Use Assessment smartphrase was introduced in 2018 Q4, becoming mandatory in H&Ps and R&Rs in 2019 Q3. Documentation of PMP checks was also added to discharge summaries. Patients' demographic information and opioid use status were collected, and linear analyses and two-sample equal variance t tests were performed.

Results: Among 4,216 patients, the mean age was 78.4 and the mean length of stay was 19.7 days. 59.0% of patients in the pre-intervention period of 2018 Q4 - 2019 Q3 were admitted on opioids, compared to 50.9% of patients in the post-intervention period of 2019 Q4 - 2021 Q3 ($P = 0.018$). In the former period, 23.6% of patients were discharged on opioids, compared to 18.8% in the latter period ($P = 0.065$). Finally, 60.0% of patients admitted on opioids in the pre-intervention period had them discontinued on discharge, compared to 63.4% in the post-intervention period ($P = 0.257$).

Conclusions: While mandatory utilization of Opiate Use Assessment smartphrases and PMP check documentation correlated with a rise in opioid discontinuation, the change was not statistically significant. Given that the smartphrase were already in circulation prior to the mandate, it is possible that its effects bled into the pre-intervention period. The statistically significant decrease in opioid prescriptions on admission may have also minimized the potential for later discontinuation. Therefore, these interventions warrant further investigation.



D79 Student Presentation

Formulating a database to close the gap in fall recurrence among elderly fall patients.

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Background: Falls among geriatric populations place a burden on patients and the healthcare system. Fall data show that one third of older adults living on their own fall at least once a year. Risk of recurrent falls contributes to decreased quality of life and is exacerbated for rural residents. Post-fall medical needs of rural older adults may not be met in their communities leading to increased risks of repeated falls. Our project "Living FREE" aims to develop individualized interventions to reduce recurrent falls for post-fall older adults living in rural central Michigan. We plan to prevent recurrent falls by providing CME-based fall prevention education to our target audience, local healthcare professionals, to ensure that fall risk for post-fall adults is continuously assessed.

Methods: The project has an interprofessional team including ER doctors, staff, physical therapists, medical students and trained project coordinators. Post-fall older adults are recruited to the program by referrals from local hospitals. Based on the assessment of needs, barriers, and motivation, an individualized fall prevention plan is developed for each patient. The comprehensive questionnaire for fall prevention and education was developed based on a literature review that provided foundational information. Ten measures of fall risk were concluded to contribute to recurring falls.

Results: A comprehensive questionnaire including surveys to assess mental health (PHQ-9), activity and general health (PAR-Q), drinking patterns (SMAST-G) and four CDC STEADI assessments (30 second chair stand, timed up and go, four stage balance test and CDC Home Safety Check) were included in the assessment. A comprehensive 360 evaluation process was developed to assess the effectiveness and outcomes of the program from all stakeholders' perspectives, and to inform the process of program implementation and its improvement.

Conclusions: "Living FREE" is a holistic approach to preventing recurrent falls in post-fall rural older adults based on education and empowerment. The message of the project is to demonstrate the importance of individualized assessment and implementation of fall prevention by approach to individual strengths and goals. We aim to bring about change in collaborative and preventive medicine through education for post-fall adults and community healthcare professionals in recurrent fall prevention.

D80 Student Presentation

Point of Care Ultrasound Diagnosis of Deep Vein Thrombosis by Medical Students

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Challenge/issue:

Deep venous thrombosis (DVT) is the most common type of venous thromboembolism. The feared complication of a DVT is the progression to a pulmonary embolism. Many DVTs can resolve spontaneously but screening and diagnosis are important for management to decrease progression to a pulmonary embolism and reduce the risk of morbidity and mortality.

Objective:

The purpose of this study was to determine if point-of-care ultrasound sonography by third-year medical students is sufficient in the diagnosis of a Deep Vein Thrombosis (DVT).

Approach:

Twelve students from the University of North Texas Health Science Center completed the relevant SonoSim training modules and a one-hour, in-person training session with an examination to determine that they have proficient skills to diagnose a DVT with a two-point ultrasound screening. Students then obtained images in the two-point DVT screening of the popliteal and femoral artery and vein on their rural family medicine rotation using Butterfly IQ Ultrasounds. Students saved images and videos of their screening and uploaded them to the Butterfly Cloud to be reviewed and graded. Studies will be deemed satisfactory if five out of six images obtained correctly identify the appropriate structures.

Results:

We anticipate having preliminary results for this study by the end of December 2021.

D81 Student Presentation

Delivering Caregiver Education to Dementia Family Caregivers in the Primary Care Setting

S. K. Thompson. *Texas College of Osteopathic Medicine, Fort Worth, TX.*

The purpose of this study is to determine whether dementia caregiver education can be distributed at clinic visits in the primary care setting. Family caregivers of those with dementia report being significantly more stressed when compared to non-dementia caregivers.[2] Negatively-impacted health outcomes for family members increase the total burden of dementia on the health care system. This study aims to equip dementia caregivers with resources that help them cope with caregiver-associated stress. This study took place in a rural primary care setting over a five-week period. Educational brochures were designed to provide family caregivers with coping strategies, communication strategies, and support group information. Family caregivers were identified upon their accompaniment of a patient with dementia to their appointment. During this period seven patients with an established history of dementia attended routine appointments accompanied by a family caregiver. Caregivers of all seven patients received an educational brochure and were counseled on the contents of the brochure for at least five minutes. At the point of enhancement, caregivers expressed gratitude at the acknowledgment of the burden of caregiving and the receipt of the educational materials. The results of this study support the ability of primary care providers to increase the education of dementia caregivers at regular office visits. Limitations to this study include the ability of family caregivers to attend appointments with dementia patients and patient identification of family caregivers. Further studies should be done to evaluate dementia caregiver stress before and after receiving education on caregiving.

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D82 Resident Presentation

Improving a Community-Based, Residency-Affiliated, Urban, Primary Care Clinic as an Age-Friendly Health System Utilizing the 4Ms Framework

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Background: Due to the growing geriatric population in the US and the associated challenges, the Institute for Healthcare Improvement and John A. Hartford Foundation developed the Age-Friendly Health Systems initiative. Health systems recognized as "Age-Friendly" implement the 4Ms framework of evidence-based practices targeting ***What Matters, Mobility, Mentation, and Medication***. Our Pomona Valley Health Center at Pomona (PVHC-Pomona) is an urban, community-based, family medicine primary care clinic. Of over 2,000 organizations recognized as Age-Friendly, only 40 are community-based primary care clinics. These clinics may lack support staff and resources to maintain national care models and recognitions. Therefore, in an interdisciplinary effort, we aim to identify and overcome barriers in a less-resourced setting.

Methods: We analyzed the current practices among staff, nurses, pharmacists, and physicians for the assessment of elderly patients at the PVHC – Pomona clinic. We identified existing barriers and facilitators via field notes for incorporation of the 4Ms framework.

Results: Key facilitators for Age-Friendly recognition in our clinic include trained clinic staff and physicians who utilize screening measures during regular visits, focused geriatric clinic appointments related to 4Ms framework, and involvement of all members of the care team. Key barriers identified include a lack of support staff, purposeful allocation of time, knowledge and training surrounding the use of available screening methods, use of community resources, utilization of pharmacist expertise, and distribution of educational materials.

Conclusions: Participation as an Age-Friendly Health System at our urban, community-based, family medicine primary care clinic is feasible with identification of facilitators and barriers. Many of our current practices and capabilities as well as our electronic health record system were particular facilitators for our clinic that we could extrapolate to other primary care clinics. Barriers for effective implementation include staffing, allocation of time to train the care team on how to utilize and apply the 4Ms, and consistent emphasis on how to provide Age-Friendly, high-quality care to our patients.

D83 Resident Presentation

Integrating a comprehensive deprescribing tool into pharmacist-led primary care clinics in a Veteran Affairs hospital

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Background: Polypharmacy in older adults leads to increased healthcare costs, adverse drug events, medication non-adherence, cognitive impairment, and falls. An anticholinergic burden (ACB) score of 3 or more is associated with increased morbidity and mortality. Systematic deprescribing reduces these risks and improves patient outcomes. VIONE, a deprescribing methodology that identifies patient at a high risk of adverse drug events using a national dashboard, was successfully implemented in a single pharmacist-led geriatric primary care clinic in 2020. The aim of this project was to summarize outcomes since implementation and expand use of the deprescribing methodology into all 15 pharmacist-led primary care clinics at this facility. **Methods:** Pharmacists were educated on available deprescribing tools and methodologies to help guide clinical decision making. Electronic tools were streamlined to improve integration and adaptability. A query report was generated to identify all patients assessed from January 1, 2020 to October 31, 2021. Outcomes included the number of medications discontinued or reduced, change in ACB score, and number of unique pharmacists who implemented the tool. **Results:** 41 patients were evaluated for deprescribing. Baseline characteristics: mean age 80.2 years (60-101); mean number of medications per patient 22 (11-37); and mean ACB score 3.5 (0-11). A total of 9 of 15 (60%) primary care pharmacists implemented the tool with a mean of 5 interventions per patient. An average of 4 medications were discontinued per patient (0-11) and 1 medication reduced (0-3). The most discontinued medications included over-the-counter products, antihistamines, aspirin, statins, and sulfonylureas and most reduced medications included proton pump inhibitors, antihypertensives, and antihyperglycemics. Mean ACB score was reduced to 2.7 (0-11). **Conclusion:** After education pharmacists were able to implement a deprescribing methodology into routine primary care appointments and assist patients in reducing pill and anticholinergic burden and associated health care costs. Although not measured, it was evident that deprescribing also improves patients' satisfaction and relationship with their pharmacist. This project highlights the critical role that pharmacists can play within the health care system to reduce polypharmacy and associated risks with a goal to improve patient outcomes.

D84 Resident Presentation

Patients' Feedback on Expanded Preoperative Geriatric Evaluation

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INTRO

The need for senior surgical services is rising with older adults accounting for 40% of inpatient and 33% of outpatient procedures in 2019. The Senior Surgical Board (SSB) at Kaiser Permanente Oakland Medical Center was created in 2020 to improve surgical care for older adults. This preoperative evaluation of high-risk older adults consists of assessment of functional status, mental status, and goals of care. The SSB then meets weekly to discuss risk and benefits of surgery and surgical or non-surgical interventions that align with patient goals of care. The purpose of this study is to understand patient preferences for surgical and non-surgical care and overall satisfaction with the program.

METHODS

Follow-up telephone calls after the preoperative evaluation were performed to assess patients' perception of the expanded evaluation, shared decision making, and quality of life with surgical or non-surgical interventions for quality improvement. The team called patients to check in after the evaluation and conducted a short survey. The survey consists of 13 questions, 10 from Patient-Reported Outcomes Measurement Information System (PROMIS) to assess quality of life and 3 additional to gauge patients' satisfaction with the program and treatment decision.

RESULTS

Of the 118 patients evaluated by SSB between 08/2020 and 12/2020, 102 (86%) proceeded with surgery and 16 (14%) continued with conservative measures. There were 17 patients (14%) who responded to the telephone survey with the mean age being 82 years old and 53% women. The most common reasons of declining the survey were no answer or not interested. Of the patients who responded, 14 (82%) proceeded with surgery, 3 (18%) continued conservative measures. The mean global physical health score was 11.6 (range 5-18) and mean mental health score was 13.2 (range 8-20). The mean satisfaction score was 12 points with 3 being the lowest and 15 highest.

CONCLUSION

The majority of patients continued with surgery and were satisfied with the expanded preoperative program and treatment decision. As the need for surgical care in older adults continues to rise, it is becoming increasingly more important to align patient goals and preferences with the recommendations of the surgical team. The SSB allows our healthcare system to work towards aligning these values.

D85 Resident Presentation

Mammalian target rapamycin inhibitor (mTOR) and cognition in the elderly after kidney transplantation

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Background: Elderly population are underrepresented in studies of immunosuppressants after kidney transplantation (KT). It is relevant to evaluate the effects of immunosuppressants, whether in relation to tolerability (adverse events and risk of immunosuppression) or in cognition, considering that some immunosuppressants are neurotoxic. Studies suggest that everolimus has less neurotoxicity. Our aim was to compare the effect of two immunosuppression regimens on elderly cognition over a five-year period after KT.

Methods: Data were collected from a prospective cohort of patients aged 60 years or older undergoing KT, between 2012 and 2017, who were enrolled in a randomized clinical trial conducted at a large academic medical center in São Paulo, Brazil. Participants were randomized into 2 distinct groups for immunosuppressive regimen: mycophenolate sodium + tacrolimus (MPS + TAC: standard regimen) vs. everolimus + low-dose tacrolimus (EV + TAC: alternative regimen). Cognitive performance was assessed by Mini Mental State Examination (MMSE) score, 10-point Cognitive Screening (10-CS), and semantic verbal fluency annually for five years after transplantation. We compared the groups using the chi-square test for categorical variables and the Mann-Whitney test for interval variables. Mixed linear regression models were also used to assess the association of type of immunosuppressive treatment with cognition over 5 years, adjusted for loss and change of immunosuppressive treatment in the follow-up.

Results: Participants were on average 65 years old, 69% men. In total, 49 were randomized to EV+TAC and 47 to MPS+TAC. The characteristics of the two groups were similar to each other. There were no differences between the MPS+TAC vs. EV+TAC in the evolution of cognition for MMSE score, 10-CS and semantic verbal fluency. There was also no difference for stroke, infections, transplant rejection, and death outcomes.

Conclusions: The use of the everolimus did not differ from standard immunosuppression with regard to the elderly cognitive performance for five years after KT. Furthermore, there is high mortality after KT in the elderly population. Therefore, individualized immunosuppression is necessary, considering factors of the recipient, such as comorbidities, immunological risk, infections, malignancy, toxicity and quality of the donor.

D86 Student Presentation

Development of a Haptic Feedback Swallowing Rehabilitation Tool

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2. Department of Otolaryngology - Head and Neck Surgery, Weill Cornell Medicine, New York, NY; 3. Dalio Institute for Cardiovascular Imaging, Weill Cornell Medicine, New York, NY.

Background: Swallowing dysfunction is common in the geriatric population and increases the risk of aspiration pneumonia, dehydration, weight loss, and death. It is the leading cause of mortality in geriatric patients with dementia, stroke, and Parkinson Disease. Diligent swallow rehabilitation can alleviate symptoms and improve function but is limited geographically and socioeconomically.

Surface Electromyography (sEMG) is a non-invasive method used to measure swallowing muscle activity. Past research has indicated the usefulness of sEMG in dysphagia rehabilitation as a biofeedback tool to teach patients. The efficacy of haptic (vibratory) feedback via a wearable sEMG device in swallowing rehabilitation has never been studied but has potential to provide an effective, widely available alternative to swallow rehabilitation with a speech pathologist.

The objective of this project is the algorithmic detection of normal swallow on sEMG tracing with the ultimate goal of developing a device with haptic feedback that responds only to sEMG signals of normal swallows.

Methods: After construction of a circuit that digitizes an sEMG signal, the swallowing waveform in a healthy participant was characterized, and data were collected to establish reliability. Data were obtained for effortful swallow, Masako maneuver, Mendelsohn maneuver, and repeated swallows. Algorithms based on empirical data and current literature for identifying swallows were applied to collected data, and success was determined by number of swallows correctly identified.

Results: A swallow detection algorithm was identified, whereby, following a button press, data for the next 6 seconds were screened for: (1) exceeding 1.1x baseline value for 0.475s; (2) exceeding 1.3x baseline; and (3) not exceeding 4x baseline. This algorithm detected 27/27 swallows with no false positives in a 5 minute recording. The sensitivity and specificity are biased by small sample size.

Conclusions and Future Directions: With this pilot study, we confirm the possibility of swallow detection based solely on sEMG signal. Our next step in development of this device is to establish whether sEMG of normal and abnormal swallow differ and whether we can automate their differentiation.

D87 Resident Presentation

Correlations between gastrocnemius cross-sectional area and physical function in older adults

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Background: Sarcopenia is the loss of muscle strength experienced by aging individuals. A decrease in muscle size is often associated with reduced muscle quality that leads to frailty. Persons with obesity are at increased risk for sarcopenia due to an accumulation of intramuscular fat (IMF) that leads to worse physical function and health. As muscle size is more easily measurable than muscle quality, cross-sectional area (CSA) may provide diagnostic data for targeted interventions. We explored correlations between medial gastrocnemius CSA and physical function measures in older adults.

Methods: Individuals that could walk without an assistive device with a low activity level were included. We excluded those walking >10,000 steps/day, walking at a pace of ≥1.4 m/s, and/or had a history of neurological or cardiac disease in the previous 6 months. Transverse-plane B-mode ultrasound images were collected at 50% of the length of the right gastrocnemius using a linear probe. CSA (cm^2) was measured using ImageJ (NIH). Physical function measures included preferred walking speed (PWS), maximum walking speed (MWS), peak ankle power (PAP), single six-minute walk test distance (6MWT), and steps/day.

Results: Our study included 11 community-dwelling, older adults (mean age 76±3.8 years, 6 females). Mean and standard deviation for physical function measures were as follows: Gastrocnemius CSA at 50% length (11.5±4.0 cm^2), PWS (1.3±0.1 m/s), MWS (1.8±0.3 m/s), PAP (2.6 ±0.7 W/kg), 6MWT (564.1±76.2 m), steps/day (6751±1528 steps), and BMI (25.2±4.6 kg/m^2). Correlations between gastrocnemius CSA and functional measures were as follows: PWS (-0.57, p=0.06), MWS (-0.43, p=0.18), PAP (-0.22, p=0.51), 6MWT (-0.43, p=0.18), steps/day (-0.24, p=0.48), and BMI (0.75, p=0.08).

Conclusions: Physical function measures were negatively correlated with gastrocnemius CSA. While not statistically significant, these trends were unexpected suggesting the presence of IMF may impact muscle size without an associated improvement in function. Our findings support the need to understand how best to identify IMF and to quantify its impact on physical function with a larger cohort size.

D88 Student Presentation

A Randomized Placebo-Controlled Trial of Metformin for Frailty Prevention in Older Adults: Baseline Characteristics

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Background: Frailty is a geriatric syndrome of progressive physical decline that leads to higher morbidity and mortality in older adults. Previous studies have demonstrated overlapping mechanisms between insulin resistance, inflammation, and frailty. The purpose of this trial is to determine whether metformin prevents frailty in non-frail, community-dwelling older adults (≥65 years) with pre-diabetes, determined by a 2-hour oral glucose tolerance test (OGTT).

Methods: Frail individuals (Fried criteria) and those with renal impairment (glomerular filtration rate <45 mL/min) are excluded. Eligible participants were randomized to metformin (maximum tolerated dose up to 2,000 mg/day) or placebo and followed for two years. The primary outcome is frailty (Fried phenotype and frailty index). Secondary outcomes include physical function (short physical performance battery), systemic and skeletal muscle inflammation (plasma and muscle inflammatory markers), muscle insulin signaling (muscle biopsy), insulin sensitivity (insulin clamp), glucose tolerance (OGTT), and body composition (dual-energy x-ray absorptiometry) measurements. Participants are followed every 3 months for safety assessments, every 6 months for frailty assessment and OGTT, and every 12 months for muscle biopsy.

Results: Currently, 143 participants (51.7% male, 35% Hispanic) have been randomized. At baseline, mean age was 71.8 ± 5.4 years, body mass index was 30.8 ± 6 kg/m2, and Hemoglobin A1c was 5.6 ± 0.4%. Mean frailty score was 0.4 ± 0.6 and the proportion of non-frail and pre-frail participants was 63.6% (n = 91) and 36.4% (n = 52), respectively.

Conclusions: Findings of this clinical trial may have future implications for the use of metformin in older adults with pre-diabetes to prevent the onset of frailty.

D89 Resident Presentation

Perception of Atrial Fibrillation Symptoms, Impact on Quality of life, and Treatment Strategies in Older Adults: The SAGE-AF Study

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Background: In older adults with atrial fibrillation (AF), symptomatology plays a key role in management. We examined patient perception of AF symptoms, their impact on quality of life (QoL), and relation to treatment strategies in several adult groups.

Methods: Patients aged ≥65 years diagnosed with AF were recruited from clinics in Massachusetts and Georgia into a cohort study between 2016-2018. Participants were categorized into three age groups: 65-74 (old), 75-84 (older), and ≥85 (oldest). Patient report of experiencing any AF symptoms were based on documentation in medical records. The Atrial Fibrillation Effect on Quality-of-Life

questionnaire assessed cardiac and non-cardiac specific AF symptoms and their impact on QoL. The association between AF symptoms and treatment strategies including rate or rhythm control was examined across the age strata.

Results: Participants (n=1,184) were on average 75 years old, 48% were women, and 86% were White. Approximately one-half were aged 65-74 years, 36% were 75-84 years, and 13% were ≥85 years. Overall, the most commonly reported symptoms were non-cardiac specific (e.g., fatigue, dyspnea, and dizziness) with similar prevalence and impact on QoL across all age groups. The cardiac specific AF symptoms (e.g., palpitations, irregular heartbeat, and a pause in heart activity) were less prevalent, but most reported by participants aged 65-74 years and had considerable impact of these symptoms on their QoL. Participants who reported the presence of any AF symptoms during their clinic visit were more likely to have received rhythm compared to rate control with similar findings in the stratified analysis for all age groups except those aged ≥85 years.

Conclusions: These findings provide insights to understanding the burden of AF symptomatology in older adults with clinical implications for the delivery of patient centered care and tailored management of distressing AF symptoms that impact QoL, treatment, and clinical outcomes in an aging population.

D90 Resident Presentation

Comparison of Tramadol and Oxycodone Safety Profiles for Acute Pain Management in a Geriatric Clinic

S. An, L. C. Hutchison. *College of Pharmacy, University of Arkansas for Medical Sciences, Little Rock, AR.*

Background: Tramadol is a schedule IV opioid that is favored over schedule II opioids. However, tramadol has highly unpredictable pharmacokinetics. The parent drug inhibits reuptake of norepinephrine and serotonin while desired analgesic effect is achieved after CYP2D6 metabolism which varies among individuals. Its breakdown property remains a large concern for those with CYP2D6 deficiency or for those on interacting medications, which applies to our geriatric patients. Tramadol is associated with adverse drug reactions such as serotonin syndrome and emerging literature has reported increased risk of hospitalization due to hyponatremia and hypoglycemia. The objective of this project is to compare the rate of adverse drug events between tramadol and oxycodone to identify which opioid agent may be a safer option in older adults.

Methods: A retrospective chart review will be completed in patients > 65 years who are prescribed tramadol, tramadol/acetaminophen (APAP) or oxycodone, oxycodone/APAP for pain management at the UAMS Thomas and Lyon Longevity Clinic for acute pain management between September 2017 and September 2020. Those who have filled opioid prescription within 90 days prior to, or prescribed > 2 different opioids concomitantly will be excluded. Primary outcome of interest is rate of hospitalization within 30-days and/or all-cause mortality within 1 year after initial tramadol, tramadol/APAP prescription, compared to oxycodone, oxycodone/APAP prescription. Secondary outcomes of interest are rate of hyponatremia and hypoglycemia at first encounter for patients who were hospitalized in both groups.

Results: Initial data report has shown that around 100 patients are prescribed either tramadol or oxycodone for acute pain management within a year period at the geriatric clinic. Proposed sample size of 300 patients is currently being identified. Data collection and further results will be reported at a later date.

Conclusion: The geriatric population is at increased risk of adverse drug events when initiating tramadol as their body undergoes age-related pharmacokinetic changes and as they may be introduced to drug-drug interactions due to increased risk of experiencing polypharmacy. We hope this study will serve as an additional resource for appropriate selection of opioids in geriatric patients.

D91 Resident Presentation

Prescription Pattern of Proton Pump Inhibitors and Risk Factors of Misuse in Family Medicine Inpatient Service

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Background: There is an increasing trend to inappropriately prescribe PPIs in different clinical settings despite the reported side effects, drug-drug interactions, and its financial burden on the healthcare system. This study aims to determine the prevalence and risk factors of inappropriate proton pump inhibitors (PPIs) prescription in the Family Medicine inpatient service at admission and discharge.

Methods: A retrospective chart review was conducted, including patients 18 years old and above, who were admitted to the Family Medicine inpatient service and discharged between January 1, 2019, and December 30, 2019. Sociodemographics, comorbidities, medical history, pre-hospitalization, admission, and discharge medications data were collected. Inappropriate PPI use was defined as PPIs use that is not indicated based on FDA-approved indications and the National Institute for Clinical Excellence (NICE) on admission and on discharge.

Results: A total of 300 patient hospitalizations were analyzed, with an average age of 53.17 ± 22.28 years, and out of which 162 (57.2%) were females. Among the patient cohort, 109 (36.3%) were on PPI at pre-admission, 142 (47.3%) were on PPI at discharge, the majority of them being taken without indications (n= 60, 55% vs. n= 85, 59.9%). The most common inappropriate indication was gastrointestinal prophylaxis in low-risk patients. An indication for PPI therapy was found in 80 (26.6%) cases at pre-admission and at discharge. Polypharmacy was the strongest risk factor for inappropriate PPI use (OR=30, p-value<0.001).

Conclusions: PPIs were inappropriately prescribed at pre-admission and at discharge in a Family Medicine inpatient service. The strongest risk factor of inappropriate PPI use was polypharmacy. Periodic evaluation of the indication of PPI prescription in primary care and at pre-admission is vital in reducing PPI misuse.

D92 Student Presentation

New Statin Use is Associated with a lower risk of mortality among older Veterans with Chronic Kidney Disease

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Background: Older adults with chronic kidney disease (CKD) are at increased risk of mortality and cardiovascular disease (CVD). Whether statins are effective in lowering risk of mortality in older adults with CKD is unknown.

Methods: This is a retrospective observational study of US Veterans ≥65 years who were regular users of VA from 2005-2015, free of CVD, and with no prior statin use. Analysis was restricted to Veterans with ICD-9 diagnostic codes for CKD stages 3-5. Electronic health record data was linked to Medicare and Medicaid to ensure complete capture of statin use and diagnoses. The National Death Index was used to identify deaths through the end of the study period 9-30-2015. We used propensity score overlap weighting to address confounding by indication and ran Cox proportional hazard models to estimate the association between statin use and mortality.

Results: There were 21,712 Veterans included, mean age 75(8), 98% male, 71% White, 18% Black. Mean eGFR was 42 mL/min/ $1.73m^2$ (13), the Table shows other baseline characteristics. Simvastatin was the most common statin used. After running the propensity score overlap all covariates were balanced. Over a Median (IQR) follow-up of 2.6 years (1.2-4.7) there were 5,681 deaths. The HR for mortality was .65 (.59-.72), <0.001.

Conclusions: In US Veterans aged 65 and older with CKD, new statin use was associated with a lower risk of all-cause mortality. Future work will examine the association between statins and CVD events in older adults with CKD. Randomized trials are needed to confirm these findings.

Baseline Characteristics before propensity score modelling

	Non-statin users* N=21,712	Statin Users N=5,812
5yr ASCVD Risk Low, n(%)	2591 (12)	326 (6)
5yr ASCVD Risk Borderline, n(%)	1008 (5)	192 (3)
5yr ASCVD Risk Intermediate, n(%)	6945 (32)	1759 (30)
5yr ASCVD Risk High, n(%)	11105 (51)	3518 (61)
Arthritis, n(%)	10653 (49)	3143 (54)
Cancer, n(%)	10627 (49)	2981 (51)
Diabetes, n(%)	6486 (30)	2653 (46)
Hyperlipidemia, n(%)	8944 (41)	3921 (67)
Hypertension, n(%)	18582 (86)	5458 (94)
Polypharmacy, n(%)	11132 (51)	4015 (69)

***All participants began as non-users**

D93 Student Presentation

Sex Differences in Association of established AD risk factors in the Incidence of Alzheimer's Disease: A Regional Retrospective Cohort Study

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Approximately two-thirds of the estimated 6.1 million individuals diagnosed with Alzheimer's Disease (AD) in the US are women. The aim of this study was to deconstruct sex differences in AD prevalence as i) related to differences in health status and ii) differences in the strength of association between health status and AD incidence. We analyzed electronic medical records of 415,024 patients residing in Cuyahoga County, Ohio who had ≥1 outpatient visit after age 60 at either Cleveland Clinic Health System or MetroHealth System between 2005 and 2015. We considered the first such visit as the index encounter and analyzed the time from index encounter to a composite outcome of AD diagnosis or primary death due to AD or unspecified dementia. Cox regression models stratified by sex were used to estimate the cumulative incidence of composite outcome over time. Although the prevalence of depression was higher in females than males (13% vs 7.4%, respectively), diagnosis of depression had a stronger independent relationship with AD outcome in males compared to females (adjusted hazard ratio [95% confidence interval] (1.82 [1.64 - 2.02] vs. 1.58 [1.48 -1.68]). History of alcohol abuse was approximately twice as prevalent in males than in females (3.5% vs 1.2%), and had a stronger independent relationship with composite AD (2.18 [1.86 - 2.56] vs. 1.60 [1.28 - 1.99]) in males. History of heart failure was a stronger risk factor for AD in females (1.60 [1.28 - 1.99] vs. 1.06 [0.95- 1.19]) despite being equally prevalent in both sexes. Understanding how risk factors differ in both prevalence and degree of association with AD between sexes can help inform precision medicine efforts to develop effective AD screening, prevention and treatment strategies.

Characteristic	Female HR (1)	Female 95% CI (2)	Male HR (1)	Male 95% CI (1)
5 yr Increase in Age	1.91	1.89, 1.93	1.96	1.93, 1.99
Depression	1.58	1.48, 1.68	1.82	1.64, 2.02
Hypertension	1.08	1.03, 1.14	1.12	1.05, 1.20
Type 2 Diabetes	1.27	1.19, 1.35	1.32	1.22, 1.43
Cerebrovascular Disease	1.33	1.24, 1.43	1.49	1.36, 1.62
Heart Failure	1.26	1.16, 1.37	1.06	0.95, 1.19
Alcohol Abuse	1.60	1.28, 1.99	2.18	1.86, 2.56
Traumatic Brain Injury	1.41	1.12, 1.78	1.53	1.18, 1.99

(1) HR = Hazard Ratio, CI = Confidence Interval

D94 Student Presentation

Food Insecurity, Functional Limitations, Depression and Frailty among Older Adults with HIV

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Background: Food insecurity affects over one billion people across the world. Older adults with HIV (OAH), who make up more than half of people living with HIV (PLWH) in the United States, are uniquely vulnerable to food insecurity due to multiple risk factors. Among PLWH, food insecurity is associated with poor medication adherence, decreased viral suppression, and overall greater morbidity and mortality. However, few studies have defined the prevalence and effects of food insecurity among OAH in particular. This study seeks to describe the prevalence of food insecurity among a study population of OAH and how it relates to functional limitations, depression, and frailty.

Methods: OAH, age 50+, completed frailty testing and questionnaires on demographics, depression, food insecurity and functional limitations. For the outcomes of depression, functional limitations and frailty, backwards stepwise logistic regression was employed to adjust for potential confounding variables, including age, sex, income, and education, with a significance level of <0.10 set as the criterion for inclusion in models.

Results: Of the 162 participants, mean age was 61 ± 6 years; 72% self-identified as male, 52% Black, and 70% low income. Fifty-eight (36%) participants reported that they experienced food insecurity in the 12 months prior to the study. Food insecurity was more common among those with depression and functional limitations compared to those without. Pre-frailty/frailty was associated with food insecurity in unadjusted models, but this association was weaker after adjusting for covariates (see table).

Conclusions: In this study of OAH, more than a third of participants experienced food insecurity. These findings corroborate past studies of older adults with HIV and imply that OAH may benefit from food insecurity screening, as well as from engagement with resources that address functional decline and mitigate food insecurity.

Associations with food insecurity

	Unadjusted Model			Adjusted Model		
	OR	95% CI	P-value	OR	95% CI	P-value
Depression	1.83	0.95 - 3.53	0.071	2.05	1.02 - 4.10	0.043
Difficulty shopping	3.00	1.44 - 6.27	0.003	2.98	1.39 – 6.40	0.005
Difficulty preparing food	2.10	1.01 - 4.38	0.048	2.30	1.06 - 5.05	0.035
Difficulty performing housework	1.98	1.01 - 3.86	0.046	2.29	1.12 - 4.68	0.023
Difficulty handling money	4.69	1.37 - 16.0	0.014	4.92	1.44 - 16.9	0.011
Difficulty walking across a small room	3.10	1.04 - 9.2	0.042	3.34	1.09 - 10.3	0.035
Pre-frailty/Frailty	2.77	1.28 – 5.96	0.009	2.09	0.87 - 5.02	0.099

D95 Student Presentation

Approaches to ascertaining hearing impairment and their impact on the studies of the association between hearing loss and dementia

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Background: It has been estimated that approximately 40% of dementia cases are attributed to modifiable risk factors. One emerging modifiable risk factor for dementia that has not been well-studied is hearing impairment, which has a high population attributable fraction of 23%. However, it is unclear what methods of ascertaining hearing impairment will be most predictive of future dementia status. The study objective is to explore approaches for measuring hearing impairment and their relations to 3-year incident dementia status.

Methods: We used baseline (2011 to 2015) and 3-year follow-up data from the Canadian Longitudinal Study on Aging. We excluded individuals who were under 55 years of age, reported physician-diagnosed dementia at baseline, and/or did not have follow-up data on dementia status. Hearing impairment was defined as having fair or poor self-rated hearing (versus excellent, very good, or good), using hearing aids, or having a pure tone average of 1000, 2000, 3000, and 4000 Hz above 60 dB. Multivariable logistic regression models adjusting for age, sex, and other confounders were run to assess the odds ratio (OR) of incident dementia for each definition of hearing impairment.

Results: Of the 19,830 older Canadians included in the study, the baseline mean age was 66 years (SD=8), 53% were female, 5% were non-white, and 0.2% had dementia at follow-up. Among individuals with physician-diagnosed dementia at follow-up, 16% rated their hearing as fair or poor, 16% were using hearing aids, and 19% had audiometrically defined hearing loss at baseline. Those without dementia at follow-up had 13%, 6%, and 4.5% on these measures, respectively. Individuals with fair/poor hearing, individuals using hearing aids, and individuals with audiometry-derived hearing loss had 1.9 (95% CI 1.01-3.6), 1.7 (95% CI 0.8-3.6), and 2.7 (95% CI 1.3-5.8) times the odds of incident dementia, respectively, compared to individuals without the respective definitions of hearing impairment.

Conclusion: The results of this analysis suggest varying degrees of association between hearing impairment and dementia status depending on the method of hearing impairment ascertainment.

D96 Resident Presentation

Trapped in Place: A Systematic Review of Elder Abuse During the COVID-19 Era

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Prior to COVID-19, an estimated 1 in 10 adults age ≥ 60 years experienced abuse annually in the United States. Social isolation is a known risk factor for elder abuse. To understand the possible contributing factors to a reported increase in elder abuse and to increase awareness a systematic review was done.

Methods:

We searched Pubmed, Scopus, and Web of Science using the keywords {(elderly or geriatric abuse + COVID-19)} 26 articles were found and 16 meet the inclusion criteria of discussing elderly abuse in the current COVID-19 pandemic.

Results:

8 articles were expert opinion, 4 were cross-sectional studies, 1 was a literature review article regarding diagnosis and management, 2 were retrospective cohort studies, and 1 was a systematic review regarding geriatric emergencies.

They all included women. 6 articles discussed at least 1 minority population, whether it was LTBQ+ people, people with disabilities or racial and/or ethnic minorities depending on the geographic location discussed. 3 articles were international and 1 encompassed North America as a whole, while the other articles were based in the US.

All articles except 1 reported concern for increased elderly abuse. Minority groups were more likely to be isolated and less likely to access resources. There were no clear differences for women. Victims of isolation were more likely to have medical needs, while victims of emotional abuse were more likely to report loneliness.

Possible explanations for the increase in abuse include a decrease in all in-person services, decreased social/community supports, increased isolation or only interacting with their perpetrators, and increased reliance on their abusers. There were several legal barriers to Adult Protective Services (APS) in-person evaluations in some regions. Also 40% of caregivers reported doing worse financially and 15% reported drinking more alcohol. Telehealth is challenging for sheltering-in-place with an abuser and who also may have more difficulty using telehealth due to high rates of hearing impairment and language barriers.

Discussion:

The numerous contributing factors to the increase in elderly abuse highlight the need to weigh the risks and benefits for in-person care and in-person APS evaluations, along with the re-introduction of social programs. It also highlights the need for providers to be aware of any potential signs or symptoms of abuse in their patients.

D97 Resident Presentation

Racial/Ethnic Differences in Social Health of Older Adults in a Northern California Healthcare System

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Background: The COVID-19 pandemic heightened concerns about the social health of older adults and potential exacerbation of racial disparities in health, well-being, and healthcare access.

Methods: We used weighted data for 4282 Kaiser Permanente Northern California (KPNC) members aged 65-85 who responded to the 2020 KPNC Member Health Survey to estimate prevalence of frequent loneliness, lack of social support, financial strains, and other stressors during the prior 12 months.

Results: Overall, 5% often felt lonely or socially isolated, and 37% often did not get sufficient social/emotional support (Figure). While approximately 4% had problems "making ends meet", 10% worried about financial security. Cost led to 2-3% being food insecure, eating less healthy foods, and delaying/foregoing medical care, and 11% delaying/foregoing dental care. Black adults were most likely to report these financial strains, as well as experience harassment/discrimination and worry about neighborhood violence. Asian/Pacific Islander adults (API) were most likely (57%) and White adults least likely (32%) to report lack of social/emotional support.

Conclusions: While many older adults experienced adverse financial and social circumstances during the pandemic, Black adults were more likely than White adults to indicate financial and healthcare access strains. More research is needed on effective screening for financial and other social risks in diverse older adult populations to deliver socially and culturally appropriate care to vulnerable populations.

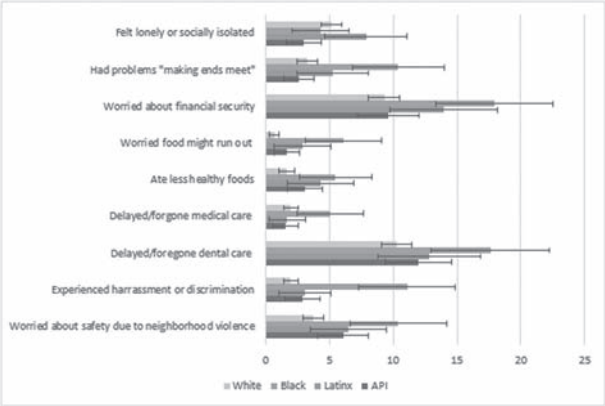

Figure: Prevalence of social risks experienced by adults aged 65-85 during the COVID-19 pandemic

D98 Student Presentation

Group-based Trajectory Modeling of Nursing Facility Resident Pain Scores

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Background: New advances are needed in pain research for nursing facility (NF) residents, a population that suffers a disproportionate amount of pain. Despite guidelines for the treatment of pain, nearly 50% of NF residents across the US report moderate to severe pain and 25% report persistent pain, highlighting the need for a new approach. Traditionally, pain has been studied in relation to specific pathophysiological processes with little consideration for pain's temporal nature. The study objective was to identify and describe trajectories of pain over time in NF residents.

Methods: Using data from the Minimum Data Set, a retrospective longitudinal trajectory analysis was conducted. Pain scores from the time of admission to discharge or a maximum of 28 assessments were included. Distinct pain trajectories were identified using group-based trajectory modeling. This method allows for identifying subgroups of individuals within a population that follow distinctive trajectories. Associations between trajectories and demographic, clinical comorbidities, and cognitive function were assessed using Chi square tests followed by multinomial regression to control for confounding.

Results: Among the 4,864 NF residents, four distinct pain trajectories emerged: 1) consistently pain free (50.2%); 2) decreasing-increasing pain presence (21.8%); 3) increasing-decreasing pain presence (15.2%); 4) persistent pain presence (12.8%). In multinomial regression models, trajectory group membership varied by baseline age, gender, location, cognition, and presence of contracture, fracture, and Alzheimer's disease or other dementia. After controlling for baseline age, sex, and cognition, those living in rural settings (aOR=2.7, p<.001) and with diabetes (aOR=1.380, p=.002), arthritis (aOR=1.786, p<.001), hip fracture (aOR=5.751, p<.001) and contracture (aOR=2.708, p<.001) were more likely than those without these characteristics to belong to the persistent pain presence trajectory.

Conclusions

Findings showed considerable inter-individual variation in NF residents pain trajectories. The identified variables may be used for risk stratification to identify those at greatest risk for persistent pain or as potential intervention targets.

D99 Student Presentation

Impact of Disadvantaged Neighborhoods and Nursing Home Quality on COVID-19 rates in Los Angeles Nursing Homes

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In the United States, the COVID-19 pandemic has disproportionally affected nursing home residents who compose 1/300th of the population but account for approximately 1/5th of COVID-19 deaths. Nursing home residents are most susceptible to morbidity to COVID; it is crucial that nursing homes throughout the country have sufficient access to resources to help their residents. The objective of this study is to determine the roles that socioeconomic status and nursing home quality play in COVID-19 rates and deaths in Los Angeles nursing homes. Weekly COVID-19 rates and deaths (from May 2020-July 2021) were determined using data from the Center for Medicare and Medicaid Services (CMS). The socioeconomic status (SES) of nursing homes was based on the address of the nursing home and was tabulated using the University of Wisconsin's Neighborhood Atlas. Nursing home quality was measured using the CMS five-star quality system. Unpaired t-tests were conducted to compare COVID-19 rates and mortality in more disadvantaged nursing homes to those in more well-resourced neighborhoods. No significant difference in COVID-19 rates and deaths were found in nursing homes of different SES statuses, however, there was a correlation between nursing home quality and COVID-19 rates and deaths. Nursing home quality, not neighborhood SES, plays an important role in the impact of COVID-19 in Los Angeles nursing homes.

D100 Student Presentation

Association between the soluble receptor for advanced glycation end products (sRAGE) and cerebral small vessel disease in the Atherosclerosis Risk in Communities (ARIC) Study

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Background

Higher sRAGE could be protective against cerebral small vessel disease. The cross-temporal association of sRAGE and small vessel disease measured by cerebral magnetic resonance imaging (MRI), such as white matter hyperintensities (WMH) and lacunar infarcts, has not been evaluated. We hypothesized higher sRAGE is associated with lower WMH volumes and lacunar infarcts.

Methods

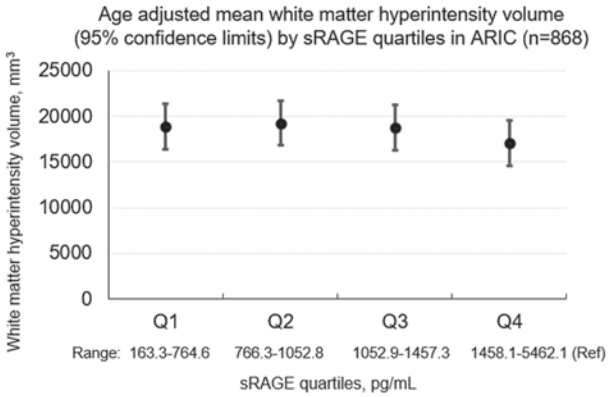
We included 868 adults (mean age: 62; 61% women; 33% Black) from the community-based ARIC Study. sRAGE was measured via ELISA from stored plasma from 1987-89, 1990-92 or 2004-05. Brain MRI was conducted in 2011-13. We analyzed sRAGE continuously and in quartiles. WMH volume was estimated using FreeSurfer. Lacunar infarcts were ≥20mm. Linear and logistic regression estimated associations of sRAGE with log WMH volume and infarct presence. We accounted for MRI sampling weights, estimated total intracranial volume (for WMH only), years between sRAGE and MRI, race-study site, sex, and sRAGE visit age, hypertension, diabetes, and BMI.

Results

The mean sRAGE value was 1,178.2 pg/mL (SD 592.8) and 18% of the participants had a lacunar infarct. sRAGE (per 200 pg/mL) was not associated with log WMH volume (β=-0.002; 95% CI: -0.011, 0.006) or infarct presence (odds ratio: 0.99; 95% CI: 0.93, 1.07). sRAGE quartiles were also not associated with WMH (Fig 1) or lacunar infarcts.

Conclusion

sRAGE was not associated with cerebral small vessel disease on MRI. ELISA assays may not be specific to measure circulating sRAGE.



D101 Resident Presentation

Trends in the amyloidosis mortality rate in Japan: A nationwide observational study from 1998 to 2019

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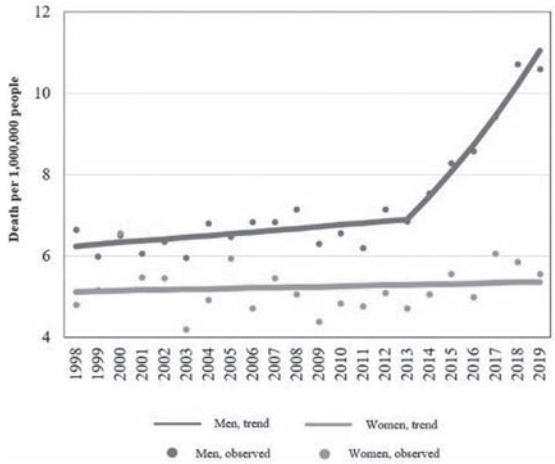
Background: Despite the increasing attention paid to amyloidosis in recent years, there have been few reports on amyloidosis mortality and its trends worldwide.

Methods: This study aimed to evaluate the trends in both crude and age-adjusted amyloidosis-associated mortality rates in Japan during the time frame of 1998 to 2019 by using national vital statistics data.

Results: A total of 9,158 amyloidosis-associated deaths were recorded, and 56.1% were men. Overall, the average annual percentage change (APC) of age-adjusted amyloidosis-associated mortality rates increased significantly over the study period (1.8%, 95% confidence interval [CI], 1.0−2.7%). While the APC of age-adjusted mortality rates in women showed no significant change over the study period, the APC in men markedly increased in the 2013–2019 period (8.2%, 95% CI: 6.0–10.4%).

Conclusions: Our analysis revealed an increasing trend in mortality associated with amyloidosis. Given its high mortality rate and susceptibility to the effects of an increasing population of older adults, amyloidosis deserves more attention from healthcare providers. Moreover, given the increasing number of deaths due to amyloidosis in an aging society like Japan and the high-cost medication for cardiac amyloidosis, the clinical indication for amyloidosis treatment should be evaluated more carefully from multifaceted perspectives.

Figure 1. Trends in age-adjusted rates per 1,000,000 population of amyloidosis-associated death by sex, 1998–2019



D102 Resident Presentation

DIFFERENTIAL DETERMINANTS OF SOCIAL ISOLATION AND LONELINESS

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Background

During COVID-19, social distancing was prevalent to curb disease transmission, particularly for vulnerable older adults. However, this isolation leads to low mood, functional decline and frailty. Hence, such preventative measures have brought to the fore the heavy implications of social isolation, the lack of social contact and interaction. Associated but separate is loneliness, the feeling of being alone or separated from others. While it is evident that either or both impact health negatively, attributable risk factors and relationship with geriatric syndromes such as frailty and sarcopenia are still unclear. Understanding these aspects would be important in developing healthcare policies to reduce social isolation and loneliness in our older adults. Hence, we aim to investigate the differential determinants of social isolation and loneliness in community dwelling older adults.

Methods

We surveyed 299 community dwelling older adults ≥60years. Parameters documented include demographics, 6-item Lubben Social Network Scale, UCLA loneliness scale, EQ5D, Montreal Cognitive Assessment, Geriatric Depression Scale, functional screening with Barthel index, Lawton instrumental activities of daily living scale, FRAIL scale and SARC-F. Linear regression analysis was performed.

Results

234(78.26%) were female, mostly of Chinese ethnicity(90.30%), mean age 74.31±7.81years. 62(20.74%) were living alone. 220(73.58%) had primary school education or less. Mean number of chronic diseases 1.57±0.07 and 81(27.09%) classified as frail, ie FRAIL score 3 and above. Social isolation was significantly correlated with perceived health status (β=0.08;95%CI 0.04 to 0.13;p<0.01), self-care (β= -2.18;95%CI -4.19 to -0.17;p=0.03), sarcopenia (β= -0.57;95%CI -1.12 to -0.02;p=0.04) and cognition (β=0.26;95% CI 0.12 to 0.39;p<0.01). Loneliness was significantly correlated with pain (β= -0.23;95%CI -0.45 to -0.01;p=0.04).

Conclusion

Social isolation was linked to lower perceived health and cognition, but better physical function as seen from lower levels of sarcopenia and issues with self-care. This finding highlights that isolated older adults may not only be limited by physical disabilities. Mood and cognition have to be considered. Loneliness on the other hand was linked to pain, emphasising that this common symptom has

far-reaching implications. Our study is important in identifying key risk factors to be investigated. More work is needed to delineate mechanisms.

D103 Student Presentation

Cataract Surgery Decreases Risk of Falls in Elderly Patients with Comorbid Age-Related Macular Degeneration

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Background

The efficacy of cataract surgery for patients with comorbid cataracts and age-related macular degeneration (AMD) is not well defined[1]. The objective of this study is to determine the association of cataract surgery with falls presenting to the ED in elderly patients with comorbid cataracts and AMD.

Methods

Nationally representative data from the US Nationwide Emergency Department Sample (NEDS)[2] were used to analyze ED visits from January 1, 2006, to December 31, 2018. Patients ages 65 and older with cataracts and AMD presenting to EDs across the United States were eligible for inclusion. Descriptive statistics were calculated for all relevant characteristics, including age, sex, income quartile of the patient's residential zip code, primary payer, cost, length of stay, hospital region, and admission type. Multivariable logistic regression was used to determine the demographics and outcomes of cataracts and AMD patients associated with presentation to the ED due to a fall.

Results

Patients with prior cataract surgery were significantly less likely to present to the ED due to falls than patients without cataract surgery (OR: 0.72, 95% CI: [0.60-0.87], P=<0.001). In addition, patients residing in areas with lower median income (0-25 percentile), had lower risk of fall than patients residing in areas with higher median income (75-100 percentile) (OR: 0.67, 95% CI: [0.52-0.86], P=<0.01). Additional factors that were associated with increased risk of falls included increased patient age, patients identifying as women, and intermediate or prolonged length of hospital stay.

Conclusions

These findings suggest that cataract surgery is associated with decreased risk of falls in elderly patients with cataracts and concurrent AMD. With early detection of these eye conditions, preventative cataract surgery can be recommended and improve patient outcomes and quality of life.

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D104 Student Presentation

Sex-based differences in the relationship between loneliness and prevalent polypharmacy in older adults in Ontario

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Background: Older adults, especially women, experience high rates of loneliness compared to other groups and are among the largest consumers of medication. Our aim was to explore sex-based differences in the potential association between loneliness and polypharmacy.

Methods: We assembled a cross-sectional cohort of community dwelling older adults aged 66+ years based on the 2008/2009 Canadian Community Health Survey (CCHS) - Healthy Aging cycle linked to health administrative data in Ontario, Canada. Loneliness was measured using the three-item UCLA Loneliness Scale and categorized as not lonely, moderately lonely, and severely lonely. Polypharmacy was measured using prescription medication claims and defined as five or more unique medications on the participant's interview date. Multivariable logistic regression was used to estimate odds ratios (OR) for the association between loneliness and polypharmacy, stratified by sex.

Results: Our sample included 2,359 CCHS respondents which corresponded to 1,200,048 individuals following weighting. Women comprised 54.6% of the weighted sample. 32.3% of not lonely women (32.5% of not lonely men), 36.5% of moderately lonely women (32.2% of moderately lonely men), and 44.1% of severely lonely women (42.4% of severely lonely men) were using five or more medications. Severe loneliness was significantly associated with higher odds of polypharmacy (adjusted OR = 1.65, 95% CI: 1.06-2.58) among women but not among men (adjusted OR = 1.18, 95% CI: 0.70-2.00), following adjustment for confounding variables.

Conclusions: Higher levels of loneliness were significantly associated with polypharmacy among women. Furthermore, the number of medications differed across loneliness categories for women and men. Our results indicate the importance for clinicians to consider loneliness in their prescribing practices.

D105 Student Presentation

Effects of Dementia on Clinical Characteristics and Outcomes of Patients with Chronic Heart Failure

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Background: Congestive heart failure (CHF) and dementia are very common in older persons. While each have a profound impact on function, mortality, and hospitalization, less is known about how the presence of dementia impacts the clinical characteristics and outcomes of persons with CHF. Therefore, we compared outcomes between patients who had both CHF and dementia to those who had only CHF.

Methods: Using the 2015 wave of the nationally representative National Health and Aging Trends Study (NHATS), we identified 765 participants with CHF (identified through Medicare Claims). We used the validated NHS dementia algorithm which combined information from physician diagnoses, cognitive testing, and family member observations to identify dementia. Measures included need for help with ADLs and IADLs at baseline and one year later and were analyzed with logistic regression models. Hospitalization over 1

year, and mortality over 2-years were analyzed using Cox regression models. All analyses were adjusted for demographics, SES, baseline health and baseline functional status.

Results: 162 (21%) of the participants with CHF also had dementia. For each ADL and IADL, patients with both CHF and dementia were more likely to need help than participants with CHF alone. For example, 80% of participants with CHF and dementia reported needing help with medications vs 16.3% with CHF alone (P<.001). Participants with CHF and dementia were more likely than participants with CHF alone to require help with additional ADLs or IADLs after one year (ADL: aOR=3.84 (2.1, 7.04), IADL: aOR=1.66 (0.91,3.04)). Participants with CHF and dementia are also more likely to be hospitalized within a year (aHR=1.41 (1.01, 1.98)), or to die within two years (aHR=1.93 (1.31, 2.83)) compared to participants with CHF only.

Conclusions: Our results show that many persons with CHF also have comorbid dementia. Among those with CHF, the presence of dementia markedly increases the likelihood of concurrent functional impairment, ADL and IADL decline, death, and hospitalization.

D106 Student Presentation

Potentially Inappropriate Medication Use Among African American Older Adults Using Antidepressants

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Background: Independently, depression, chronic medical conditions (CMCs) and potentially inappropriate medications (PIMs) are prevalent in African American (AA) older adults, resulting in poor health outcomes and complex treatment. However, whether antidepressant therapy increases risk for PIM use in AA older adults is unclear. This study aims to characterize a population of AA older adults in Los Angeles that use antidepressants and examine their risk of PIM use compared to those who do not use antidepressants.

Methods: Data is based on a cross-sectional convenience sample from a prior study performed 2015-2017. Participants were AA adults age 65 and older with hypertension recruited from senior centers and housing units in majority AA areas of South Los Angeles. Four participants refused, while 193 enrolled. Participants self-reported CMCs, medication use, and demographics and were compared based on antidepressant usage. PIMs were identified using 2015 AGS Beers Criteria.

Results: Participants using antidepressants took PIMs at a mean number of 1.6, while participants not taking antidepressants took PIMs at a mean number of 0.6. Over 62.9% of participants (22/35) using antidepressants had 8 or more CMCs, compared with 41.7% of participants (64/153) without depression. Nearly 86% of participants using antidepressants reported chronic pain. Medications that increased fall risk and PPIs were the most common PIMs in both groups. Drug-drug interactions, multiple CNS acting agents and benzodiazepines were more frequent in participants using antidepressants (17.1%, 25.7%, 11.4% respectively) than those not using antidepressants (8.9%, 8.9%, 3.8%).

Conclusions: AA older adults using antidepressants appeared to take a larger number of PIMs compared to adults who did not use antidepressants. Those on antidepressants reported more CMCs, including chronic pain. Further analysis is needed to determine the significance of these differences. Findings suggest that AA older adults on antidepressants may be at additional risk for PIM. Further study of the interaction between CMCs, antidepressants and PIM is needed to explain poor health outcomes in the AA older adult population.

D107 Student Presentation

'I can't take any chances': A mixed-methods study of frailty, isolation, worry, and loneliness among aging adults during the COVID-19 pandemic

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Background: Older adults with frailty may struggle to adapt to prolonged periods of infection prevention measures during COVID-19. However, few studies have explored how frailty has shaped experiences of living through the COVID-19 pandemic. We aimed to 1) investigate quantitative associations between frailty and each of physical isolation, worry about COVID-19, and loneliness; and 2) qualitatively explore older adults' lived experiences of frailty during the pandemic.

Methods: We used a cross-sectional sequential explanatory mixed-methods design. Data were from online questionnaires in the nationwide United States COVID-19 Coping Study from December 2020 through January 2021 (N = 2,451 adults aged ≥55). Frailty was assessed by the 5-item FRAIL scale. We used adjusted population-weighted modified Poisson regression to estimate prevalence ratios for associations between frailty and physical isolation (not leaving home except for essential purposes); worry about COVID-19 (moderate/extremely worried vs. not at all/slightly/somewhat worried); and loneliness (UCLA Loneliness scale, ≥6/9 vs. <6/9). We performed qualitative thematic analysis on open-ended written responses to the question, "How does your health status affect your everyday activities during the pandemic?".

Results: Frailty was associated with increased prevalence of all outcomes in dose-response fashions. Key qualitative themes among pre-frail and frail aging adults included concerns about infection, adherence to COVID-19 prevention measures, changes in social interaction, physical challenges, and changes in exercise and activities.

Conclusion: Experiences of aging with frailty during the pandemic have been diverse and encompass isolation, worry, loneliness, and frailty progression, as well as coping strategies and resilience. Individualized strategies that consider the factors influencing frailty are needed to support well-being among aging adults during the pandemic.

D108 Student Presentation

Associations Between Skin Barrier Function and Historical Trajectories of Cognitive Decline

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Background: Studies support a role for chronic inflammation in cognitive decline, yet little research has examined the role of age-associated skin barrier decline, a large source of chronic inflammation. We sought to examine whether declining skin barrier function is associated with cognition and cognitive change in a cohort of normative aging.

Methods: We performed a nested cohort study in the Baltimore Longitudinal Study of Aging. Transepidermal water loss (TEWL) was measured after repeat tape strippings until 4x the baseline. The primary exposure was the area under the curve when TEWL was plotted against number of strippings. As secondary measures, total number of strips (skin barrier integrity), and skin barrier recovery were evaluated. A battery of 11 cognitive tests measuring global cognition, verbal fluency/memory, attention, working memory, and executive function served as outcomes. We ran linear regression models to estimate cross-sectional associations between skin barrier function and

cognition, and linear mixed effects model to estimate the association between skin barrier function and retrospective cognitive change using up to 10 years of historical data.

Results: A sub-cohort of 237 participants >50 years of age (57.8% female, 73% white) who underwent both skin barrier and cognitive testing were included. In adjusted multivariable models, we did not find associations between skin barrier function and concurrent cognitive measures. However, in adjusted longitudinal models, we found that worse skin barrier function was associated with declines in performance on the California Verbal Learning Test (CVLT) (*b=-0.058 ± 0.026, p=0.031*) and a trend towards worse performance on category fluency (*b=-0.048±0.026, p=0.064*). Skin barrier integrity, was associated with a 1.9 unit decline on the Trail Making Test A (*b=-1.850±0.977, p=0.060)* in cross sectional analysis, and was associated with worsening performance on two components of the CVLT (*b=0.214±0.034, p=0.034; b=0.075±0.031, p=0.017)*, and digit forward test (*b=0.052±0.020, p=0.010*) in longitudinal analyses.

Conclusion: Age-related decline in skin barrier function is associated with small declines in cognitive function. Additional research is warranted given that preliminary studies show that skin barrier function and systemic inflammatory levels imrpove by application of topical moisturizers.

D109 Student Presentation

Hearing Aid Use and Social Limitations among Older Hispanic and Black Americans

K. Kricorian, K. Turner. *Researcher, MiOra, Simi Valley, CA.*

Background

Research suggests older Hispanic and Black Americans receive poorer hearing care than non-Hispanic Whites (NHWs), diminishing relationships and contributing to avoidable cognitive declines. Survey data were analyzed to understand racial/ethnic differences in hearing aid use among older individuals and the impact differences may have on social interactions.

Methods

The 2020 National Health Interview Survey (NHIS) is a nationally representative, face-to-face survey monitoring US population health. Analysis focused on the N=10,025 survey respondents age 65 and older. The sample consisted of N=645 Hispanics of any race, N=835 Blacks, N=8,056 NHWs, N=318 Asian Americans and N=170 American Indians, Alaska Natives, and people of other or multiple races. Analysis focused on the first three groups due to sample sizes. Data were analyzed using X^2 tests with Z-tests for between-group comparisons.

Results

Race/ethnicity was associated with hearing aid use overall and within each of three age groups: 65-74, 75-84 and 85+ years (all p<.001). NHWs were more likely to use hearing aids than Hispanics and Blacks. Among 85+ year olds, NHWs were more than twice as likely to use hearing aids (37.3%) than Blacks (15.1%) or Hispanics (14.8%) of similar age (comparisons vs. NHWs p<.001). Respondents also reported ability to participate in social activities, which was significantly associated with race/ethnicity (p<.001). NHWs reported fewer social limitations (88.6% citing no difficulty) than Hispanics (82.0%) or Blacks (84.8%, comparisons vs. NHWs p<.05). Differences were magnified among 85+ year olds: among NHWs, 73.7% reported no social difficulties, vs. just 51.9% of Hispanics and 61.6% of Blacks (comparisons vs. non-Hispanic Whites p<.05). Among those 85+ with hearing aids, 77.0% of NHWs, 37.5% of Hispanics and 46.2% of Blacks cited no difficulty with social activities.

Conclusions

Race/ethnicity was associated with both hearing aid use and ability to participate in social activities among a representative sample of older Americans. Hispanics and Blacks, especially those 85+, were less likely to use hearing aids than NHWs and reported more social limitations. More research is needed on mitigating hearing treatment barriers among older Hispanics and Blacks before hearing loss creates social challenges. This issue is most urgent for the oldest Hispanic and Black Americans, whose quality of life may be especially harmed by hearing treatment inequities.

D110 Student Presentation

Measuring social capital, cognitive health, and epigenetic clock in older adults: A quantitative analysis

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While certain social characteristics have already been shown to be associated with adverse cognitive outcomes in older adults, social capital is one determinant of health that has not been extensively studied in this context. Additionally, there is little research regarding the biological mechanism at play for these known associations between social factors and cognitive health. One potential explanation is epigenetics, as social adversities have the potential to accelerate aging through one's epigenetic clock. This study aims to understand whether disparities in social capital are associated with differences in cognitive outcomes, as well as the potential biological processes involved. The study uses data pertaining to 1479 participants aged 45-85 obtained from the Canadian Longitudinal Study on Aging. Social capital was operationalized as two categorical variables: cognitive social capital and structural social capital. The other variables of interest were various domains of cognitive outcomes, epigenetic age acceleration differences, and covariates such as socioeconomic position and stress. R was used to perform descriptive statistics and create linear regression models. The results from descriptive statistics demonstrated that low social capital associates with lower socioeconomic positions, higher stress levels, worse health behaviours, lower cognition, and an accelerated epigenetic clock. As well, 32.7% of the study participants were from underrepresented ethnic groups. Regression models showed that lower structural social capital associates with worse cognitive outcomes in the attention and verbal fluency domains, and that the association is in part explained by one's general health and income levels. Additionally, regression models showed a positive association between high structural social capital and decelerated epigenetic age acceleration. This research projects contributes to the growing body of evidence explaining the role of social inequalities in the biological aging process and suggests that such inequalities may be associated with adverse cognitive outcomes.

D111 Student Presentation

Prescribing Patterns of Fall Risk-Increasing Drugs (FRIDs) in Older Adults Hospitalized for Heart Failure

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Background: Older adults hospitalized for heart failure (HF) are at risk for falls after discharge. One modifiable contributor to falls is fall risk-increasing drugs (FRIDs). However, the prevalence of FRIDs among older adults hospitalized for HF is unknown.

Methods: This is a cross-sectional study of REGARDS Medicare beneficiaries aged ≥65 years discharged alive with an HF hospitalization from 2003-2017, excluding patients referred to hospice and those without medication data. We classified FRIDs as (1) cardiovascular (CV) FRIDs: digoxin, antihypertensives, loop diuretics, and (2) non-CV FRIDs: benzodiazepines, antipsychotics, antidepressants, opioids, antiepileptics. We calculated the prevalence of FRIDs at admission and discharge. We also examined the predictors of a high

FRID burden – defined by the Agency for Healthcare Research and Quality as a medication-based fall risk score of ≥6 – at discharge via modified Poisson regression with robust standard errors.

Results: Among 648 participants, FRIDs use was nearly universal (94% at admission vs. 99% at discharge). The prevalence of CV and non-CV FRIDs increased between admission and discharge (92% to 98% and 32% to 38%). The most common CV FRIDs at admission and discharge were antihypertensives (87% and 92%, respectively), and loop diuretics had the greatest increase in prevalence (50% to 69%). The most common non-CV FRID were antidepressants (23% at admission and discharge); opioids had the greatest increase in prevalence (4% to 10%). At discharge, 57% of patients had a high FRID burden and hence a higher risk for falls. Patients with a mood disorder [1.24 (1.00-1.52)], history of falls [1.23 (1.01-1.49)], and hyperpolypharmacy (use of ≥10 medications) [2.07 (1.63-2.64)] had an increased risk of a high FRID burden at discharge.

Conclusions: FRIDs use was nearly universal among older adults hospitalized for HF and more than half had a high FRID burden at discharge. Future work is needed to guide the management of this clinical conundrum whereby guideline indications for treating HF and other common comorbid conditions may lead to FRIDs use and an increased risk for falls.

D112 Student Presentation

Understanding the relationship between loneliness and immigration-related factors in older adults in Ontario, Canada.

M. Lu,[1] S. Bronskill,[3,5] R. Strauss,[3] A. Boblitz,[3] J. Guan,[3] J. H. Im,[1] P. A. Rochon,[2,5] A. Gruneir,[3,4] R. D. Savage.[2,3] *1. University of Toronto Dalla Lana School of Public Health, Toronto, ON, Canada; 2. Women's Age Lab, Women's College Hospital, Toronto, ON, Canada; 3. ICES, Toronto, ON, Canada; 4. University of Alberta Faculty of Medicine & Dentistry, Edmonton, AB, Canada; 5. University of Toronto Institute of Health Policy Management and Evaluation, Toronto, ON, Canada.*

Background:

Loneliness is linked to poor outcomes, including premature mortality. Loneliness disproportionately impacts older adults and is likely exacerbated among older immigrants as they face additional barriers to socialization (e.g., discrimination, language). Our aim was to identify factors associated with loneliness among older immigrants and non-immigrants living in Ontario, Canada to inform intervention development.

Methods:

We conducted a cross-sectional analysis of 2008/09 data from the Canadian Community Health Survey (Healthy Aging Cycle) and linked health administrative data for respondents 65 years and older residing in Ontario, Canada. Loneliness, the primary outcome, was measured using the UCLA 3-item loneliness scale and immigrant status was self-reported. For immigrants and non-immigrants, we developed separate multivariable logistic regression models to assess individual, relationship and community-level factors associated with loneliness and further stratified analyses by sex.

Results:

In a sample of 968 older immigrants and 1703 non-immigrants, we found a high prevalence of loneliness (30.8% and 34.0%, respectively). Shared predictors of loneliness included low social interaction and wanting to participate more in social, recreational or group activities. In older immigrants, unique factors included: widowhood, poor health, more recent immigration, and lower neighborhood-level ethnic diversity and income. Among older non-immigrants, unique factors were: female sex, poor mental health, weak sense of belonging and living alone. Older immigrant women, compared to older immigrant men, had greater prevalence (39.1% vs. 21.9%) and severity score (3.9 vs. 3.5) of loneliness.

Conclusions:

Loneliness is common among older adults, especially older immigrant women. These findings provide novel understanding of the etiology of loneliness using an intersectional lens and will inform practice and policy-making to address systemic issues impacting immigrant communities.

D113 Student Presentation

Frailty status modifies decline in post-fall physical activity

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Background: Falls contribute to adverse health outcomes among older adults, including declines in daily physical activity (PA). This likely worsens among frail older adults with lower functional status. Evidence on PA and falls is largely limited to self-reported measures of PA which lack sensitivity and are prone to recall bias. This study compared accelerometer-derived daily PA between fallers and non-fallers, and the potential moderating effect of frailty.

Methods: A subset of 262 participants (mean age = 76.7 yrs, 39.7% women, 16.1% non-White) in the Study to Understand Fall Reduction and Vitamin D in You (STURDY) trial, had frailty and accelerometry data collected over 24 months. PA was assessed by a wrist-worn accelerometer, at baseline and 24 months using a 7 day/24-hr wear protocol. Falls were self-reported via monthly calendars, scheduled clinic, and telephone contacts. PA outcomes included total activity counts (TAC), active min/d, number of active bouts/d, and activity fragmentation. Frailty was defined as having ≥3 of the following: unintentional weight loss, exhaustion, slowness, low activity, and weakness. Multiple linear regression models examined the association between fall status and changes in PA outcomes. A frailty by fall status interaction examined moderation by frailty.

Results: By 24 months, 64.5% of participants had fallen. Over 24 months, fallers' active minutes decreased 15.4 min/d compared to non-fallers (p=0.015). Baseline frailty status moderated this association; frail fallers had declines in TAC, active min/d, and active bouts/d as well as increased activity fragmentation compared to non-frail non-fallers (Table 1).

Conclusion: Declines in PA were accelerated among older adults who experienced a fall, and these declines were exacerbated by frailty status. Further research is warranted into associations between subtypes of falls (e.g, injurious) and PA, particularly among frail older adults at the highest risk of adverse consequences.

Changes in physical activity outcomes between non-frail non-fallers and frail fallers

Table 1.	Total Activity Count	Active minutes/day	Number of active bouts	Activity fragmentation (%)
	Beta (SE) p-value			
Non-frail non-faller	-29,571 (51,292) p = 0.565	-7.62 (11.05) p = 0.49	-0.223 (1.936) p = 0.91	0.539 (0.718) p = 0.453
Frail faller	-239,050** (91,890) p = 0.010	-51.54** (19.79) p = 0.010	-8.73* (3.47) p = 0.013	2.62* (1.29) p = 0.043

D114 Student Presentation

Perceptions of Medical Marijuana Effectiveness for Health Outcomes Among Adults Initiating Medical Marijuana for Chronic Pain: A Qualitative Analysis.

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Objectives: Research evaluating effectiveness of medical marijuana as a treatment for chronic pain has shown inconsistent findings, and there is generally a lack of scientific guidance for choices of products and dosing. In this study, we aimed to examine overall perceived effectiveness of medical marijuana on adults with chronic pain and to investigate differences based on biological sex, using open-ended interview.

Methods: We analyzed interview data from adults newly initiating medical marijuana in a three-month pilot study to assess perceived effectiveness of medical marijuana for chronic pain. The interview was conducted after approximately one month of medical marijuana usage when they were supposed to achieve a stable dose phase after self-experimenting with different products. Participants were asked "Overall, how effective do you think the medical marijuana treatment is for your condition?" All responses were analyzed using RADaR (Rigorous and Accelerated Data Reduction) technique.

Results: 51 users of medical marijuana for chronic pain were interviewed (47.1% women, mean age=54.4 ±12.0), with the majority (80.4%) identifying as Non-Hispanic White followed by Non-Hispanic Black (13.7%), Multi-racial (3.9%), Hispanic White (2.0%). 15/24 (62.5%) females reported medical marijuana being overall effective with common benefits including improvements on *'pain'* and *'sleep'*. 17/27 (63.0%) males reported medical marijuana to be effective and mentioned benefits such as help with *'pain'* and reduced need for *'previous medication'*. Some common concerns for participants included difficulty finding the optimal dosage (*'sweet spot')* or the right product, and some participants reported side effects such as *'choking'*, *'midnight hunger'*, and reduced functioning due to the *'high'* of the product.

Conclusion: Medical marijuana was perceived to be overall effective in the majority of our middle-aged and older adults sample, regardless of biological sex. People experience reductions in pain and use of pain/mental health medications, but also side effects. More research is needed to provide evidence-based guidance for optimal dosage and mode of consumption for patients who want to start medical marijuana as a potential treatment for chronic pain.

D115 Student Presentation
Withdrawn

D116 Student Presentation
An Assessment of Prescribing Cascades of Potentially Inappropriate Medications in Older Adults

E. J. Morris,[2] A. Ndai,[1] J. Al-Bahou,[1] G. Wang,[1] Z. A. Marcum,[3] S. M. Vouri.[1] *1. Pharmaceutical Outcomes & Policy, University of Florida College of Pharmacy, Gainesville, FL; 2. Pharmaceutical Outcomes and Policy, University of Florida, Gainesville, FL; 3. Pharmacy, University of Washington, Seattle, WA.*

Background: Prescribing cascades (PCs) occur when a drug-induced adverse event is treated with a subsequent medication. Moreover, Potentially Inappropriate Medications (PIMs) in older adults are medications in which risk often outweighs benefit. Our goal is to identify PCs that involve PIMs.

Methods: We used the Anatomical Therapeutical Chemical (ATC) Classification System to map PIMs in 7 distinct guidelines to ATC Level 4 (drug class) and then to evaluate known PIMs PCs at ATC Level 4. Descriptive statistics were used to assess the number of PCs that involves PIMs as index drug (initial medication) and marker drug (medication used to treat adverse event).

Results: Among unique index and marker drugs of PCs mapped to ATC Level 4, 49.5% (50/101) of index drug classes and 46.7% (35/75) marker drug classes were classified as PIMs. The most common anatomical main group for PIMs index and marker drugs was nervous system medications (index – 52% [26/50]; marker – 26% [9/35]; Figure 1).

Conclusion: Approximately half of index and marker drugs associated with known prescribing cascades involve a PIM. Our findings can help prioritize future interventional deprescribing trials.

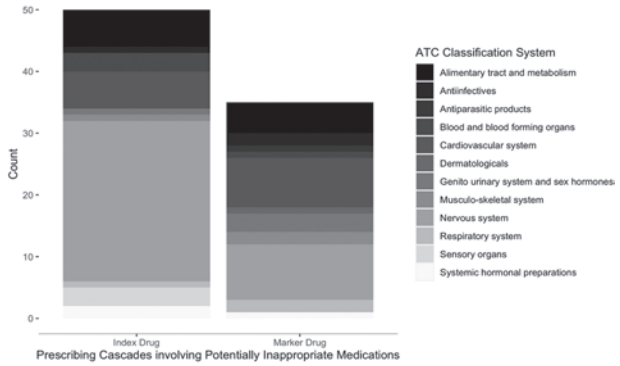


Figure 1. Mapping of 4th Level ATC Codes to Prescribing Cascades that involve PIMs
PIMs = Potentially Inappropriate Medications; ATC = Anatomical Therapeutic Chemical

D117 Student Presentation
Trends in Hypnotic Non-benzodiazepines Prescribing Before and After Incident Hip/Pelvic Fractures Among Older Adults

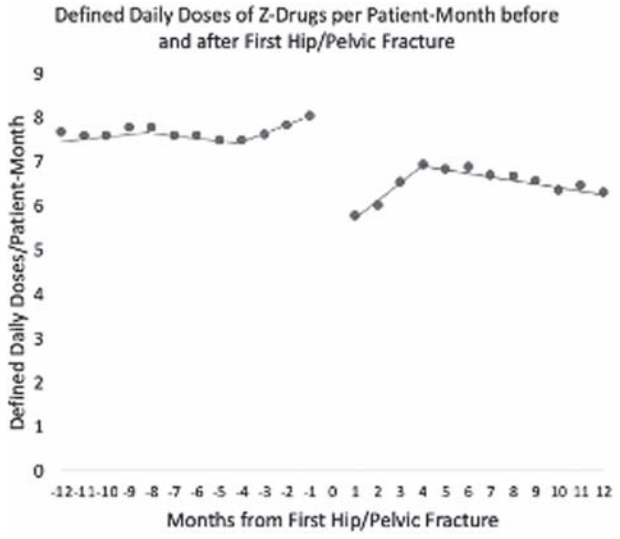
E. J. Morris, S. M. Vouri. *Pharmaceutical Outcomes & Policy, University of Florida College of Pharmacy, Gainesville, FL.*

Background: Hypnotic non-benzodiazepines (Z-drugs) may put many older adults at increased risk of falls and fractures and should be avoided, when possible, in older adults. However, additional research is necessary to examine prescribing trends before and after incident hip/pelvic fractures.

Methods: We identified incident hip/pelvic fracture among adults >=65 in a sample of Medicare beneficiaries using 2011-2018 Medicare Beneficiary Summary File Chronic Conditions segment. We required continuous enrollment in Parts A, B, and D for 1 year pre- and post-fracture. We identified all Z-drug claims 1 year pre- and post-fracture and used joinpoint regression to model the trends in defined daily doses (DDDs) of Z-drugs per person-month over time.

Results: Among 40,612 older adults with a hip/pelvic fracture, 3,718 were prescribed a Z-drug in the year before and/or after fracture. Among the 3,718 older adults with a Z-drug, the highest total DDDs/person-month was 8.05 DDDs/person-month immediately before fracture. We observed a decrease in usage after fracture, with a significant increase in usage in the first four months post-fracture, followed by a slight decreasing trend afterwards.

Conclusion: It is important to consider deprescribing of Z-drugs following fractures. Our findings may help inform future deprescribing trials of Z-drugs and timing of follow-up.



Trends in Z-Drug Prescribing before and after First Hip/Pelvic Fracture

D118 Student Presentation

Classification of Potentially Inappropriate Medications in Older Adults using the Anatomical Therapeutic Chemical System

A. Ndai,[1] J. Al-Bahou,[1] E. J. Morris,[2] G. Wang,[1] Z. A. Marcum,[3] S. M. Vouri.[1] *1. Pharmaceutical Outcomes & Policy, University of Florida College of Pharmacy, Gainesville, FL; 2. Pharmaceutical Outcomes and Policy, University of Florida, Gainesville, FL; 3. Pharmacy, University of Washington, Seattle, WA.*

Background: The risk of Potentially Inappropriate Medications (PIMs) in older adults often outweighs benefit. Worldwide, there are many guidelines that classify PIMs. Collating and mapping these guidelines may enhance use of PIM guidance for research and clinical practice.

Methods: We used the Anatomical Therapeutical Chemical (ATC) Classification System to map PIMs in 7 distinct guidelines (Beer's Criteria, STOPP-Ireland, STOPP-Japan, PRISCUS list, European-7 PIM, ABS, and CMS-HRM). Each PIM was mapped to ATC Level 5 (individual drug) then grouped to ATC Level 4 (drug class). Descriptive statistics were used to assess the number of overall PIMs and PIMs mapped across guidelines.

Results: Among the 909 known Level 4 ATC codes, 172 (19%) contained ≥1 PIM. Figure 1 describes number of ATC Level 4's mapped to each PIM guidelines. Two Level 4 ATCs were mapped to all 7 guidelines: tricyclic antidepressants (N06AA) and selective serotonin reuptake inhibitors (N06AB).

Conclusion: 19% of the ATC codes at the 4th level contained ≥1 PIM. Our findings could be used to expand the ease of PIM identification for research and clinical practice purposes.

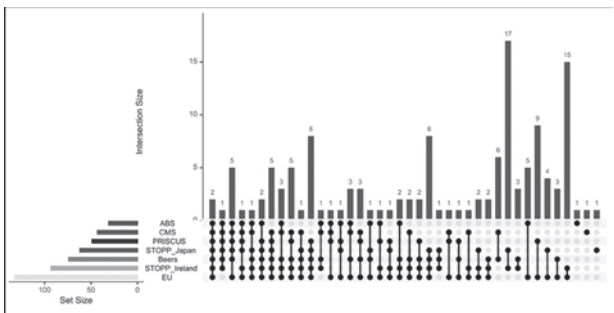


Fig. 1. Mapping of 4th Level ATC Codes to the 7 Guidelines
ABS = Anticholinergic Burden Scale; CMS = Centre for Medicare & Medicaid Services High-Risk Medication in Elderly; EU = European-7 PIM List
PRISCUS = German PRISCUS List; Beers = 2019 Beer's Criteria; STOPP-Japan = Screening Tool for Older Persons Appropriate Prescription for Japanese
STOPP-Ireland = Screening Tool for Older Persons Appropriate Prescription, Ireland

D119 Student Presentation

Caregiving as an independent risk factor for elder abuse or mistreatment: Results from a national sample of community dwelling older adults

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Background/Objectives: Older adults who are functionally dependent on the care of others are believed to be at high risk of abuse or mistreatment, but little is known about mistreatment of older adults who serve as caregivers for others.

Methods

Design: Cross-sectional analysis

Setting/Participants: National sample of community-dwelling U.S. adults over age 60 in 2015-2016, including 1,062 women and 836 men, 78% over age 70, 83% non-Hispanic white, 64% married or with a partner, and over 60% with some college education.

Measurements: Caregiving (assisting another adult with day-to-day activities) and care-receiving (receiving assistance with activities of daily living [ADLs] or instrumental ADLs) were assessed by interviewer-administered questionnaires. Mistreatment after age 60 was assessed using structured self-report measures in three domains: emotional (4 items), physical (2 items), and financial (2 items). Multivariable logistic regression models examined associations between caregiving and care-receiving status with each type of mistreatment, adjusting for age, race/ethnicity, gender, education, partner status, and overall physical, mental, and cognitive function.

Results: Of adults over 60, 14% were caregivers, 27% reported receiving care, and 59% were neither caregivers nor care-receivers. The self-reported prevalence of any mistreatment was 52% among caregivers, 45% among care-receivers, and 40% among those who were neither caregivers nor care-receivers (chi-square P=.004). In multivariable models, caregiving was associated with both emotional mistreatment (AOR 1.6, 95% CI 1.2-2.2) and financial mistreatment (AOR 1.7, 95% CI 1.2-2.5) after adjustment for demographic and clinical factors. However, no significant associations between care-receiving and elder mistreatment were detected in multivariable-adjusted models (P>.05 for all).

Conclusion: In this national cohort of older community-dwelling adults, caregiving rather than care-receiving was independently associated with experiencing emotional and financial mistreatment after age 60. Findings suggest that efforts to prevent or mitigate elder mistreatment should target vulnerable older caregivers in addition to those who receive care.

D120 Student Presentation

Impact of Neighborhood Deprivation on Persons Living with Dementia and Diabetes

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Background: Neighborhood disadvantage influences health outcomes regardless of personal economic status, illustrating the importance of neighborhood context on health. The Area Deprivation index (ADI) establishes a ranking system of U.S. neighborhoods on state and national levels based on 17 neighborhood factors. Using data from an ongoing study of patients with dual diagnoses of diabetes and dementia, we investigated the relationship between ADI and diabetic outcomes, including glycemic control, blood pressure, and dementia severity.

Methods: We conducted descriptive and bivariate statistics using 3 years of health record data from patients of NYU Langone Health. We included patients ≥65 years, with ADRD and DM, and on DM medication. In addition to demographic measures and NY home addresses, we collected hemoglobin A1c, blood pressure, and assessed dementia severity, surveying proxies with the dementia severity rating scale (DSRS). We used ArcGIS and ADI data to link patient addresses to an ADI score. We stratified the sample into two groups: a low deprivation group with ADI scores 1-5, and a high deprivation group with ADI scores 6-10.

Results: Of those meeting inclusion criteria (n=996), most were over 75 years (73.5%), female (60.1%), white (71.2%), and not Hispanic or Latino (72.4%). Mean patient age was 81.3; standard deviation (SD): 7.6. More than 50% of patients had an NY state ADI score of 1, 2 or 3 out of 10, indicating that the majority of the population lived in neighborhoods of less disadvantage. 83.4% (n=831) of the population fell into the low deprivation group. There were no differences in hemoglobin A1c (7.09 vs. 7.01) or dementia severity (25.5 ± 0.8 vs. 22.4 ± 2.0) between low and high deprivation groups, respectively. However, systolic blood pressure was greater in high deprivation individuals (132.4 ± 19.3 mm Hg vs. 128.6 ± 18.2; p=0.02).

Conclusion: The ADI in this study was associated with blood pressure but not diabetic control or dementia severity. Less heterogeneity in disadvantage limited our ability to detect this potential social determinant of health. In a city, where neighborhood disadvantage changes from block to block, the influence of environment on health may be more difficult to detect.

D121 Student Presentation

Sex Differences in Heart Failure in U.S Nursing Home Residents with Diabetes Mellitus

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Background: There has been a research gap in observational cardiovascular studies primarily focused on underrepresented and understudied sub-groups (women), as well as underserved sub-populations (older adults living in nursing homes). A significant role played by Type 2 diabetes mellitus in young adult men and women leading to the development of heart failure has been shown. Few studies focused on the sex differences in heart failure among older adults in nursing homes.

Objective: To describe the extent to which sex-specific differences in comorbidities associated with heart failure in United States (U.S) nursing home residents with diabetes mellitus.

Methods: This study was conducted using national Minimum Data Set data (2016) consisting of all residents with diabetes aged ≥ 65 years in Medicare/Medicaid certified nursing homes in the U.S (n=297,570). Diabetes mellitus and heart failure was defined using the resident's transfer notes at admission and the progress notes during admission, as well as physical examination findings and current treatment orders.

Results: Heart failure was common (men: 24.8%, women: 27.2%). Increasing age of residents, and comorbidities including obesity ≥30kg/m2 (aOR (men): 1.58; 95% CI: 1.54-1.71; aOR (women): 1.48; 95% CI: 1.45-1.50), coronary artery disease (aOR (men): 1.45; 95% CI: 1.42-1.47; aOR (women): 1.40; 95% CI: 1.38-1.41), and a higher Charlson Comorbidity Index (CCI) (≥ 8) (aOR (men): 1.81; 95% CI: 1.76-1.84 ; aOR (women): 1.92; 95% CI: 1.88-1.94) were associated with a higher odds of heart failure.

Conclusions: There is a current paucity of existing knowledge on sex differences in heart failure and multiple comorbid conditions among older adults living in nursing homes. This study highlights that the factors associated with heart failure among residents with concomitant diabetes are similar for men and women. Future research is needed to understand whether pharmacological management and outcomes are similar in men and women.

D122 Student Presentation

Improving End of Life for Older Adults with Functional Disability

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Background: Functional disability (FD) is defined as needing help with daily self-care or mobility activities. As the number of older adults in the U.S. rises, those living with age-related FD is also set to increase. If not adequately managed FD threatens well-being. Although research has shown that FD intensifies as end-of-life (EOL) nears, it is unknown how varying lengths of FD at EOL impact well-being. Our study questions are: 1) how are symptom burden and mood associated with length of FD at EOL and 2) what resources influenced symptom burden and mood considering varying lengths of FD at EOL?

Methods: This retrospective cohort study used data from the National Health and Aging Trends Study, a nationally representative cohort of older Americans, designated as sample persons (SPs) who were interviewed yearly. After the SP dies, a proxy is interviewed regarding the SP's last month of life. Our main measure was the length of FD at EOL. This included SPs who had no FD at EOL and those with FD within the last 2, 2-6, or 6 or more months of life. Symptom burden and mood were secondary outcomes. Symptom burden measures included unmet spiritual need, being bothered by pain, and anxiety. Mood measures included depression, rarely feeling full of life, and giving up improving life.

Results: A parabolic association was found between unmet spiritual need and length of FD. SPs with no FD reported the highest rate of unmet spiritual need (67.2%) while those with the shortest length of FD reported it least (46.3%). The difference in unmet spiritual need in those with no FD was partially explained by lower hospice use. Hospice was independently associated with less unmet spiritual need (OR 0.37, 95% CI 0.27-0.53). Anxiety was most prevalent in SPs with 6 or more months of FD (30.3%). SPs with FD within the last 2 months of life reported least anxiety (10.6%). Longest FD was associated with the highest prevalence of being bothered by pain (62.7%), giving up improving life (45.5%), depression (41.3%), and rarely feeling full of life (57%).

Conclusion: Higher symptom burden is associated with having no FD at EOL and FD for the last 6 or more months of life. Poorer mood is also associated with having FD for the last 6 or more months of life. Lastly, we see that hospice is a potential modifying factor for unmet spiritual need. Future directions include identifying other resources that improve well-being for SPs with FD at EOL.

D123 Student Presentation

The Association Between Dementia, Polypharmacy, and Returns to the Hospital in Patients 75 and Older

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Background: 30-day returns to the hospital are common among older patients. Both dementia and polypharmacy have been associated with increased hospital admissions in these populations.

Aims & Hypothesis: (1) Examine the association of polypharmacy and hospital returns among older patients with and without dementia, and (2) Determine reasons for hospital returns in this population. We hypothesized that patients age 75+ with both are most likely to have 30-day returns.

Methods: Secondary analysis of consecutive non-ICU admissions of patients age 75+ to a community hospital. Hospital returns included visits to the emergency department and any admission within 30 days of initial discharge. Dementia and other comorbidities were identified using ICD-10 codes and orders for anti-dementia drugs. Polypharmacy was defined as use of ≥ 9 medications excluding vitamins and herbals. Chi-square analyses were conducted to examine the study hypotheses.

Results: Among 23,285 hospital admissions, 4,703 (20.2%) had dementia and of these 3,037 (64.6%) had polypharmacy. Patients with both had significantly higher 30-day hospital returns than patients with dementia alone (27.5% vs. 22.1%), with polypharmacy alone (27.5% vs. 24.0%,), and with neither (27.5% vs. 17%). Patients with both were significantly more likely to have comorbidities including COPD, diabetes, CHF, cerebrovascular disease, anemia, hypoalbuminemia, and kidney disease. Patients with neither were significantly more likely to have malignancy. A stepwise multivariable regression showed that anemia, COPD, malignancy, hypoalbuminemia, and CHF were significant. Return visits among patients with dementia and polypharmacy were most frequently related to cardiovascular, infectious, pulmonary, gastrointestinal, and trauma diagnoses.

Conclusions: Patients with dementia and polypharmacy were most likely to have 30-day hospital followed by those with polypharmacy alone, and dementia alone. Patients with who returned commonly had comorbidities, and returns were most frequently associated with cardiovascular, infectious, pulmonary, gastrointestinal, and trauma diagnoses. Further research should develop interventions to reduce unnecessary returns in this population.

D124 Student Presentation

Obesity, Multimorbidity and the relationship with Physical Function: Data from the National Health and Aging Trends Survey

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Background: The population of older adults living with multiple chronic conditions (MCC) continues to grow. MCC is independently associated with functional limitation and obesity. However, an association between the combined presence of obesity and functional limitations with the co-occurrence of MCC is not known. The presence of functional impairment and obesity may be more closely associated with MCC than functional impairment or obesity alone. The aim of our study was to evaluate their relationship in an older adult population using nationally representative data.

Methods: We analyzed cross-sectional survey data from the National Health and Aging Trends Survey (NHATS) 2011 baseline data, a nationally representative Medicare beneficiary cohort of adults in the United States aged over 65 years. We evaluated the coexistent rates of obesity and MCC overall, and by standard body mass index (BMI) categories. We then evaluated the rates of functional limitations (mobility, self-care, and household activities) in persons with a BMI $\geq$ 30 kg/m^2. Adjusted logistic regression modeling was performed to identify associations of MCC and categories of BMI-defined obesity, and additionally performed to identify association of obesity and functional limitation with MCC.

Results: Our final analytical cohort consisted of 6,600 participants. The rate of concurrent obesity and MCC was 30.4%. In those classified as having obesity, the rate of MCC was 84.0%. Older adults with obesity were more likely to have MCC (adjusted OR: 2.17, 95% CI 1.86, 2.54) compared to older adults with a normal BMI. Individuals with obesity and functional limitation or frailty were more likely have MCC than individuals with obesity alone.

Conclusions: In conclusion, we found that individuals with obesity and functional limitation have a greater association with having MCC than individuals with obesity alone. Future longitudinal analyses are needed to ascertain this relationship. Additionally, our findings provide insight on a need to consider weight loss interventions that minimize loss of muscle mass in a population that faces concomitant obesity and frailty.

D125 Student Presentation

Impact of COVID-19 on Homebound Patients and Their Caregivers

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Background: Homebound patients have difficulty leaving home to access care and experience poor health outcomes. Little is known about how homebound patients were affected by the COVID-19 pandemic. Therefore, the purpose of this study is to assess how the pandemic impacted homebound patients.

Methods: We surveyed patients in our home-based primary care service with the Coronavirus Impact Scale (CIS). The CIS asks about personal, immediate family member, extended family member and/or close friend's diagnosis of COVID-19 and about changes in routines, family income/employment, food access, medical health care access, mental health treatment access, access to extended family and non-familial social support, experiences of stress related to the coronavirus pandemic, and stress and discord in the family. These changes are rated on a scale of none (0), mild (1), moderate (3), severe (4), and the sum of these changes is reported as the impact score, which can range from 0 (no change across 8 areas) to 24 (severe change across 8 areas). Those participants who returned the survey were eligible for a $5 gift card.

Results: Of the ~835 patients we surveyed, 77 (9.2%) responded, and 47 (61%) represented racial and ethnic minority groups. Only 8 (10%) were personally diagnosed with COVID-19, 18 (23%) had an immediate family member diagnosed with COVID-19, and 29 (38%) had an extended family member and/or close friend diagnosed with COVID-19. Overall impact scores ranged from 0 to 20 with an average of 6.4 ± 5.7. Routines and access to extended family and non-family social support were most impacted. Average impact score was not significantly different between men and women (t_{75}=1.01; p=0.32), across living situation ($F_{3,72}$=0.33; p=0.81), across marital status ($F_{3,71}$=0.31; p=0.81), or between patients <65 and ≥ 65 years old (t_{67}=1.50; p=0.13). In the free response section, patients reported increased prices for medical supplies like gloves and wipes and less access to religious services and transportation.

Conclusions: On average, the homebound patients were only mildly to moderately impacted by the pandemic and unlikely to be diagnosed with COVID-19, possibly due to their isolation prior to the pandemic. This is consistent with a previous study which qualitatively interviewed homebound older adults and noted that they were more insulated from the changes associated with the pandemic.

D126 Student Presentation

In hospital outcomes in older adults with COVID-19 and epilepsy

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COVID-19 causes high rates of mortality and morbidity in older adults, especially those with pre-existing conditions. Since epilepsy is associated with premature mortality, we aimed to evaluate in-hospital outcomes, including mortality, in older compared (>65) to younger adults (<65) with COVID-19 and epilepsy. We hypothesized that adults >65 years with epilepsy would have higher mortality despite adjustment for comorbidity.

This retrospective study in a large multicenter New York health system included consecutive patients with epilepsy admitted with COVID-19 between 3/15/2020-5/17/2021. Epilepsy was identified using a validated ICD-CM based case definition. Outcomes were level of respiratory support, ICU admission, and mortality. Chi-square tests, Fisher's exact tests, Student's t-tests and Mann-Whitney U or Kolmogorov Smirnov tests were conducted as appropriate. Multivariable logistic regression models were generated to examine factors associated with mortality.

We identified 173 older and 161 younger adults with epilepsy and COVID-19. Median age of older (>65) compared to younger (<65) adults was 74 vs. 52 (p<.001). A larger proportion of older adults died in hospital (35.8% vs. 23%, p=.01). Older adults were less likely to be discharged to home (21.4% vs. 38.5%, p<.001) and more likely to go to a chronic care facility (19.7% vs. 10.0%, p<.001). Ventilation status (35.8% vs. 39.8%, p=.45) or ICU admission rate (34.7% vs. 44.1%, p=.08) were not significantly different between the age groups. Older adults had higher odds of mortality after adjusting for sex, race, language and Charlson Comorbidity Index (CCI) (OR, 2.04; 95% CI, 1.22-3.40, p=0.01). Within the over 65 group, increasing years of age (OR 1.07; 95% CI 1.02-1.12, p=0.01), and increasing CCI score (OR 1.16, 95% CI 1.01-1.32, p=0.03) were associated with in-hospital mortality while sex, race, and language were not.

Our study found higher in-hospital mortality in older compared to younger adults with epilepsy diagnosed with COVID-19. Consistent with prior work, increasing age and increasing number of comorbid diseases was associated with increased odds of mortality, reinforcing the need to communicate risks of multimorbidity and COVID-19 in older adults with epilepsy.

D127 Student Presentation

Racial Disparities in Imaging of Older Adults Presenting to the Emergency Department for Abdominal Pain

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Background

Abdominal pain is the most common chief complaint in US emergency departments (EDs) among patients ≥65 years old, and carries high morbidity and mortality. In similar conditions, Black patients have higher rates of morbidity and mortality after an ED visit compared to White patients. We hypothesized that Black patients receive definitive diagnostic testing--CT scan or ultrasound (US)--at lower rates compared to their White counterparts.

Methods

Using the National Hospital Ambulatory Medical Care Survey (NHMACS), we compared receipt of abdominal CT scan or US in patients ≥65 presenting to the ED with a chief complaint of abdominal pain (n=1,032) between racial/ethnic groups as defined by NHAMCS: 774 non-Hispanic White, 131 non-Hispanic Black, 90 Hispanic, and 37 Other patients. We then extended this approach using the HCUP Nationwide Emergency Department Sample (NEDS, n= 786,272) to explore the mechanisms behind this disparity.

Results

When examining testing modalities, 55.1% of patients ≥ 65 years old with abdominal pain presenting to the ED received an abdominal CT, 8.2% an ultrasound, and 58.9% CT or ultrasound. White patients were 40% more likely to receive CT/US imaging for the same chief complaint (63.6% vs 45.5%, p <0.01). Hispanic patients were more likely to receive ultrasound than all other racial or ethnic groups (p= 0.14).

Conclusion

There were significant disparities in imaging in patients ≥65 presenting to the ED with a chief complaint of abdominal pain. In this high-risk presentation, CT scans rapidly diagnose a number of intervenable diagnoses common to older adults. For pain limited to the right upper quadrant, ultrasound offers similar advantages. This disparity provides suggestive evidence of potential harms from biases in care patterns. We will build on these findings to explore how caregiver communication of pain, frailty, multimorbidity, mild cognitive impairment, and dementia affect clinical management, testing, and subsequent outcomes.

Receipt of Imaging by Racial/Ethnic Group

	Non-Hispanic White	Non-Hispanic Black	Hispanic	Other	Total	p-value
CT	58.4%	41.2%	51.7%	54.0%	55.1%	p= 0.02
Ultrasound	7.7%	4.6%	16.2%	14.4%	8.2%	p= 0.14
CT or ultrasound	63.6%	45.5%	56.5%	58.9%	60.2%	p < 0.01

D128 Student Presentation

Area Deprivation and Social Isolation in Subsidized Senior Housing

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Background

An increasing public health concern for older adults is social isolation, which is linked to poor health outcomes. More large-scale studies are needed to further assess the contextual correlates of social isolation among older adults who live in subsidized housing. This study aims to examine the association between area deprivation and social isolation in a large sample of subsidized senior housing community residents.

Methods

Lubben Social Network Scale 6 item (LSNS-6) data was obtained from a wellness assessment taken in 2019 by a national nonprofit housing organization. Deidentified LSNS-6 scores were used to estimate the prevalence of social isolation in each subsidized senior housing community. Housing community addresses were identified and then linked to the Neighborhood Atlas Area Deprivation Index v3.1 (ADI) national dataset.[1] The top 15% of ADI values in our sample were classified as "most disadvantaged" and the bottom 85% as "less disadvantaged." Logistic regression was then conducted to assess the correlation between area deprivation and social isolation.

Results

Residents (n=3,769) from over 90 subsidized senior housing communities completed the LSNS-6. Mean age was 77.2, with 66.6% female, 33.4% male, 39.3% white, 15.8% Black, 11.3% Hispanic, 27.5% Asian, and 38.8% socially isolated respondents. After controlling for demographic variables such as age, race, and gender, multivariate logistic regression indicated that living in a housing community in the most disadvantaged areas was associated with higher odds of social isolation (45.6% of residents living in the most disadvantaged areas were socially isolated, compared to 37.9% in less disadvantaged areas; OR=1.269, p=0.033).

Conclusions

This study adds to the literature on social isolation in older adults by highlighting the connection between area deprivation and increased odds of social isolation in subsidized senior housing communities. Our findings suggest a need to further investigate contextual and structural factors in order to better understand and address social isolation across the spectrum of subsidized senior housing residents.

References

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D129 Resident Presentation

Withdrawn

D130 Student Presentation

Isolation, Loneliness, and Psychological Distress Among African American Assisted Living Residents Approaching End of Life

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Background: Social isolation and loneliness are common at end of life and important contributors to psychological distress, particularly among older adults. Despite evidence that isolation and loneliness are generally prevalent in assisted living (AL), little research has examined these states within the context of end of life (EOL). This study uses secondary data from an EOL study in assisted living to qualitatively characterize the experience of isolation and loneliness in African American AL residents with varying levels of psychological distress.

Methods: We performed a thematic analysis using ethnographic and interview data collected from 25 residents (64% female) in a large (90+ bed) all-African American AL community in metropolitan Atlanta. We assessed psychological distress using the PHQ-4 and used this measure in qualitative analysis to explore varying patterns of social isolation and loneliness across residents.

Results: Findings showed a high level of psychological distress based on PHQ-4 scores (range 0-12, mean = 3.5, SD = 3.75). Across themes of social isolation and loneliness, we compared experiences of

residents with low and high psychological distress. The maintenance of agency in the face of isolation and loneliness was the predominant pattern among the low-distress group, while passive withdrawal was consistently identified among the high-distress group. The primary importance of family and fear of being a burden were common among all residents. We classified these themes in terms of individual interpersonal relationships characterized by self-isolation and a lack of feeling loved by others as well as AL community-level relationships characterized by limited intellectual stimulation.

Conclusions: Findings provide unique insights regarding the relationship among isolation, loneliness, and psychological distress in African American assisted living residents approaching end of life. Results have important implications for multilevel interventions designed to reduce social isolation, loneliness, and psychological distress among this population.

D131 Student Presentation

Characterizing Episodes of Lucidity in Advanced Dementia: A Qualitative Study

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Background: Episodes of lucidity (EL) are generally considered the spontaneous return of abilities believed to be lost, and are widely documented in case reports among individuals with Alzheimer's disease and related dementia (ADRD) with significant implications for care. Occurrence of EL in ADRD remains poorly understood, with the dearth of rigorous examination stymied by underdeveloped methodological approaches for capture and measurement. Family and professional caregivers spend large amounts of time with individuals with ADRD, yet have not been included in systemic investigation on the conceptualization of EL or involved in development of methodological approaches. This qualitative study aims to gauge family caregiver and hospice staff experiences with and conceptualization of EL in ADRD and their acceptability of audiovisual capture as a promising methodological approach.

Methods: This study employed a qualitative descriptive design. We conducted semi-structured interviews on participants' experiences with and appraisal of EL, perspectives on audiovisual capture, and practical and logistical recommendations. Data were analyzed using Rapid Identification of Themes from Audio-Transcripts procedures.

Results: We interviewed 21 family caregivers and 4 hospice staff. Most participants recalled at least one vivid, remarkable EL and routine moments of improved clarity and awareness that were meaningful but not necessarily accompanied by or viewed as a return of abilities. Commonly identified indicators of EL included transitional measures of communication such as verbal and non-verbal communication, along with improvement in functional tasks and motor activities. Participants endorsed the use of audiovisual observation of the people they care for living with ADRD, with most recommending observations for longer periods of time than originally planned.

Conclusions: Our findings contribute to a broader understanding of EL among individuals with ADRD, as based in caregiver and hospice staff conceptualization of EL, and points to broad support of investigation of EL. Future research should consider exploring occurrence of EL beyond hospice settings and into community settings and nursing homes.

D132 Student Presentation

Dying Wish: A Case of Controversial Covid Vaccination Near the End of Life

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Background: This case describes the circumstances of an older woman and her daughter faced with the dilemma of whether or not to receive the COVID-19 vaccine at the end of life.

Methods: Ms. V was a 90-year-old woman with past medical history of major neurocognitive disorder, asthma, and hypertension on home hospice after experiencing a rapid decline beginning in November 2020. By January 2021, she had significantly deteriorated with a prognosis of weeks. At this time, the COVID-19 vaccine had become available to high-risk individuals and their household members. Because Ms. V lacked capacity to make her medical decisions, her daughter and healthcare power of attorney, Ms. B, had to determine her wishes. Ms. V's goals were comfort care and to avoid hospitalization. Although she had worked as a nurse, she had declined her annual influenza vaccine in the past. However, Ms. B felt that her mother would have wanted to help her children and caretakers get the vaccine, which would only be possible if she got the vaccine first.

Results: Extensive conversations with Ms. V's children, hospice team, and geriatrician were held utilizing the 4-box approach to ethical decision making.[1] Ms. B decided that her mother would have wanted to receive the vaccine for the main purpose of also vaccinating her children, who both had advanced heart failure and were at high risk for complications from COVID-19. She received one dose of the Pfizer COVID-19 vaccine and died ten days later. Her children and live-in caregiver all received the Pfizer Covid-19.

Conclusion: Although Ms. V had previously refused annual influenza vaccinations, her daughter felt that her mother would have gotten the vaccine to provide protection for her children and caregiver. While it was acknowledged that Ms. V would probably gather little immunity benefit from the vaccine due to her poor prognosis, her daughter felt that the benefits of the entire household receiving the vaccine outweighed any potential risks. Her family called this final act of protection her dying wish.

1. Schumann JH, Alfandre D. Clinical ethical decision making: the four topics approach. *Semin Med Pract* 2008;11:36–42.

The 4-box Approach to Ethical Decision Making

MEDICAL INDICATIONS Principles of beneficence, nonmaleficence -What are the benefits and risks for Ms. V to receive the COVID-19 vaccine? -What is Ms. V's life expectancy and quality of life with or without the vaccine? -What is the risk of death or serious illness if patient contracted COVID? -What are the potential benefits or harms of the vaccine (immune status, allergy history)? -What is the risk or benefit to others (hospice staff, family members, household members)?	PATIENT PREFERENCES Principle of respect for autonomy -Has Ms. V communicated in the past about how she would want to proceed in this situation? -How has she responded in the past when faced with decisions about vaccination? -What are Ms. V's values and preferences that would impact this decision?
QUALITY OF LIFE Principles of beneficence, nonmaleficence, respect for autonomy -Is Ms V's quality of life impacted by receiving the COVID-19 vaccine? -How painful or traumatic would a vaccination injection be for Ms. V?	CONTEXTUAL FEATURES Principles of loyalty (fidelity), fairness (justice) -Ms. V cares deeply about the health and well-being of her children, who both have advanced heart failure and thus at risk of COVID-19 complications. -At that time, the only way for her children to be vaccinated was if she received the vaccination.

D133 Resident Presentation

Clinician Experience with Perioperative Psychosocial Strengths and Challenges Among Older Adults

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Background: Though it is generally accepted that the unique psychosocial environment of aging impacts geriatric patients' perioperative experience and post-operative outcomes, little is known about the experience of clinicians in assessing and mitigating psychosocial challenges (e.g., social support, coping mechanisms) during recovery.

Methods: Semi-structured interviews were conducted with an interdisciplinary group of clinicians at the University of California, San Francisco. Interviews explored the influence of psychological and social factors on the experience of older adults undergoing major surgery, focusing specifically on physical, cognitive, emotional, social, and psychological components. Transcribed interviews were analyzed using an inductive approach to identify themes.

Results: Fifteen individual clinicians completed interviews (5 surgeons, 4 social workers, 3 primary care physicians, 2 nurses, and 1 physical therapist). Clinicians interviewed were 53% female, 60% white, 27% Asian, and 13% Hispanic, and the majority (73%) had over 10 years of work experience. Clinicians discussed three main themes: First, psychosocial strengths and vulnerabilities impact perioperative outcomes with "psychosocial supports, strength, resilience, cognitive reserve, a purpose to recover and move forward and live" all "playing into" a good recovery. Second, clinicians identified that they "are completely lacking a rigorous or standardized program for psychosocial support." Third, suggestions for improvement such as routinely addressing, and thereby normalizing, common psychosocial issues pre-operatively to help anticipate challenges that may arise during recovery.

Conclusions: Clinicians caring for geriatric patients perioperatively lack specific and practical tools to address psychosocial challenges, which hinders routine assessment. Clinicians emphasized the importance of assessing psychosocial support and providing pre- and post-operative education to normalize common concerns, especially the emotional aspects of recovery. Given these data, there is a need to develop a patient-centered mechanism to assess psychosocial strengths and vulnerabilities, as well as to serve as a starting point for conversation.

D134 Student Presentation, Encore Presentation

***"Dying of failure to thrive":* Caregiver Perspectives on the Impact of COVID-19 Isolation on Residents' Cognitive and Functional Status**

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Background: The COVID-19 pandemic has profoundly affected skilled nursing facilities (SNFs). Our objective was to understand SNF staff perspectives on the unintended effects of isolation protocols and suggestions for future outbreaks.

Methods: Qualitative analysis of semi-structured interviews from caregivers (n=17) from seven SNFs. Interviews focused on the impact of isolation on caregiving, SNF residents' cognitive and physical health, and best practices. Virtual interviews were recorded and transcribed. Qualitative framework analysis using a modified care preparedness model was used to identify themes related to the impact of COVID-19 isolation.

Results: Caregivers observed withdrawal, irritability, depression, and lack of motivation among residents. Staff noted increased confusion in cognitively impaired residents and observed that cognitively intact residents displayed more symptoms of depression. Most participants related residents' emotional changes to lack of family visitation and loneliness. SNFs connected residents with families using technology and modified visits. Staff also developed creative programming to engage residents while maintaining physical distancing, such as a mobile ice cream cart. Challenges included less hands-on caregiving due to fear of COVID-19 transmission, staff turnover, personal protective equipment (PPE) shortages, and COVID-19 outbreaks. Many participants also noted inadequate administrative support and hoped for more aid and flexibility. Staff reported that increasing family communication and physical and psychological therapy interventions worked well for residents. Staff who perceived early initiation of infection control measures (e.g., closing admittance, frequent testing, maintaining PPE supplies) and/or had highly involved administrators (e.g., open door policy, visible on the floor) felt better equipped to care for residents. Most also noted strong coworker camaraderie. Staff recommendations for quantifying the effects of isolation included tracking physical and cognitive measures longitudinally to identify changes in resident status. For future epidemics, staff emphasized the need for communication and preparation with ample supplies and staff.

Conclusions: This analysis includes suggestions for preparation, communication, enforcement of infection control policies for future outbreaks.

D135 Student Presentation

The Role of Community Health Workers in Assisting Older Adults during the COVID Pandemic

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Background: Older adults often require assistance navigating community resources. The Indiana Geriatric Workforce Enhancement Program (GWEP) offers a community health worker (CHW)-based program designed to assist older adults in accessing the resources they need. The COVID pandemic disrupted many of the existing support structures available to older adults. Our qualitative analysis explores the roles of CHW and the experiences of older adults as both parties adjusted to the pandemic.

Methods: Qualitative analysis was performed on case notes made by CHW based on 793 telephone encounters with 325 unique participants between March 2020 and August 2021. Analysis was performed by two reviewers independently coding the data.

Results: Of the 325 participants whose records were reviewed: 234 (72.0%) were female and 153 (47.1%) were Black. The data were broken down into three main themes: **social support structures**, **resource access**, and **patient mood**. **Social support structures** included support provided by and to family members, non-family support structures, and loneliness. **Resource access** included subthemes of food insecurity, transportation, housing, and access to medical resources. **Patient mood** was coded as either positive, negative, or complex if both positive and negative emotions were present. The pandemic disrupted the social support networks as well as resource access for patients in the program. This disruption was most pronounced in patients who relied on adult children for both social support and resource access. The trade-off between the benefits of seeing family members and the risks of COVID exposure was a source of emotional distress for patients in the program. Access to a CHW was associated with increased utilization of community resources and improved patient mood.

Conclusions: Many older adults have insufficient social support networks and lack access to resources. The pandemic further disrupted these support systems for older adults due to the added risk of infection and increased strain placed on adult children during the pandemic. Our qualitative analysis suggests that CHW were effective in providing emotional support to patients and connecting them to local resources. Our data also suggests CHW are capable of bolstering the support networks of older adults and carrying out some of the responsibilities conventionally fulfilled by family supports.

D136 Student Presentation

Difference in the Emotional Impact and Coping Strategies towards Covid-19 in Young versus Older Adults Residing in South Central United States

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Background: The spread of COVID-19 has affected the physical and emotional health of individuals globally. While studies have focused on the virus and its effect on health, the emotional impact of COVID-19 on older adults has not been well studied.

Methods: We administered an anonymous survey to discern the emotional impact of the current pandemic on community-dwelling adults living in central Arkansas. Participants were surveyed about stress levels and coping strategies as well as their perception of pandemic media coverage.

Results: 124 adults (80% women, 20% men) over age 18 completed the survey. 72% were white and 23% were African American. 71% were aged ≥60 years, while 29% were under 60 years old. 30% of younger adults were unemployed or retired, vs. 76% of older adults. 72% of younger adults selected shortages at the store as the greatest stressor, whereas only 45% of older adults selected this option. Also, 78% of younger adults reported that family support helped them deal with stress while only 52% of older adults chose family support and relied equally on friends. Approximately half of older adults, 53% found TV and newspaper coverage on COVID-19 useful. In contrast, only 31% of younger adults found the media coverage useful and 42% stated that it actually increased their anxiety. These age differences in perspectives and emotional impact were found to be significant ($p<0.05$).

Conclusions: The spread of COVID-19 has brought about new stressors and definitions of social support that has impacted emotional health. Our findings showed some interesting age-associated differences in stress management. Commodity shortages created more stress for younger versus older adults. The majority of younger adults leaned on family support to help them deal with the pandemic stress, while approximately half the older adults coped by talking with their friends. For the most part, younger adults found media coverage of COVID-19 anxiety-provoking while older adults found it to be useful and informative. There might be many underlying reasons why older adults perceived less stress, but it is important to realize that a circle of friends and frequent communication can help older adults perceive less stress than younger adults even during a pandemic.

D137 Student Presentation

Qualitative data synthesis to improve human-centered design toolkit for decision making in dementia care

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Background: Alzheimer's disease and related dementias (ADRD) disproportionately affects African Americans (AA) and the need for culturally-tailored support and resources is well established. Centering our Values (CoV) is a hands-on dementia education and decision support toolkit to support AA caregivers of persons living with ADRD. Designed by a collaborative team of clinicians and human-centered designers, CoV includes dementia information and resources required for decision-making guided by values. Version 1.0 of the toolkit was developed with input from caregivers and health providers but further feedback indicated the need for a second round of improvements.

Methods: The toolkit (CoV 1.0) was evaluated by two caregiver focus groups with 8 participants along with one 1:1 interview, and four healthcare professional surveys. Audio recordings from primary research were transcribed, and excerpts from the data were structured and organised through inductive coding. Collaborating designers clustered codes to create a visual map that helped develop themes and relationships to decode the feedback in an actionable manner. The themes along with insights were abstracted into design principles and final design recommendations.

Results: Three themes emerged based on patterns that featured the participants' perceptions, experiences, needs: 1. Multiple participants in caregiving, 2. Contextual application of knowledge and 3. Conflict resolution based on values. These three themes led to the development of six areas of design recommendations based on information display, important content, and toolkit usage. A list of 22 design recommendations resulted from these categories. The design recommendations led to the creation of the revised CoV toolkit that incorporates participant feedback and values from the community, acknowledges other members of the caregiving ecosystem, supports transition points during the journey, and honors patients' personalities.

Conclusion: The revised CoV 2.0 has the potential to improve geriatric healthcare, delivery of healthcare education and most importantly, the decision-making and conflict resolution abilities of caregivers, using values as their foundation.

D138 Student Presentation, Encore Presentation

Caring for older adults with dementia who have experienced traumatic experiences: findings from an exploratory qualitative study of Latinx caregivers of Latinx older adults with dementia

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Background: Persons living with dementia (PLWD) can exhibit behavioral symptoms such as agitation, sleep disturbance, and wandering, which can be challenging for caregivers. An added complexity can be managing post-traumatic stress disorder (PTSD) in persons with dementia. The objective of this study was to explore the knowledge and experiences caregivers of Latinx older adults with dementia have around managing the behavioral symptoms of dementia.

Methods: We conducted a qualitative descriptive study and interviewed caregivers using a semi-structured interview guide about their experiences caring for PLWD. We recruited Latinx primary caregivers for Latinx PLWD from various sites in Los Angeles. We transcribed, then coded interviews guided by Constructing Grounded theory (CTG) methodology.

Results: We interviewed eight Latino caregivers caring for PLWD from Latin American countries (Mexico, El Salvador, Guatemala, Peru). Caregivers were the spouses (n=2), children (n=4), or grandchildren (n=2) of the PLWD; caregivers ages ranged from 34 to 95. 6 caregivers were women, 2 were men. Multiple caregivers described caring for PLWD who had experienced significant political violence or childhood poverty. Caregivers described that PLWD experienced anguish, anxiety, and sadness when recalling these difficult events and reported discussing these experiences with clinicians for support.

Conclusions: In this exploratory qualitative study, we found that PLWD from Latin American countries may have experiences of trauma. Although the PLWD in our study had not formally been diagnosed with PTSD, and it is unclear whether these trauma-related symptoms developed before or after dementia onset, there may be an intersection between trauma and dementia. Studies have found a bidirectional relationship between PTSD and dementia, where PTSD may increase the risk of dementia and the onset of dementia can increase

the risk of delayed PTSD. PLWD may experience traumatic flashbacks, which can be alarming for the person living with dementia and their caregiver.

D139 Student Presentation

The Lived Experience of Geriatric Surgical Patients Who Describe Challenging Postoperative Symptoms: A Qualitative Thematic Analysis

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Background: The number of older adults undergoing major surgery continues to increase, yet little is known about the impact of the postoperative symptom experience on psychosocial distress (an unpleasant emotional experience that influences psychological or social factors). This study's aim was to explore the older surgical adult's perception of postoperative symptoms and the impact on their recovery.

Methods: Convenience sampling was used to recruit older adults having inpatient surgery at the University of California, San Francisco. Semi-structured interviews were conducted by phone, one and three months after surgery. Three reviewers adopted an inductive approach to identifying emerging themes through line-by-line coding of transcripts and an iterative examination of themes until data saturation was reached. Exemplar quotes were partnered with themes to support the results of the thematic analysis. Results were shared with clinicians for validation.

Results: Twenty-five patients completed interviews (mean age 73.6, 60 % male, 32% from racial and ethnic minority groups). Four themes were identified. First, symptoms were more bothersome than anticipated: "You would think I'd be out of pain. I'm not." Second, these symptoms hindered engagement in activities of daily life, leading to psychosocial distress: "I can't go out dancing anymore. I can't do hardly anything anymore." Third, social support, faith/spirituality, and positive attitude promoted confidence in the management of symptoms. Fourth, participants voiced the need for support on how to manage symptoms at home: "it would be nice if there was a website where you can check [information about the symptoms]."

Conclusion: Surgical patients expect to encounter some level of postoperative symptoms. This study indicates that older adults felt "caught off guard" by the intensity and duration of the symptoms and were unprepared to manage their symptoms at home. This led to psychosocial distress. We are using this data to develop interventions that promote patient confidence in the management of their postoperative symptoms to minimize psychosocial distress.

D140 Student Presentation

Care Setting Transitions for People with Dementia: Qualitative Perspectives of Current and Former Care Partners

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Background: Transitions from home to long-term care are considered difficult for those caring for people with dementia, yet institutionalization is highly prevalent. Little is known about whether care partners anticipate care setting transitions and what guidance will assist them.

Methods: We conducted semi-structured interviews with current care partners (CP) of people with dementia (PWD) and former care partners of decedents between November 2018 and July 2019. We deductively coded care setting discussions and inductively coded for themes between and across participant type.

Results: Participants were 31 family CPs, including 15 current and 16 former CPs. CPs had a mean age of 67 and were primarily white (n=23/31), female (n=21/31), and spouses (n=24/31). Both CP groups wanted to keep the PWD living at home. However, due to increasing care needs associated with dementia, most former CPs (n=14) moved the PWD to an institution during the caregiving period. Current CPs discussed overwhelming uncertainty pertaining to future care setting transitions. Both current and former CPs wished healthcare providers provided guidance on care settings and transitions. Care partners wanted (1) explicit guidance on care settings, timing, and "a bit more handholding," (C16); and (2) prognostic information to inform planning ("I'm not sure what kind of house I should get... I don't know how much longer he's going to stay with me," C29).

Conclusions: While PWD and their CPs often strive to remain at home, institutionalization is common, and CPs wish for additional support and guidance from healthcare providers in making the transition out of the home. Early, proactive guidance from providers will better prepare CPs of PWD to provide care at home or transition to an institution.

D141 Student Presentation

Hesitation and Barriers for Cannabis Use in Older Adults: A qualitative study

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Background: Cannabis access in Canada dramatically increased in 2018 with availability of recreational cannabis available through retail outlets. The primary goal of this study was to investigate use of cannabis products amongst people living with rheumatoid conditions and to explore its impact on symptom management. The objective of our study included analysis of older adults versus younger adults in terms of their perspectives, motivations, needs, and challenges that come with deciding to use cannabis as a therapeutic product or why they have not pursued cannabis use.

Methods: Purposive sampling was conducted through an Alberta rheumatology clinic. Two separate online focus groups based on cannabis use patterns (non-users & users) were interviewed separately, with 4 participants (users) offered individual interview. All interviews were audio recorded, and transcribed. Three team members read the transcripts separately to identify initial codes and themes to ensure data saturation was achieved. The coded data was then entered into Quirkos for categorization.

Results: A total of 12 participants were recruited, age range 51 to 85 years, with 4 age 65y or older. None of those age 65y or older had used cannabis. Across all participants the major emerging theme was pain and desperation to find relief. Stigma was a second major theme which tied in to a perception of physician opposition to cannabis, and reluctance of many of the participants to discuss cannabis use with their physician. Older adults were concerned that there could be potential loss of the critical patient-physician relationship. Other themes included concerns about cannabis sources, reluctance to smoke, forms of cannabis, and a general lack of trustworthy information.

Conclusions: Older adults are open to using cannabis due to the burden and suffering associated with pain, but stigma and lack of engagement on this topic from healthcare professionals, particularly physicians, has resulted in older adults remaining silent. There is a significant knowledge gap amongst patients regarding cannabis use and access.

D142 Student Presentation

Geriatrics Providers' Perspectives on Safer Opioid Prescribing Guidelines for Older Adults

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Background: In response to the opioid crisis, agencies have published opioid prescribing guidelines to reduce opioid-related risks. Although adults age 65 and older receive more opioid prescriptions than any other age group, implementation of risk-reducing guideline-based care by geriatricians has been limited. We previously found that older adults receive opioid analgesics with infrequent documentation of risk-reducing guideline-based care. The objective of this qualitative study was to identify geriatrics providers' views on barriers to following opioid prescribing guidelines.

Methods: We conducted semi-structured audio interviews with ten physicians and nurse practitioners practicing in the geriatrics ambulatory and home care practices at an urban safety-net medical center. We analyzed transcripts using conventional qualitative content analysis.

Results: Providers found opioid analgesics helpful in managing refractory pain in older adults but were concerned about potential side effects, misuse, and diversion. They noted that checking the Prescription Drug Monitoring Program tool and prioritizing patient/caregiver education were valuable when prescribing opioid analgesics. Providers recognized that lack of time and lack of interdisciplinary support were barriers to adhering to best practices. A major theme identified was the concern whether opioid prescribing guidelines were 1) evidence-based and 2) applicable to older adults. Geriatricians expressed that multidisciplinary support and education to address providers' gaps in knowledge regarding safer opioid prescribing could be helpful in improving the implementation of best practices.

Conclusion: Our study identified the importance of determining whether opioid prescribing guidelines are evidence-based and applicable to older adults in order to improve safer opioid prescribing in this vulnerable patient population.

D143 Student Presentation

A Functional Mitochondrial Unfolded Protein Response Regulates Mitochondrial Biology and Promotes Tumorigenesis in Melanoma

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Background

Melanoma is an aggressive form of skin cancer and is the most common life threatening dermatological disease. It is a major public health concern as incidence rates of melanoma are rising with a greater concern for the older population. Studies have shown that mitochondria are essential in melanoma initiation, progression and treatment. The mitochondrial unfolded protein response (mtUPR) is a stress response pathway that is activated when there are perturbations in proteostasis. It is induced and conserved across the different stages of melanoma progression and high levels of mtUPR transcription factors (CHOP, ATF4, ATF5) predict worse patient survival outcomes. This study aims to further investigate the role of the mtUPR in mitochondrial function and tumor growth.

Methods

Cell lines: YUMM 5.2, BrafV600E/wt, p53-/-, male cells were used to perform loss-of-function studies. The cell lines generated include an empty vector control and *shAtf5*.

In vitro: mitochondrial respiratory function was assessed using the Seahorse MitoStress assay. Characterization of cells and mitochondria was evaluated with flow cytometry, immunofluorescence microscopy, and a proliferation assay.

In vivo: cells were intradermally injected into immunocompetent mice (C57BL6) and tumor growth was evaluated over 20 days.

Results

Atf5 silencing disrupted mitochondrial bioenergetics by decreasing mitochondrial respiratory function, mass, and membrane potential indicating an important role in maintaining mitochondrial function. It was also found that *Atf5* maintains normal mitochondrial biology. Deficient *Atf5* signalling promoted a shift from a tubular to a more fragmented mitochondrial morphology. *Atf5* silencing also led to decreased tumor volume in an immunocompetent mouse model of melanoma. Interestingly though, cells deficient in *Atf5* proliferated at a greater rate than the control.

Conclusion

Atf5 maintains proper mitochondrial function and supports tumor growth in melanoma. Future studies include exploring how ATF5 shapes the tumor microenvironment in melanoma and investigating ATF5 regulation to identify points of intervention with therapeutic potential.

D144 Student Presentation

The Effect of α-synuclein Reduction in Alzheimer's Disease

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Background

Alzheimer's disease (AD) is a neurodegenerative disorder characterized by the pathologic accumulation of beta-amyloid (Aβ), Tau, and α-synuclein. α-synuclein (a-syn) is a protein involved in neurotransmitter release whose role has been investigated extensively in Parkinson's disease. Recent studies have shown that a-syn may also play a role in AD and suggest that a-syn regulation could be protective against the toxic effects of Aβ accumulation. The aim of this study is to determine if selective knockdown of a-syn improves the cognitive deficits in AD.

Methods

To evaluate the effect of a-syn knockdown, PSAPP transgenic mice were used to model AD, and knockdown (KD) of a-syn was performed by RNA interference using a lentivirus vector. 43 non-transgenic (ntg) mice and 33 PSAPP mice were used in this study.

Behavioral testing, including water maze and open field testing, was used to assess cognitive deficits. Water maze testing was performed over 7 days with 4 trials per day. Days 1-3 were performed with a visible platform and days 4-7 were tested with a hidden platform to assess memory.

Behavioral testing in an open field was done to assess context-dependent memory. Mouse movement was tracked in the x, y and, z planes during 4 trials, each 10 minutes in length.

Results

PSAPP mice with a-syn knockdown showed some improvement on water maze testing compared to PSAPP mice without a-syn knockdown but were not restored to the level of the ntg mice. This indicates

that spatial learning and memory deficits are not completely ameliorated by a-syn KD.

A-syn KD mice showed similar habituation in open field testing to non-transgenic mice which shows that a-syn KD has a beneficial effect on context-dependent memory.

Conclusions

This study provides evidence that α-synuclein knockdown improves some of the cognitive deficits seen in Alzheimer's disease. Results from the open field testing indicate that α-synuclein reduction may be helpful in restoring some aspects of cognition, like context-dependent memory, to patients with AD and suggests that the regulation of a-syn could be of future therapeutic value. While these results are promising, more study is necessary to fully understand the clinical relevance of these findings.

D145 Resident Presentation

Clinical relevance of DHEAS and IGF-1 to hematological parameters in aging population.

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Background: During the physiological process of aging, four hormone systems decline; dehydroepiandrosterone and its sulphate (DHEAS) in "adrenopause", estrogen in "menopause", testosterone in "andropause", and the growth hormone/IGF-1 axis in "somatopause". While the effects of andropause and menopause on an aging population have been well described, little is known about how somatopause and adrenopause are related to the changes experienced in aging. Our study aimed to examine a mechanistic basis for these actions of IGF-1 and DHEAS.

Methods: We retrospectively reviewed the medical records of patients in whom serum DHEAS levels and IGF-1 levels were measured between 2013 and 2018, investigating the relationships between those hormones and various physiological parameters.

Results: Serum was measured for DHEAS in 149 patients and for IGF-1 in 427 patients. Serum DHEAS levels were inversely correlated with age in men ($R = -0.810$, $p < 0.01$) and to a lesser extent in women ($R = -0.391$, $p < 0.01$). There was a significant positive association between DHEAS levels and hemoglobin ($R = 0.419$, $p < 0.01$) levels in men but not in women. Linear regression analysis demonstrated a decline in IGF-1 levels with advancing age ($R = -0.471$, $p < 0.01$). We also found a stronger positive correlation between serum IGF-1 level and hemoglobin levels in male (male: $R=0.507$, $p<0.01$; female: $R=0.266$, $p<0.01$), and a stronger negative correlation between serum IGF-1 levels and D-dimer levels in male (male: $R=-0.519$, $p<0.01$; female $R=-0.384$, $p<0.01$).

Discussion: The results of this study suggest that DHEAS may have a stronger effect on men than women, and the association between DHEAS and hemoglobin levels may be due to the androgenic effects of DHEAS on hematopoiesis. The association between low IGF-1 and increased cardiovascular (CV) events has been previously reported, especially in male population. Anemia is a risk factor for ischemic heart disease, and raised levels of D-dimer are independent risk factors for future CV events. The anemia and elevated D-dimer seen in low IGF-1 cases in this study suggest that low IGF-1 in the older population may contribute to increased CV events by inducing anemia and elevated D-dimer, especially in men. In conclusion, DHEAS and IGF-1 decline due to aging may be associated with abnormalities in the hematopoiesis and coagulation systems.

D146 Student Presentation

Characterizing Factors Associated with Lower Cerebral Perfusion

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Background: Lower cerebral perfusion is associated with poor outcomes such as dementia and impaired mobility. Knowledge of the pathophysiology of factors contributing to lower cerebral perfusion is limited. The primary aims were to examine the associations of hypertension and diabetes with cerebral perfusion.

Methods: We used cross-sectional data from the Mayo Clinic Study of Aging. Whole brain perfusion was assessed using MRI-pseudocontinuous arterial spin labeling (ASL; ratio variable of whole brain perfusion relative to the pons, higher ratio = better perfusion) in 2016-17. Hypertension, diabetes, and antihypertensive medication use were defined from medical records and medication review. Systolic blood pressure (SBP) was measured during study clinic visit. Multiple linear regression examined relationships of these potential risk factors with raw ASL ratio, adjusted for age, sex, body mass index, and stroke history. An additional interaction model examined the moderating effect of antihypertensive medication use on the relationship of SBP with ASL.

Results: Among 474 participants (mean age 67±14, 44% women, 55% with hypertension, 16% with diabetes), hypertension was associated with a 0.07 (95% CI: -0.10, -0.03) lower ASL on average compared to normotension. Moderating effect of antihypertensive medication use on the relationship of SBP with ASL was not supported (-0.01 (-0.04, 0.02) p=0.654). A separate model showed a 0.02 (-0.03, 0.001) lower ASL per 20 mmHg higher SBP regardless of antihypertension medication use. ASL was 0.04 lower (-0.08, -0.01), however, for participants taking compared to those not taking antihypertensive medications, at any SBP level. Diabetes was associated with a .02 (-0.06, 0.03) lower ASL that did not meet statistical significance.

Conclusion: Poorer cerebral perfusion is associated with hypertension and with anti-hypertensive medication use, likely due to confounding by indication. The long-term relationship of vascular risk factor exposures with cerebral perfusion warrants further investigation with longitudinal analyses in larger samples.

D147 Resident Presentation

Evaluating a Geriatrics Boot Camp for Family Medicine Interns

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INTRODUCTION: Despite the growth of the U.S. older adult population, there has not been a reciprocal growth of specialty trained geriatricians. In order to meet the unique medical needs of their aging patients, primary care providers must gain confidence in relevant geriatric medicine. We evaluated a new 4-hour "Geriatrics Boot Camp" session aimed at improving family medicine interns' confidence and attitudes in common geriatrics topics.

METHODS: Interns participated in a 4-hour Geriatrics Boot Camp during their first month of family medicine residency. Faculty geriatricians developed the curriculum and facilitated the interactive, skill-based learning stations on the following topics: delirium, dementia, mobility, and advance care planning (ACP). Trainees completed anonymous pre- and post-intervention surveys of self-reported attitudes and confidence using a 5-point Likert scale (ranging from "not at all confident" to "extremely confident").

RESULTS: 12 family medicine interns participated in the Geriatrics Boot Camp and completed the surveys. On average, the pre-survey responses of "very confident" were: delirium=8%, dementia=17%, mobility=8%, and ACP=8%. Post-survey responses of "very confident" rose to 75%, 58%, 67%, and 58% for these topics, respectively. Pre-survey responses of "very interested" were: interest in geriatrics=8%, desire more training=25%, and incorporate more geriatrics training=33%. Post-survey responses of "very interested" were 17%, 33%, and 42% for these topics, respectively.

CONCLUSIONS: A structured, interactive Geriatrics Boot Camp at the beginning of family medicine residency can increase trainee confidence in approaching common geriatric medicine topics and improve attitudes towards further training and career opportunities in geriatrics. Our future direction will include re-evaluation of confidence levels at 6-month intervals and additional skill-based learning as 2nd and 3rd year residents.

D148 Student Presentation

IMPLEMENTATION OF AN OLDER ADULT PAIN MANAGEMENT AND OPIOID USE DISORDER CURRICULUM FOR PRIMARY CARE PROVIDERS USING PROJECT ECHO®

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Background

Chronic pain, opioid use, and opioid use disorder (OUD) are increasingly common in older adults (OAs) and management may be complicated by polypharmacy, multimorbidity, and geriatric syndromes. Primary care providers (PCPs) manage most chronic pain in OAs and often lack geriatrics-specific training. Educating PCPs on pain management for OAs has potential to improve outcomes. We created a novel curriculum to educate PCPs on pain management, opioid prescribing, and OUD in OAs using Project ECHO®, a proven model for delivering subspecialized medical knowledge to community PCPs via videoconferencing.

Methods

The curriculum consists of 8 hour-long sessions on topics of pain assessment and special considerations in OAs (cognition, function, caregivers, social determinants of health), shared decision-making, non-pharmacologic pain treatments, pharmacologic pain treatments including opioid prescribing, behavioral health and pain psychology, and OUD diagnosis and treatment. Each session consisted of a 20-30 minute interactive lecture from a subject matter expert followed by two participant-led case discussions. The curriculum was evaluated using a pre- and post-lecture mixed methods survey on changes in self-efficacy and practice behaviors, series benefits, and areas for improvement.

Results

Twelve participants attended the series, all of whom completed pre- and post-series surveys. There was a trend toward higher self-efficacy across all competency areas, with a mean increase pre- to post-series of 0.9 on a 7-point Likert scale. The largest change in self-efficacy occurred in "ability to incorporate caregivers into pain management plans" (3.7 to 5 points). In free response questions, participants noted post-series changes in practice behaviors, such as offering more nonpharmacologic pain treatment options, utilizing team-based care, and considering social determinants of health. Collegial discussion with peers about patient care challenges was rated as the greatest benefit to participation and the expert presentations were rated the most liked component of the series.

Conclusions

This novel curriculum has potential to improve PCPs' management of chronic pain, opioid prescribing, and OUD in OAs in a virtual and scalable format.

D149 Student Presentation

Social Determinants of Health through a Geriatrics Lens: A Curriculum for Preclinical Learners

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Background: With studies suggesting that social determinants of health (SDOH) account for 30-55% of health outcomes, identifying and addressing SDOH affecting older adults is essential to improving the health and wellbeing of this growing population. However, few published curricula exist. We created and evaluated a small group session to build second-year medical students' (MS2) skills to recognize, explain, and address select SDOH affecting older adults in their future practice.

Methods: We developed a two-hour small group session embedded in the UCSF School of Medicine MS2 Life Stages course, which focused on select SDOH impacting older adults: ageism, limited health literacy, access to care, social isolation, and loneliness. We utilized multiple educational methods, including readings, small group discussion, and a video of a patient interview that was created for this session. To analyze impact, we administered an essay question in the parent course final exam requiring students to apply their knowledge and collected students' statements of commitment to incorporate a strategy of their choosing gained from this small group into their future practice. We also administered a session evaluation question.

Results: 162 MS2s participated in 2021. 157 (97%) students 'passed' the exam question. Three themes emerged from student comments in response to the session evaluation question: students (1) gained important, new, geriatrics-focused knowledge regarding SDOH (2) recommended to edit the patient interview video and (3) desired further training and information on these topics. Three themes emerged from students' personal statements of commitment: (1) put older adults at the center of decision making and avoid making assumptions about patient goals based on age or their caregiver's preferences (2) consider the increased importance of assessing social support, social isolation, and loneliness with older adults (3) challenge their own and others' ageist assumptions and actions.

Conclusions: This small group curriculum effectively increased preclinical students' awareness of and ability to recognize, explain, and address select SDOH affecting older adults. This session can easily be replicated in any institution and health professions program seeking to highlight the tremendous impact of SDOH on older adults.

D150 Resident Presentation

The Medicare Annual Wellness Visit: An Opportunity to Improve Geriatric Knowledge among Internal Medicine Residents

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Background: The Medicare Annual Wellness Visit (AWV) provides an opportunity to focus on preventive health in the primary care setting. The Health Risk Assessment (HRA) portion of the visit is designed to screen for addressable risk factors of functional decline. The purpose of this study was to identify the extent to which internal medicine resident trainees (1) understand and can explain the purpose of the AWV; and (2) feel confident in addressing problems identified in the HRA.

Methods: 40 out of 47 internal medicine residents with one to three years of training at Bayview Medical Center (85%) responded to an online Qualtrics survey regarding their knowledge of the AWV. Among a list of 14 different clinical topics covered in the HRA, residents were asked to rate whether they were not at all confident, somewhat confident, or confident in addressing each topic.

Results: Overall, 68% of residents felt somewhat confident or confident in their understanding of the purpose of the AWV, and 53% felt somewhat confident or confident explaining the purpose to Medicare patients; however, only 20% expressed similar confidence about the payments associated with the visit. The topics addressed in the HRA that residents felt somewhat confident or confident treating were depression/anxiety (95%), alcohol/tobacco/drug use (90%), falls (72%), and completing an advance directive (72%). The topics fewer residents felt somewhat confident or confident addressing were IADLs (45%), physical/emotional/sexual abuse (45%), and fecal incontinence (50%). Overall confidence for each topic increased with each year of training.

Conclusions: The Medicare Annual Wellness Visit comprises screening items central to preventive care in older populations. By identifying gaps in knowledge and topics of the HRA where medical residents are least confident, we are able to identify opportunities for future curriculum improvement.

D151 Resident Presentation

Evaluating the Usability of GeriKit, A Mobile Health App for Geriatric Assessment

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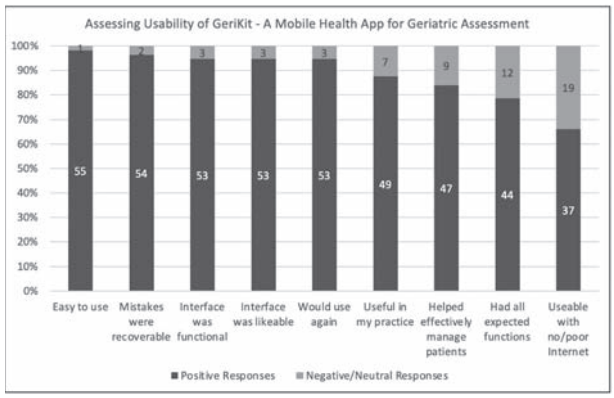
Background: As the number of older adults in the US grows, there is a pressing need to teach medical trainees how to conduct geriatric assessments. GeriKit, a free mobile health (mHealth) app (available for iOS and Android) was designed to guide learners in conducting these assessments. The aim of this study was to understand the app's usability in early adopters.

Methods: A 9-question validated survey of mHealth app usability was embedded within GeriKit and, through a 7-point Likert scale for each question, measured features of the user experience. A 10th question invited users to offer feedback. All users were eligible to take the survey anonymously. Survey data was analyzed from 12/2020-11/2021.

Results: 56 survey responses were received, which were categorized as positive (strongly agree/agree/somewhat agree; like a great deal/like a moderate amount/like a little) and negative/neutral (neither agree nor disagree/somewhat disagree/disagree/strongly disagree; neither like nor dislike/dislike a little/dislike a moderate amount/dislike a great deal). Notably 53/56 (95%) would use the app again, 55/56 (98%) thought the app was easy to use, and 53/56 (95%) liked the interface (Figure). As feedback, respondents suggested adding a screening tool for medications on the Beer's List and an e-mail feature for assessment results.

Conclusions: Data from early adopters of GeriKit demonstrate that that the app was effective in assisting users with performing geriatric assessments.



Evaluating the Usability of GeriKit, A Mobile Health App for Geriatric Assessment

D152 Student Presentation

Development of an Interprofessional Geriatric Elective for Medical Students and its Impact on Student attitudes and interprofessional capabilities

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Background: With hopes of addressing the geriatric workforce shortage, interprofessional (IP) teams can be utilized to train students to increase their comfort and knowledge when working with older adults.

Methods/Design: After IRB approval, an IP 2-week Family Medicine sub-elective for 4th-year medical students at USC Keck School of Medicine was created to improve the competencies of the future geriatric workforce from 2018-2021. Pre and post-tests were administered to graduating medical students (n= 17) enrolled measuring their attitudes and knowledge of care of the older adult. Survey sections were summarized using frequency and percent.

Results: Participating students were mostly 20-30 years old (100%), female (77%), and of Asian American descent (46%). Generally, positive attitudes improved: Q1 (54% vs. 75%), Q4 (54% vs. 67%), and Q7 (18% vs. 33%). Negative attitudes decreased: Q2 (27% vs. 58%), Q10 (64% vs. 83%), and Q11 (64% vs. 83%). Student self-perceived capabilities improved in the areas of cognitive assessment (Q1-3), caregiver education (Q6-8), and assessing home safety (Q4-5). Student knowledge improved in the areas of annual wellness visit evaluations: Q1(0% vs. 67%) and optimal geriatric prescribing: Q8 (8% vs. 42%) & Q10 (25% vs. 83%). Insufficient education in supportive care measures at the end of life noted: Q5 (67% vs. 58%)

Conclusion: This IP geriatric elective for 4th-year medical students was effective in strengthening knowledge and comfort in caring for older adults. Trainees were better equipped in assessing cognition and safety with a positive shift in attitudes. Improvements are needed in increasing diversity among trainees and education on supportive care at the end of life.

D153 Resident Presentation

Comprehensive Geriatric Assessment in Televisit Practice for Medical Students During Time of Social Distancing

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Background

Comprehensive geriatric assessment (CGA) and geriatric syndromes are taught as part of the geriatric rotation for fourth-year medical students. Students then rotate at a geriatric clinic and apply

their knowledge under attendings' supervision. With a limitation of on-site rotation due to the COVID-19 pandemic, teaching and services were conducted via a virtual platform. The synchronously coordinated onsite clinic visit and virtual classrooms were arranged.

Methods

Patients who would come for an in-person visit were asked whether they are interested to participate in the virtual teaching activity. Sessions were conducted via a secure online virtual meeting in HIPAA-compliant matters according to school policy. Medical students attended lectures on geriatric syndromes and CGA before the clinic. Students were guided on health professionalism for telehealth. Attending supervised and summarized the care plan with patients. Students received feedback on their performance and shared their experiences on the visit. An online anonymous evaluation was sent for purposes of class development.

Results

Sixteen virtual clinic sessions for 84 students were conducted throughout 2 months. Each session had 4 -6 students. The overall satisfaction was 4.89/5. Positive comments included the opportunity to apply CGA with patients and readiness to practice in a telemedicine manner. Half of the class rated this session as the equivalent to the regular clinic while the other half would like an onsite clinic class. Each visit took longer and requires technical and management support from administrative staff. Patients also reported high satisfaction, 4.6/5, and most took pride in being able to involve in training the future healthcare providers.

Conclusions

Telemedicine and virtual classrooms have been game-changer for both medical educators and students. Older adults who are disproportionately affected by COVID-19 are the least familiar with the technology. They are comfortable with coming in for a regular visit, nevertheless, they see the importance of having medical students as part of their care team. Our study has highlighted an opportunity to leverage telemedicine arrangements to provide a safe care-providing environment for patients and a suitable learning environment for medical students.

D154 Student Presentation

Education on Age Friendly Care: What do Community Aging Services Professionals Need to Know?

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Background

There is an increasing need for community-based health education to help older adults understand and manage their complex medical conditions. Community aging services professionals (CASPs) are non-medical service providers who facilitate aging in place by providing health education, socialization, and care coordination for older adults in community settings. Research is needed to establish CASPs medical knowledge, health education, and professional development needs.

Methods

This study assessed CASPs' knowledge of older adults' medical issues and health education needs through semi-structured qualitative interviews with 13 CASPs conducted via Zoom in May-July 2021. All interviews were transcribed and coded in Dedoose. A grounded theory approach was used to analyze the interviews and identify themes. Inter-rater reliability was established.

Results

Four major themes emerged through interviews: CASPs' perception of their role in health promotion, CASPs' knowledge of OA medical issues, CASPs' perception of older adults' health challenges and health education needs, and barriers and facilitators for healthy aging services. CASPs' reported that older adults trust them with their medical, social, and emotional concerns. CASPs described promoting older adults' health by providing medical referrals, education, and advice. The interviews revealed that CASPs feel underprepared to provide requested medical support for older adults, and that both CASPs and older adults desire more clinical education to help identify and manage older adults' medical conditions. The data was also used to evaluate the relevance of the 4Ms model of age friendly care as an educational tool to help CASPs promote aging in place, and the results showed the 4Ms are well-received as a framework for health education of CASPs and older adults in community settings.

Conclusions

This study established CASPs as ideal providers to receive and disseminate clinical health education for older adults aging in the community. Targeted clinical education can be provided to both CASPs and older adults, so that CASPs can support and reinforce the health education older adults receive from their medical providers.

D155 Student Presentation, Encore Presentation

The Need for Anti-Ageism Interventions in Family Medicine Residencies across North Carolina

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Background: Ageism in healthcare includes the implicit biases of physicians and internalized beliefs of older patients and can ultimately lead to health disparities in older adults. Current research on ageism primarily focuses on the general public's attitudes towards older adults and impacts on health. Research investigating attitudes towards aging adults among primary care resident physicians is limited and inconclusive. This presentation will describe attitudes that Family Medicine residents in North Carolina (NC) hold towards older adults.

Methods: Questionnaires were distributed to 5 Family Medicine residencies in NC. Questionnaires included the UCLA Geriatrics Attitudes Scale (GAS), consisting of 14 Likert-type statements, and demographic questions about age, gender, race, education level, prior personal and professional experiences with older adults, interest in geriatrics, and completion of a geriatrics rotation. Participant scores on the UCLA GAS were obtained by averaging the numerical values of each item. Mean scores for each demographic group were compared using ANOVA and t-tests. Specific dimensions of attitudes towards aging (social value, medical care, resource distribution and compassion) were compared using a mixed model.

Results: 41 residents responded to the survey. 29.2% of respondents identified as a racial/ethnic minority. 63.4% identified as female or non-binary/third gender. The mean score of all participants was 4.001. Scores could range from 1 to 5, indicating least positive and most positive attitudes towards older adults, respectively. Residents very and somewhat interested in geriatrics had significantly higher means than those somewhat not and not at all interested in geriatrics (4.75, 4.23 vs. 3.82, 3.75; $p<0.025$). Attitudes varied based on level of training. Means of each dimension were significantly different from the rest, with medical care ranking lowest, followed by compassion, resource distribution, and social value ranking highest. (3.57, 3.92, 4.23, 4.57; $p<0.008$).

Conclusions: This study contributes to our understanding of NC Family Medicine residents' attitudes towards aging and can guide future anti-ageism interventions. Future research and interventions should focus on improving attitudes towards providing medical care and compassion to older adults.

D156 Student Presentation

Formative Research for a Future Cooking Education Program for Older Adults

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Background: Older adults are more likely to experience diet-related chronic diseases like diabetes and cardiovascular disease. Research suggests positive health outcomes from cooking education programs, but involvement of older adults in such studies is limited. We aimed to assess cooking confidence, perceptions, and attitudes towards cooking in older adults, as well as feedback to better inform the development of a cooking program for older adults.

Methods: A survey was promoted using a research recruitment website, social media accounts and email list of the Carolina Hunger Initiative. Participants (n=112), 60 years +, completed the survey. Perceptions and attitudes towards cooking were measured on a 7-point Likert scale from 'strongly disagree' (1) to 'strongly agree' (7). Confidence in cooking skills was measured on a 7-point scale from 'not at all confident' (1) to 'extremely confident' (7). Agreement and general confidence were defined as a response of greater than four. Data were also collected on interest and feedback on a cooking education program. Descriptive statistics were calculated.

Results: Participants were confident in their cooking abilities with 96% reporting confidence in cooking from scratch and 99% expressing confidence in following a recipe. Participants also expressed positive attitudes towards cooking with 83% agreeing they enjoy cooking and 81% agreeing cooking is important to them. Most participants (96%) conveyed interest in a healthy cooking program, and 88% of participants wanted a series of classes. Participants preferred online classes with 87% expressing interest in live lessons and 88% expressing interest in pre-recorded lessons. Topics that had the highest interest were incorporating fruits and vegetables, meal planning, and healthy recipes.

Conclusion: Older adults reported high levels of confidence and attitudes towards cooking and were interested in cooking classes related to improving healthy eating and food resource management. Future directions include development of a cooking program to target healthy eating.

D157 Student Presentation

Evaluating a Virtual and In-Person Interprofessional Nutrition Clinical Experience for First-Year Medical Students

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Background:

As nutritional requirements change with age, registered dietitian nutritionists (RDNs) play a critical role in maintaining older adults' quality of life. Preclinical medical students infrequently have opportunities to engage with and learn the roles and responsibilities of interprofessional (IP) team members. This study evaluated the effectiveness of a nutrition clinical experience to increase first-year medical students' (M1s') understanding of the roles of RDNs on the IP healthcare team.

Methods:

M1s at a tertiary care center participated in a required 1.5 or 2 hour IP clinical observation experience with an outpatient or inpatient RDN. Due to the COVID-19 pandemic, virtual, in-person, and hybrid experiences were offered. M1s and participating RDNs completed post-experience surveys.

Results:

Ninety M1s participated in the experience; 89% completed a post-experience survey. Overall, 96% of responding M1s enjoyed the experience, 96% agreed the experience helped them understand RDN's roles, and 99% agreed they were more likely to involve a RDN in patient care following the experience. Of respondents, 35, 33, and 10 participated via a virtual, in-person, or hybrid experience, respectively. Although not statistically significant, there was a trend toward more agreement with in-person vs. virtual experiences related to experience enjoyment (100% vs 94%), experience helpfulness (100% vs 91%), and intentions to incorporate RDNs into future care (100% vs 97%). A significantly greater proportion of M1s discussed a real patient case when participating in-person compared to participating virtually (100% vs 71%, $p<.05$). Half of RDNs (6/12) completed a post-experience survey; all agreed the experience allowed them to clearly convey their roles and responsibilities.

Conclusions:

An IP clinical experience via virtual or in-person modalities is an effective pedagogical tool to improve M1s' understanding of RDN's roles. More work should be done to evaluate students' attitudes regarding in-person vs. virtual experiences. In-person experiences may provide greater opportunity for learning engagement through real-life patient case discussion.

D158 Resident Presentation

Needs Assessment of Internal Medicine Resident Reflection Rounds in the Medical Intensive Care Unit

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Background: There is currently a lack of structured curricula within postgraduate medical training dedicated to the reflection of emotionally challenging patient deaths, which frequently occur in settings like the medical intensive care unit (MICU). To most optimally structure a formal curricula and program that meets the needs of Internal Medicine Residents, a needs assessment of local perceptions is necessary. We designed a survey to understand resident experiences of informal debriefing in the Medical Intensive care Unit (MICU), the perceived value of structured debriefing, and any potential barriers to attending a structured debriefing program.

Methods: For this IRB-exempt study, we created an anonymous, 15 question electronic survey which was distributed to residents from several residency programs (Internal Medicine, Internal Medicine-Pediatrics, Obstetrics/Gynecology and Emergency Medicine) at a large tertiary academic medical center in New Haven, CT. Residents were asked about the frequency of informal debriefing during their MICU rotations, the perceived value of structured debriefing opportunities, and any potential barriers to attending a structured debriefing program.

Results: 88 residents responded. The majority (90%) either felt neutral toward, agreed with, or strongly agreed with the idea that structured debriefing sessions would add value to their residency experience, however, only 64% reported participating in at least one debrief during their training. The most commonly cited barrier to attendance was the lack of protected time during the workday (89%).

Conclusions: Although most residents agreed that dedicated sessions to debrief emotionally challenging patient deaths would add value to their training, a third of residents had not participated in any such sessions. Residents most frequently cited time constraints when asked about barriers to attendance. There is significant resident interest in opportunities to debrief emotionally challenging deaths with peer groups led by trained faculty. We are designing a "Reflection Rounds" curriculum built into protected MICU didactic time.

D159 Student Presentation

Geriatrics, Aging, and Neurodegenerative Disease in Medicine And Society (GrANDMAS): An Interdisciplinary Geriatrics Interest Group for Medical Students

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Background

The US population includes 46 million adults over 65 years old and older adults are expected to outnumber children by 2035. While medical students inevitably treat older adults in their training, mentorship in Geriatrics can be limited. In 2019, we founded GrANDMAS, a group to support students with an interest in Geriatrics. GrANDMAS brought together students and faculty from the schools of medicine, nursing and social work to reflect the interdisciplinary nature of Geriatrics and host networking and educational events.

Methods

The group was founded by two medical students with the guidance of a Geriatrics faculty advisor. Our mission was to inform students about topics in Geriatric Medicine, connect students across disciplines, and mentor students with an interest in the field. GrANDMAS petitioned for recognition and funding from our institution and received designation as a student chapter of the American Geriatrics Society (AGS). We hosted two events per semester based on group leader interest, current events, and faculty expertise. Events were advertised via email to medical, nursing, and social work students. Attendance was tracked at each event and attendees were surveyed about their experiences.

Results

Between Fall of 2019 and Fall of 2021, GrANDMAS hosted 7 events: faculty lectures, a meet and greet networking event, and a patient panel. Approximately 50 students attended GrANDMAS events with 8-25 guests per event. 80%-90% of attendees were associated with the medical school and 10-20% with the school of nursing or social work. When attendees were surveyed regarding their experience at events, respondents reported that events were useful for networking and for exposing students to "databases that help connect patients to needed resources." Respondents also stated that it was, "Very helpful to hear the perspective of an older adult." One respondent requested opportunities to volunteer with older adults.

Conclusions

GrANDMAS has been successful in meeting its stated objectives. In the future, we plan to incorporate nursing students on the leadership team and host events at both the medical school and nursing school. We will consider offering volunteer opportunities with older adults in our community.

D160 Resident Presentation

Combating Ageism and Improving Attitudes Towards Aging Amongst Internal Medicine Residents

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Background: It has been shown that physicians-in-training develop negative attitudes towards caring for older patients based on ageist assumptions potentially reinforced by their training environment. Little is known about how these negative attitudes develop throughout training or if these can be modified through educational initiatives.

Methods: Internal Medicine (IM) residents were invited to complete the 12 item Expectations Regarding Aging (ERA-12) survey, a validated instrument that assesses expectations regarding physical health, mental health, and cognitive function in older adults. Surveys were electronically sent to residents prior to hearing a lecture about ageism, and responses were collected longitudinally as residents advanced in their training.

Results: Of the 72 residents invited to participate, 48 residents (67%) completed the ERA-12 survey. Responses were obtained from all training levels including 24 PGY-1 (50%), 10 PGY-2 (21%), and 14 PGY-3 (29%). Prior to the didactic, no statistically significant differences were found between training years with regards to total ERA-12 scores or expectations regarding physical health, cognitive function, or mental health of older adults. After the curriculum was deployed, interns demonstrated a significant increase in total ERA-12 scores (83 vs. 66, $p = 0.012$) and also had higher expectations regarding physical health and cognitive function (71 vs. 55, $p = 0.022$, and 83 vs. 58, $p = 0.030$, respectively). PGY-2 level residents also had increased total ERA-12 scores (91 vs. 66, $p = 0.002$) and higher expectations regarding cognitive function (97 vs. 56, $p = 0.006$). There were no significant differences in expectations regarding mental health amongst all training years. Subgroup analyses amongst residents who participated in the didactics over multiple years showed no statistically significant changes over time, suggesting that the impact of the curriculum was durable.

Conclusions: IM residents who participated in anti-ageism curricula showed significant improvement in expectations regarding aging in several key domains. These enhancements were most notable amongst early trainees and expectations appeared to endure over time. Given that physicians play a crucial role in the care of older adults, combating ageism amongst trainees should be an essential goal of every academic institution.

D161 Student Presentation

GeriPop: A Game to Apply the 4Ms to Patient Populations

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Background: With the aging population boom and Geriatrician shortage, health professionals need to be trained in Age Friendly healthcare. Additionally, Geriatric population health education is lacking in medical and allied healthcare curriculum. To overcome these shortcomings, a virtual serious game is being developed and evaluated for its impact on health care trainees' knowledge and attitudes about Geriatric principles anchored by the 4Ms of What Matter, Medication, Mentation and Mobility.

Methods: The player assumes the role of a provider in a major health system and has been tasked with studying whether the 4Ms framework can improve health and cost metrics in Geriatric populations (65-74, 75-84 and 85 + years old). The player makes choices about which of the 4Ms to apply to healthy people and people with HTN, CVD, or comorbidities, one age group at a time. A dashboard helps players track the impact of their choices on disease prevalence, mortality, quality of life, and costs over time as the population ages. Performance is compared to current evidence-based outcomes for these populations to uncover the specific impacts the 4Ms have when "added" to business as usual.

Results: The player's decisions are "scored" via their alignment to a hierarchy of 4M intervention choices that were optimized to each patient population. Pre-briefing and debriefings linked with case reports, and explanatory pop-ups aligned with evidence based medicine to allow trainees to further explore evidence-based Geriatrics are included throughout the game. The game is being beta tested and will be play-tested in early 2022 with allied health professionals and students. Participant knowledge and beliefs will be assessed pre- and post-game play and correlated to their gameplay.

Conclusion: The game design replicates performance dashboards experienced in real life health care with emphasis on functional longevity. Future work examines whether the game transforms clinical practice such that trainees regularly apply the Geriatric 4Ms+ guided by evidence–based medicine.

D162 Resident Presentation

Geriatric Assessment in a SmartPhrase

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With the aging population, internal medicine (IM) residents should develop the key skill of performing geriatric assessments. We created and are evaluating an Epic-based SmartPhrase for geriatric assessment using the 5Ms (Mind, Mobility, Medications, Multicomplexity, and What Matters Most) framework.

A needs assessment was sent to IM primary care residents at the University of Pennsylvania. Based on results, we designed a SmartPhrase for geriatric assessment as our intervention. We held focus groups with residents to solicit feedback and revise the SmartPhrase. After finalizing the SmartPhrase, we sent a pre-intervention survey to all IM residents (both primary care and categorical).

In our initial needs assessment, 72% of respondents wanted to learn more about geriatric assessment. Our subsequent pre-intervention survey found that only 5-6% of respondents strongly agreed that they know the main components of and are comfortable performing a geriatric assessment and only 25% have a framework for it. To address these needs, we developed an Epic-based SmartPhrase for geriatric assessment, revised based on feedback from two focus groups. The final SmartPhrase includes 1-4 key questions for each of the 5Ms, with additional questions in a dropdown menu to allow users to delve deeper into a particular area as needed. It was introduced to all IM residents in November 2021.

Performing a geriatric assessment is a critical skill for IM residents, regardless of subspecialty interest. Our data indicate a need to improve resident comfort with this skill. Our SmartPhrase is being paired with didactic teaching on geriatric assessment to facilitate trainees' ability to actively apply their newfound knowledge. This tool is adaptable, available on-demand, and easy to implement. In addition to IM residents, it is also applicable to other trainees and interprofessional team members who evaluate and treat older adults. Further research will include a post-intervention survey and analysis of clinical notes for presence of the SmartPhrase. We also plan to disseminate a guide to help others create and use this SmartPhrase on their own Epic platforms.

D163 Student Presentation

Food Insecurity as We Age: An Educational Intervention for Improving Medical Student Knowledge of and Attitudes toward Older Adults

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Background: Preclinical undergraduate medical curriculum frequently does not include geriatrics content. To address this lack of geriatrics content at our institution, optional interactive sessions are being incorporated into multiple pre-clinical courses. The first session was embedded in a gastrointestinal (GI) module, and it addressed the high risk for food insecurity and malnutrition in older adults (OA). The dual aim of this session was to improve medical student knowledge of food insecurity in OAs and attitudes toward the field of geriatrics.

Methods: The Food Insecurity as We Age session was delivered to second-year medical students (MS2s). It was structured as a panel discussion with a brief introductory didactic. The moderator was an MS2 and discussants included the President and CEO of the San Antonio Food Bank and the Program Director of San Antonio Meals on Wheels. Pre-post tests assessed MS2 attitudes towards OAs using a subset of the Carolina Opinions on Care of Older Adults (COCOA) questionnaire. Additional questions assessed knowledge, confidence, and awareness of food insecurity rated on 5-item Likert scale. Student's *t*-test was used to evaluate pre-post differences.

Results: 92 MS2s responded to the pre-survey, and 46 out of 55 MS2s in attendance completed the post-survey. Pre-survey COCOA scores (37.6 +/- 7.2) increased (43.2 +/- 8.2) on the post-survey ($p<0.001$). Medical student agreement with statements about the importance of discussing food insecurity with OAs, confidence in their ability to help OAs meet their nutritional needs, awareness of programs that help OAs with their food needs, and knowledge of risk factors that predispose OAs to food insecurity all significantly increased following the session ($p<0.001$).

Conclusions: A single interactive panel discussion with local experts has the ability improve MS2 knowledge of and attitudes toward OAs and geriatrics. The framing of the disproportionate impact of food insecurity in OAs as a health disparity issue may have been a factor in changes in attitudes. Limitations of session evaluation include possible self-selection of students in attendance. Future embedded pre-clinical sessions may benefit from a similar panel discussion format and will be evaluated for efficacy in other content areas.

D164 Resident Presentation

Pharmacy Student Attitudes towards a Career in Older Adult Care

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Background: The United States healthcare workforce is underprepared to meet the needs of the growing older adult population. The primary purpose of this study is to examine the reasons why current pharmacy students are interested or not interested in pursuing a career or postgraduate training in geriatrics and to evaluate factors that influence this choice.

Methods: This is a prospective, qualitative research study utilizing focus groups of pharmacy students from the second and third year Doctor of Pharmacy curriculum spanning both campuses of one public school of pharmacy in the United States. Student pharmacists were invited to participate in the focus groups, and focused interviews were conducted by two postgraduate year 2 (PGY2) geriatric residents. Each discussion was audio recorded and subsequently transcribed, extracting key factors through open thematic coding.

Results: Focus group participants (n=8) most commonly identified job security (13 instances), relationship value add (12 instances), and past positive experiences with older adults (9 instances) as encouraging factors that promoted interest. Inadequate geriatric exposure (17 instances), emotional impact of death and dying (13 instances), and heightened professional liability (8 instances) were the most common discouraging factors. Student pharmacists did not fully recognize the scope of care provided by geriatric pharmacists.

Conclusions: Factors including job security, positive experiences with older adults, and the importance of relationships in practice encourage student pharmacists to pursue older adult care, while other factors like emotional impact, professional liability, and inadequate exposure to geriatrics discourage them. These results will be used to create a survey to explore these factors among a larger cohort of student pharmacists. Enhancing early exposure to geriatric patients and pharmacists, emphasizing common geriatric considerations in the Doctor of Pharmacy curriculum, and increasing specialized older adult and end-of-life content via didactic, experiential, and co-curricular opportunities could encourage more student pharmacists to seek careers in older adult care.

D165 Student Presentation
Screening for Cognitive Impairment in the Emergency Department

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Background: Clinical trials are important to improve evidence-based care for persons living with dementia (PLWD) and for their care partners (dyads). Barriers to research recruitment are numerous, including care partners concerns' of ill health, cognitive impairment (CI) severity, and denial of need. The aim of this study is to determine whether a performance- or informant-based screening test for CI is associated with trial enrollment and whether mode of administration influences one's decision to participate.

Methods: We used cross-sectional data from patients and caregivers who visited the EDs of New York University (NYU) and Indianapolis University (IU) during screening for the Program of Intensive Support in Emergency Departments (ED) for Care Partners of Cognitively Impaired Patients (POISED), which is testing a care management intervention. We offered CI screening to patients ≥75 years using the Mini-Cog and if unable to do this, we offered their care partners the Short Portable Informant Questionnaire of Cognitive Decline (IQ-CODE). We used chi-square tests and logistic regression to determine whether likelihood of enrollment differed between screening tests and mode of administration: in-person versus telephone.

Results: We screened 8860 patients or care partners (dyads) between 3/3/2018-4/1/2021, of which n=2840 at NYU and n=660 at IU had positive screens. Of these 3500 dyads, 2142 had a positive Mini-Cog (≤2) and 1358 had a positive IQ-CODE (≥3.40). We enrolled 13.9% (n=297) of positive Mini-Cogs and 14.5% (n=309) of positive in-person IQ-CODEs. During the pandemic we conducted all IQCODEs by phone and enrolled 34% (n=196) of those who screened positive. Adjusting for age, sex, and gender, compared to Mini-Cog screening, only those having positive IQCODES by phone were more likely to enroll (adjusted odds ratio (AOR): 3.75 (95% CI: 2.76, 5.11).

Conclusions: Higher enrollment using informant-based telephone screening after discharge suggests that care partner recognition of a problem and perhaps having less distraction from the ED visit may increase trial enrollment. Whether the pandemic was the predomant factor encouraging enrollment is unknown.

D166 Resident Presentation
Delirium Rates in Geriatric Trauma Patients Receiving Cyclobenzaprine as a Method of Pain Control

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Background: As the population ages there are an increasing number of geriatric patients that present with traumatic injuries. Cyclobenzaprine is often part of the multi-modal pain control strategy used in trauma. The objective of this study was to examine the rates of delirium in geriatric trauma patients receiving cyclobenzaprine as an analgesic adjunct.

Methods: Retrospective database analysis during the time period May 1, 2016 to Oct. 31, 2019 evaluating the association between cyclobenzaprine use and Confusion Assessment Model (CAM) results, as a surrogate marker for delirium, in geriatric patients that were admitted with traumatic injuries. Geriatric trauma patients (n=267) were seen at a single medical institution. 11.2% (n=30) of these patients received cyclobenzaprine for pain control and 88.8% (n=237) did not. Median age was 85 years and age ranged between 68 and 102 years. 57% (n=153) of the patients were female. Females were slightly but not significantly older than males at the time of injury. The median age of females was 85 years (range 70 – 102 years) versus 83.5 years (range 68 – 99 years) for males. The majority of patients were Caucasian (93.6%).

Results: The association between treatment with a cyclobenzaprine and CAM results was not statistically significant (p = .733). Of those (n=30) treated with cyclobenzaprine, 43.3% (n=13) were CAM positive and 56.7% (n=17) were CAM negative. Of those (n=237) that were not treated with cyclobenzaprine, 40% (n=95) were CAM positive and 60% (n=142) were CAM negative. 26% (n=70) of patients had a history of dementia. The association between dementia and CAM results was statistically significant (p = .001). More patients with a history of dementia were likely to have CAM positive results than patients without a history of Dementia; 66% (n=47) versus 34% (n=24).

Conclusion: There was no statistical significance between cyclobenzaprine use and development of delirium among all geriatric trauma patients. However, geriatric patients with a known cognitive impairment, such as dementia, are much more likely to develop delirium after trauma. Providers should carefully consider medical history when initiating cyclobenzaprine as a part of a multimodal analgesic regimen in a geriatric patient being admitted with traumatic injuries.

D167 Student Presentation
Prevalence of Self-Reported Voice and Swallowing Complaints in a Population of Older Adults

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Background: Older adults suffer from increased rates of dysphagia and dysphonia, both of which have a profound effect on quality of life and are often underdiagnosed and undertreated. However, there is a paucity of robust data quantifying the exact prevalence of dysphagia and dysphonia among older adults. In our ongoing study, we sought to better understand the prevalence of these disorders and the potential utility of a patient-reported screening program for these disorders in a geriatrics clinic.

Methods: Using an IRB-approved cross-sectional survey design, we recruited participants from a population of new patients seeking care at an academic geriatrics clinic over a period of 3 months. All participants completed a MOCA or MMSE prior to study enrollment. We used three validated questionnaires to assess for dysphagia, dysphonia, and pill dysphagia; the Eating-Assessment Tool-10 (EAT-10), the Voice Handicap Index-10 (VHI-10), and the PILL-5. Patients who screened positive on any questionnaire were offered referral to a laryngologist for additional evaluation. Patients who screened positive on the PILL-5 were also offered referral to our geriatric pharmacist for assistance with pharmacy interventions such as pill crushing or alternative formulations.

Results: Of the 152 patients surveyed thus far the mean age was 77 (SD 9), 58% were female, and the racial background was 70% white, 26% African American, 2% Asian, 1% Hispanic, and 1% unknown. A total of 44 (29%) patients screened positive (39 on EAT-10, 10 on PILL-5, 13 on VHI-10) and were therefore offered referral, of which 22 accepted. These patients took more medications (p=.03), had a lower MOCA score (p=.046, a higher GDS score (p=.02), and were more likely to be female (p=.04) when compared to the 108 patients who screened negative.

Conclusions: Many new patients seeking generalized care at our center screened positively for significant dysphagia and dysphonia on validated questionnaires. Geriatric patients may benefit from routinely integrating screening for these disorders to identify those in need of further evaluation.

D168 Resident Presentation

Geriatric Service Referrals to the Chiropractic Section at Veterans Affairs Palo Alto Healthcare System: An Intervention, Safety, and Efficacy Review

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Background: In the United States the most common cause of pain in older adults is related to Musculoskeletal diseases (MSDs). Chiropractic interventions provide nonpharmacological alternatives for pain reduction, and changes in function imposed by MSDs. Research on chiropractic interventions often excludes older adults, thus we sought to conduct a review of patients referred from Geriatric Research, Education, and Clinical Centers providers to the chiropractic service in order to assess: (1) treatment utilization; (2) safety working with a high comorbidity population; and (3) durable medical outcomes.

Methods: Patient data was pulled from those who were referred from GRECC services to the chiropractic section from 2020-2021. A total of 11 patients were identified. Interventions were profiled in this review, which included spinal manipulative therapy, acupuncture, active care, and soft tissue therapies. Outcomes were assessed in comparison with Age-Friendly Health Care's 4M's to determine successful care. Examples of durable medical outcome assessments included core strength, spinal range of motion, disability questionnaires, pain monitoring, and patient goals.

Results: The patients averaged a Charlson Comorbidity Index score of 6.4, and plateaued in allopathic pain interventions. Zero chiropractic related adverse events were found. Outcome comparisons were made approximately 6 weeks after the initial visit based on the patient's scheduled treatment trial. Successful clinical outcomes were achieved in 9 of the cases. These were defined through pain intensity/frequency reduction, range of motion improvement, demonstratable strength gains, disability reduction, and patient satisfaction. Of the remaining, one patient elected for Non-VA care, and another passed away from an unrelated event.

Conclusion: The cases highlighted a successful collaboration between the geriatric specific clinic and the chiropractic service for alternative pain management options. Interventions were found to be appropriate and safe in our sample. Next steps aim to foster an environment of collaboration between the GRECC and chiropractic providers to enhance patient centered care.

D169 Resident Presentation

Assessing a Primary Care-derived Electronic Frailty Index (eFI) in Older Adults with Acute Myeloid Leukemia

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Background

Assessing frailty is vital for older adults with acute myeloid leukemia (AML). Wake Forest Baptist Health (WFBH) has an embedded, cumulative-deficit electronic frailty index (eFI) that predicts mortality for older adults in primary care. We evaluated the eFI in AML by describing baseline eFI categories by treatment type and exploring associations between eFI categories, survival and treatment received.

Methods

Retrospective subjects were ≥60 years with new AML treated from 1/2018-10/2020. The eFI requires ≥2 ambulatory visits over 2 years and uses demographics, vitals, ICD-10 codes, outpatient labs, and available functional information from Medicare Annual Wellness Visits. Frailty categories are fit (eFI≤0.10), pre-frail (0.10<eFI≤0.21) & frail (eFI>0.21). Chemotherapy was intensive (anthracycline-based) or less-intensive (hypomethylating agent, low dose cytarabine +/- venetoclax). eFI category distributions were compared by therapy type, pre-treatment characteristics, and chemotherapy cycles using chi square and Fisher's exact tests and ANOVA. Median survival was compared by eFI category using log-rank tests stratified by therapy type.

Results

Among 166 older adults treated for AML, only 79 (48%) had a calculable eFI. Mean age was 74 years (range 60-96), 61% were male, and 86% were white. Baseline eFI category was associated with treatment received (fit–68% intensive, 32% less intensive; pre-frail–37% intensive, 63% less intensive; frail–0% intensive, 100% less intensive; not calculable–48% intensive, 52% less-intensive; p<0.01). Proportions of congestive heart failure and secondary AML differed between fit, pre-frail, frail, and not calculable (p<0.01). Median survival did not differ between eFI categories for intensively (p=0.48) or less-intensively (p=0.09) treated patients. For those with less-intensive therapy and lived ≥6 months, eFI category did not correlate with number of chemotherapy cycles received (p=0.97).

Conclusions

The primary care-derived eFI was incalculable for most older adults with AML. eFI categories were associated with chemotherapy intensity but not survival or treatment duration possibly due to lack of functional information or timing of eFI data collection. Next steps include testing adaptations of the eFI to an acute cancer setting.

D170 Student Presentation

Development and Predictive Utility of a Comprehensive Geriatric Assessment for Older Adults with Chronic Kidney Disease

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Background: Older adults with chronic kidney disease (CKD) are at high risk of multiple impairments. However, there is no comprehensive geriatric assessment tailored to evaluate the impairments unique to this population. The aim of this study is to 1) identify constituents of and patterns of impairments in a CKD-specific comprehensive geriatric assessment (CKD-CGA), and 2) test the predictive utility of the CKD-CGA on adverse outcomes.

Methods: We used data from 868 individuals who were 55 years or older and not on dialysis in the Chronic Renal Insufficiency Cohort (mean age=66.7). Constituents of the CKD-CGA were selected a priori. Latent class analysis was conducted to identify patterns of impairments and to further inform the development of the CKD-CGA. We examined the predictive utility of the CKD-CGA – using most-likely class membership – on mortality (Cox regression), dialysis initiation (Cox regression), and all-cause hospitalization (logistic regression). Model discrimination was assessed with C-statistics.

Results: The CKD-CGA included 16 impairments: any cardiovascular disease, diabetes, frailty phenotypes (weakness, exhaustion, slowness, low physical activity, and weight loss), depression, cognitive impairment, low kidney disease quality of life (burden, effects, symptoms, physical health, and mental health subscales), inadequate health literacy, and use of inappropriate medication. A two-class model was identified, with 34.9% and 65.1% in the high and low burden of impairment class, respectively. Compared to patients with a low burden of impairments on the CKD-CGA, those with a high burden were at higher risks of mortality (HR=1.86; 95% CI=1.41, 2.46), dialysis initiation (HR=1.74; 95% CI=1.20, 2.53), and hospitalization (OR=2.22; 95% CI=1.59, 3.08). Model discrimination was excellent for dialysis but modest for mortality and hospitalization (C-statistics: 0.84, 0.70, 0.66, respectively).

Conclusions: This is the first study to derive a CKD-CGA for older adults. We identified a group of patients with a high burden of impairments who are at risk of adverse outcomes. The CKD-CGA has the potential to be used as a standard toolkit in nephrology practice for assessing and managing impairments in older adults with CKD.

D171 Student Presentation
NF2 Mutation Associated with Accelerated Time to Recurrence for Older Patients with Atypical Meningiomas

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Background: Meningiomas occur with substantially higher frequently in older adults. Presently, there remains discordance between WHO classification and actualized clinical outcomes. Emerging evidence has suggested the utility of genomic characterization to predict recurrence. A commonly implicated is the tumor suppressor *NF2*. Due to the increased risk of repeated surgical management in older adults, there is a need to specifically characterize the genomics of recurrence in this population. Better risk prediction could direct patients towards appropriate post-surgical management with either adjuvant radiation or an appropriately aggressive surveillance routine.

Methods: We identified 137 primary and recurrent Grade II meningiomas and examined the differential distribution of genomic alterations for commonly implicated genes stratified by age (<65 vs. ≥65). For a differentially present mutation (*NF2*), we performed an age-stratified cox-regression to model recurrence.

Results: There were a total of 90 meningiomas from patients younger than 65 (mean age = 58.5) and 47 from patients older than 65 (mean age = 71.8). Alterations in *NF2* were present at a higher rate in older adults compared to younger (37.8% in < 65 vs. 55.3% in ≥ 65; adjusted p-value = 0.041). There was no association between the presence of *NF2* and recurrence in the whole or younger cohort. In the older age-stratum, there is a relationship between NF2 and worsened survival outcomes (HR = 3.64 (1.125 – 11.811); p = 0.031).

Conclusions: We identified *NF2* as a mutation with potential clinical significance in older patients with meningiomas. If further analysis supports the prognostic value of *NF2* alterations in older adults, more aggressive adjuvant treatment or screening may be necessary to prevent and monitor for recurrence for patients with this mutation.

D172 Resident Presentation
Legends of the Repeated Fall; Trauma Recidivism in Older Patients

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Injury is the 7th leading cause of death in people aged 65 and older. Trauma recidivism has been studied in young, urban populations, but less is known about recidivism in older patients. We performed a retrospective review of all trauma patients 65 and older admitted to a single trauma center from 1/1/2010-12/31/2019. Patients were excluded if they died in the hospital or within 30 days of discharge. Patient and injury data from the initial admission of recidivists was compared to data of non-recidivists.

During the study period 4694 trauma patients were admitted. 262 died in the hospital and 149 died within 30 days of discharge leaving 4284 individuals in our study. 422 (10%) were readmitted for subsequent injury (range 2-6 admissions). Recidivists were more likely female, older, and had more comorbidities (table). Falls were the cause of injury for most patients but were more frequent in recidivists. A significant other, discharge home, high mechanism of blunt trauma and penetrating injury were associated with non-recidivism. Injury severity scores, and one year mortality after first admission were similar between groups. 39% of readmissions occurred within a year of the initial injury. Median time to readmission was 17.7 months (IQR 6.8-34.4 months). Falls were the mechanism of injury for ≥95% of subsequent admissions.

Elderly trauma recidivism in our study was high (10%) and likely underestimates recurrent injury rates. Increasing age, female sex, comorbidities and falls were associated with increased risk of recidivism. When these high-risk patients are admitted, increased support for injury prevention is imperative.

	Non-Recidivist n = 3862	Recidivist n = 422	P value
Median Age (IQR)	78 (71-86)	82 (74-87)	< 0.001
Female sex n (%)	2162 (56)	275 (65)	< 0.001
Race	.	.	
White	3785 (98)	412 (97)	
Native American/Alaska Native	38 (1)	9 (2)	0.01
Black	3 (0.1)	0 (0)	
Asian/Native Hawaiian/Pacific Islander	36 (1)	1 (0.2)	
Married/Significant other	1741 (45)	154 (37)	0.001
Rural Home Address	1591 (41)	109 (26)	< 0.001
Alcohol or Drug Positive at Time of Admission	207 (5)	20 (5)	0.59
Charlson Comorbidity Score > 2	1188 (31)	189 (45)	< 0.001
Median Injury Severity Score (IQR)	9 (5-10)	9 (5-10)	0.84
Mechanism of Injury	.	.	0.045
Blunt	3727 (97)	415 (98)	<0.001
Fall	3203 (83)	387 (92)	0.06
MVC	224 (6)	15 (4)	0.004
Other Vehicle	137 (4)	4 (1)	<0.001
High Mechanism of Blunt Injury	684 (18)	33 (8)	0.5
Burn/Frostbite	62 (2)	5 (1)	0.04
Penetrating	73 (2)	2 (0.5)	0.18
Median Hospital Length of Stay (IQR)	4 (2-6)	4 (3-6)	0.18
Discharge Disposition	.	.	.
Home	1518 (39)	123 (29)	<0.001
Nursing Home	1898 (50)	252 (60)	<0.001
Acute Rehab	394 (10)	44 (10)	0.89
Mortality between 30 days and 1 year of first admission	348 (9)	33 (8)	0.41

N = number of individuals; IQR : Interquartile Range

D173 Resident Presentation
Markers of disease severity and in-hospital clinical outcomes of clostridium difficile infection in the very old

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Background: Aging is associated with impaired immune function and increased susceptibility to infections. Clostridium difficile infection (CDI) causes considerable morbidity, mortality, and economic cost. Advanced age, prolonged stay in healthcare facility, and exposure to antibiotics are leading risk factors for CDI.

Methods: We conducted a retrospective cohort study of patients hospitalized in internal medicine ward between 1.1.2016-30.6.2018 due to CDI. Demographic, laboratory, and clinical-outcome parameters were evaluated including duration of hospital stay, admission to intensive care unit (ICU), and in-hospital mortality. We compared patients aged up to 80 years (old) to those of 80 years old or more (very old).

Results: Three hundred patients were admitted due to CDI in the pre-specified time frame. One hundred and four were excluded due to lack of documentation. Of 196 patients included, 126(64.3%) are females, and 112(57%) were very old. The mean age in the very old group was 86 *vs.* 66.95 years in the old. WBCC and NC were significantly higher in the very old (14.86 *vs.* 11.38 p=0.009 and 11.8 *vs.* 9.02 p=0.004, respectively). No difference was found in serum creatinine, albumin, and CRP levels. Duration of hospital stay, and intensive

care unit admissions were significantly reduced in the very old (13.04 vs. 22.32 days p=0.003 and 1.8% vs. 10.7% p=0.01). No difference was found in the frequencies of in-hospital mortality and septic shock.

Conclusions: Very advanced age may be associated with higher leukocyte count but not in other markers of CDI severity. The length of hospital stay seemed to be shorter in the very old with no increase of in-hospital mortality. Larger and prospective observations may be needed to further characterize CDI morbidity in the very old.

D174 Student Presentation

The Association Between Do-Not-Resuscitate (DNR) Status and Hospital Return Rates in Hospitalized Patients 75 and Older

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Background: Patients with a Do-Not-Resuscitate (DNR) order at discharge are more likely to have a higher comorbidity burden and therefore may be more likely to return to the hospital within 30 days.[2] The purpose of this study is to examine the relationship between DNR status and co-morbidity to 30-day returns to the hospital in patients 75 and older.

Methods: This is a retrospective, secondary analysis using a database of patients ≥ 75 admitted to a community hospital from July 2015 to June 2017. Patients who expired were excluded. Patients were divided by DNR and non-DNR status present at discharge. Total 30-day hospital return rates (including emergency department and hospital re-admissions) were determined for each and compared. Chi-square examined the relationship between DNR status and 30-day hospital return rate. Multivariable logistic regression analyses identified significant demographic and clinical characteristics associated with hospital returns.

Results: 2,080 patients (8.9%) were discharged with DNR directives and 21, 205 (91.1%) were discharged without one. There was a statistically significant difference in total 30-day hospital return rates between DNR and non-DNR patients (26.2% vs. 21.1%, p=.000). DNR order at discharge was associated with 30-day hospital readmission (18.5% vs 14.4%, p=.000), but not with 30-day ED return rates (7.7% vs. 6.7%, p= .077). Higher comorbidity was associated with DNR status and 30-day hospital return rates (Charlson index 7.3 vs 6.3, p=.000). A multivariable logistic regression analyses illustrated that age, length of stay (days), Charlson score, dementia, anemia (Hgb <10), and discharge to SNF were also associated with 30-day hospital returns. Thus, the association between 30-day hospital return rates and comorbidity could in part be explained by the association of these other variables with comorbidity.

Conclusion: Our results in patients with DNR directives are similar to previous studies that demonstrated DNR directives are associated with higher comorbidity. However, our results differed as they showed higher hospital return rates amongst DNR patients. [2, 3] Our results also support the fact that discharge to a SNF is associated with DNR status and a higher hospital return rate. [3]

D175 Student Presentation

Engagement with mHealth-CR Varies Widely Among Older Adults

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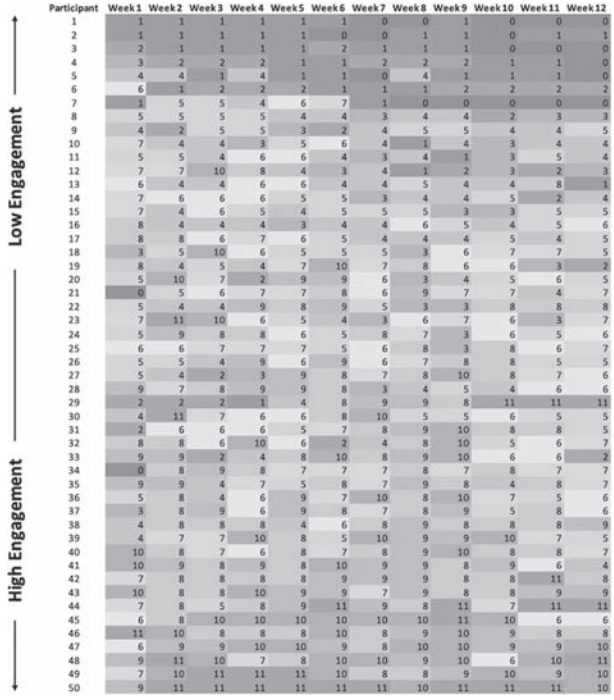
Background: Mobile health cardiac rehabilitation (mHealth-CR) may improve outcomes among older adults with ischemic heart disease, but variable engagement is not yet understood. We therefore analyzed preliminary data from the RESILIENT trial, an ongoing randomized trial of mHealth-CR vs. usual care in patients age ≥ 65.

Methods: Data from the first 50 intervention participants were analyzed. Weekly engagement was scored from 0-11 based on exercise completion, therapist communication, video viewing, and BP self-measurement. Participants were classified as high or low engagement based on median engagement scores. Groups were compared by age, sex, social support (living alone), depression (PHQ-8), and Charlson Comorbidity Index (CCI).

Results: There was widely varying engagement with mHealth-CR that ranged from nearly zero to nearly perfect engagement (Figure). There were no significant differences between high and low engagement groups based on mean age (72.6 vs. 72.8, P=0.8), sex (76% male vs. 80%, P=0.7), living alone (28% vs. 44%, P=0.2), depression (mean 3.9 vs. 4.6, P=0.5), or comorbidity burden (mean 4.4 vs. 4.8, P=0.3), although the sample size was small.

Conclusions: Our early findings show wide variation in mHealth-CR engagement among older adults.



Participant	Week1	Week2	Week3	Week4	Week5	Week6	Week7	Week8	Week9	Week10	Week11	Week12
1	1	1	1	1	1	1	0	0	1	0	0	0
2	1	1	1	1	1	0	0	1	1	0	1	1
3	2	1	1	1	1	2	1	1	1	0	0	0
4	3	2	2	2	1	1	2	2	2	1	1	0
5	4	4	1	4	1	1	0	4	1	1	1	0
6	6	1	2	2	2	1	1	1	2	2	2	2
7	1	5	5	4	6	7	1	0	0	0	0	0
8	5	5	5	5	4	4	3	4	4	2	3	3
9	4	2	5	5	3	2	4	5	5	4	4	5
10	7	4	4	3	5	6	4	1	4	3	4	4
11	5	5	4	6	6	4	3	4	1	3	5	4
12	7	7	10	8	4	3	4	1	2	3	2	3
13	6	4	4	6	6	4	4	5	4	4	8	1
14	7	6	6	6	5	5	3	4	4	5	2	4
15	7	4	6	5	4	5	5	5	3	3	5	5
16	8	4	4	4	3	4	4	6	5	4	5	6
17	8	8	6	7	6	5	4	4	4	5	4	5
18	3	5	10	6	5	5	5	3	6	7	7	5
19	8	4	5	4	7	10	7	8	6	6	3	2
20	5	10	7	2	9	9	6	3	4	5	6	5
21	0	5	6	7	7	8	6	9	7	7	4	7
22	5	4	4	9	8	9	5	3	3	8	8	8
23	7	11	10	6	5	4	3	6	7	6	3	7
24	5	9	8	8	6	5	8	7	3	6	5	6
25	6	6	7	7	7	5	6	8	3	8	6	7
26	5	5	4	9	6	9	6	7	8	8	5	5
27	5	4	2	3	9	8	7	8	10	8	7	6
28	9	7	8	9	9	8	3	4	5	4	6	6
29	2	2	2	1	4	8	9	9	8	11	11	11
30	4	11	7	6	6	8	10	5	5	6	5	5
31	2	6	6	6	5	7	8	9	10	8	8	5
32	8	8	6	10	6	2	4	8	10	5	6	7
33	9	9	2	4	8	10	8	9	10	6	6	2
34	0	8	9	8	7	7	7	8	7	8	7	7
35	9	9	4	7	5	8	7	9	8	4	8	7
36	5	8	4	6	9	7	10	8	10	7	5	6
37	3	8	9	6	9	8	7	8	9	5	8	6
38	4	8	8	8	4	6	8	9	8	8	8	9
39	4	7	7	10	8	5	10	9	9	10	7	5
40	10	8	7	6	8	7	8	9	10	8	8	7
41	10	9	8	9	8	10	9	9	8	9	6	4
42	7	8	8	8	8	9	9	9	8	8	11	8
43	10	8	8	10	9	9	7	9	8	8	9	9
44	7	8	5	8	9	11	9	8	11	7	11	11
45	6	8	10	10	10	10	10	10	11	10	6	6
46	11	10	8	8	8	10	8	9	10	9	8	8
47	6	9	9	10	10	9	8	10	10	9	9	10
48	9	11	10	7	8	10	10	9	10	6	10	11
49	7	10	11	11	11	10	8	8	9	10	9	10
50	9	11	11	11	11	11	11	10	11	11	11	10

D176 Student Presentation

Real World Outcomes of the ASCRS Preoperative Ocular Surface Disease Algorithm in Geriatric Cataract Surgery Patients

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Background: Cataract surgery is one of the most common performed procedures among older patients. However, Ocular Surface Diseases (OSD) can adversely affect pre-operative measurements, visual outcomes, and patient satisfaction after cataract surgery. Current standard of care does not systematically address OSD prior to cataract surgery, thus a novel preoperative algorithm for diagnosing OSD before surgery was published by the ASCRS Cornea Clinical Committee. Our study aimed to identify the real-world application of the algorithm's utility in identifying the prevalence of OSD signs and symptoms in geriatric patients presenting for cataract surgery.

Methods: This was a prospective case series of consecutive patients presenting for cataract surgery evaluation aged 60 and older. Subjects underwent preoperative cataract surgery screening for OSD as outlined by the preoperative algorithm, in which symptoms of OSD were measured with a standardized questionnaire comprised of questions related to frequency and severity of eye irritation and signs

of OSD were measured with tear tests for osmolarity (abnormal: >307 mOsm/L or >7 mOsm/L intereye difference) and MMP-9 levels (> 40ng/mL).

Results: There were 15 patients (73% women), mean age 76.3 years ± 6.5 (SD). Abnormal osmolarity was found in 8 patients (53.3%) and abnormal MMP-9 in 7 patients (46.7%). 10 patients (66.7%) had a questionnaire score suggestive of OSD. By following the algorithm and according to the results of the questionnaire, tear tests, and clinical exam, 12 patients (80%) were determined to have non-visually significant OSD, 2 patients (13.3%) had visually-significant OSD, and 1 patient (6.7%) had OSD ruled out.

Conclusion: These results suggest a high prevalence of ocular surface dysfunction among patients presenting for cataract surgery as measured by tear tests and symptom questionnaire. Since better visual quality and patient satisfaction may be achieved if ocular surface dysfunction is treated before surgery, it is worth considering employing this preoperative OSD algorithm in patients presenting for cataract surgery.

D177 Student Presentation

Trauma Outcomes in Older Adults by Admission Blood Alcohol Concentration: A Prospective Study

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BACKGROUND

The association between alcohol use and outcomes after trauma is well documented in young adults. However, this association is understudied in older adults. This study in older trauma patients describes the injury patterns and trauma outcomes—length of stay (LOS), complications and in-hospital mortality— among those with blood alcohol concentrations above the clinical laboratory diagnostic threshold of 10 mg alcohol/dL blood (BAC+) vs those with BAC below the diagnostic threshold (BAC-).

METHODS

This prospective study recruited adults aged ≥55 admitted to a single level 1 trauma center over 7 weeks. Demographics, BAC and trauma outcomes were extracted from the electronic medical record (EMR). Patients were interviewed during hospitalization using validated instruments including the WHO's Alcohol and Injuries questionnaire to specify mechanisms and injury patterns, as well as the Clinical Frailty Scale (CFS-9). Mann-Whitney U and Fisher's exact tests were used to compare between BAC + and - groups.

RESULTS

101 patients consented to participate (BAC+ N=13, BAC- N=88). The median age of the BAC+ group was younger than the BAC- group (66 [IQR 58-72] and 72 [62.8-80], p=0.049). There were no other significant differences in patient demographics, or frailty. BAC+ patients were more likely than BAC- patients to sustain closed head injuries (38.5% vs 5.7%, p=0.013), intentional injuries by someone else (15.4% vs 1.1%, p=0.043), and injuries while commuting or leisuring (46.2% vs 25.0% and 30.8% vs 18.2%, respectively, p=0.046). LOS, complications, in-hospital mortality, and overall distribution of alcohol misuse (alcohol use disorder, heavy use, or binge drinking) documented in the EMR did not differ between groups; these outcomes were similar when comparing BAC- patients who had (N=48) and had not (N=40) consumed alcohol in the past year.

CONCLUSIONS

While BACs and alcohol use may not impact LOS, complications, or in-hospital mortality in this sample of older trauma patients, distinct differences in injury patterns were observed; BAC+ patients were more likely than BAC- patients to sustain closed head injuries and intentional injuries by someone else.

D178 Student Presentation

Attitudes towards Alcohol Use in Older Trauma Patients: A Prospective Study of Associated Factors by Admission Blood Alcohol Concentration

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BACKGROUND

Various studies have investigated attitudes towards alcohol use in older adults, but few have done so in the older trauma population. This study describes older trauma patients' attitudes towards alcohol use and associated factors including demographics, substance use and mental health among those with blood alcohol concentrations above the clinical laboratory diagnostic threshold of 10 mg alcohol/dL blood (BAC+) vs those with BAC below the diagnostic threshold (BAC-).

METHODS

This prospective study recruited adults aged ≥55 admitted to a single level 1 trauma center over 7 weeks. Demographics and BAC were extracted from the electronic medical record. All other data was collected by interviewing patients during hospitalization using a closed-ended questionnaire and validated instruments including PROMIS measures for Alcohol: Positive/Negative Consequences, Depression, Emotional Support and Perceived Stress. Mann-Whitney U and Fisher's exact tests were used to compare between 1) BAC + and – groups; and 2) between BAC- drinkers (those who consumed alcohol in the past year) and BAC- non-drinkers.

RESULTS

101 patients consented to participate (BAC+ N=13, BAC- N=88); within the BAC- group, 48 were drinkers and 40 were non-drinkers. The median age of the BAC+ group was younger than that of the BAC- group (66 [IQR 58-72] vs 72 [62.8-80], p=0.049). Further, BAC- drinkers had a higher median level of education than BAC- non-drinkers (associate's degree vs "attended college; incomplete," p=0.028). There were no other significant differences in patient demographics when comparing BAC+ to BAC- drinkers, nor between BAC- drinkers to BAC- non-drinkers. There were no significant differences in PROMIS scores for depression, emotional support, stress or positive and negative consequences of alcohol use in all comparisons.

CONCLUSIONS

Older trauma patients' attitudes towards their alcohol use may not have an influence on their BACs. PROMIS scores for depression, emotional support and stress, as well as most patient characteristics, also do not appear to influence BACs and drinking patterns in the past year.

D179 Student Presentation

Refinement of *ED GOAL* for patients with cognitive impairment

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Background: Presentation to the emergency department (ED) is an important opportunity for advance care planning (ACP) conversations. We previously developed a short motivational interview, *ED GOAL*, that prompts patients in the ED to talk to their outpatient clinicians about goals of care. Previous studies of *ED GOAL* excluded patients with cognitive impairment, despite the fact that 42% of older adults in the ED may have cognitive impairment.[1] This study aims to assess the acceptability of *ED GOAL* refined specifically for patients with cognitive impairment.

Methods: Using Stirman's framework for adapting evidence-based interventions, we refined *ED GOAL* for patients living with cognitive impairment. We tested the acceptability of the refined *ED GOAL* for patients who have established diagnoses of mild cognitive impairment (MCI) or dementia, recruited from the behavioral neurology clinic. *ED GOAL*was administered virtually by our trained clinicians via Zoom. Our primary outcome was acceptability measured by how well patients/caregivers felt heard and understood by their clinicians. Secondary outcomes included the 4-item ACP Engagement Survey and qualitative feedback regarding further improvement for the *ED GOAL* script.

Results: Twenty-five subjects were enrolled with a mean age of 79.0 ± 8.6 years and 15 (60%) were female. One (4%) had MCI, 5 (20%) had mild dementia, 18 (72%) had moderate dementia, and 1 (4%) had advanced dementia. All participants reported that they thought the interview respectfully elicited their wishes for future medical care and all felt heard and understood by the study clinician about what they would want for medical care if they were to get sicker.

Conclusion: We found that *ED GOAL* was acceptable to patients with dementia and their caregivers, with all reporting feeling respected, heard, and understood by the interview. A larger, randomized study of *ED GOAL* in the ED is warranted, without the need to exclude patients with cognitive impairment.

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D180 Student Presentation

The Impact of Aging on Intracranial and Cerebral Perfusion Pressures in Patients with Cerebrospinal Fluid Disorders

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BACKGROUND: Intracranial pressure (ICP) monitoring is a routine but life-saving diagnostic test performed in patients with suspected intracranial pathologies. Sudden ICP elevations and corresponding cerebral perfusion pressure (CPP) reductions are often observed in these patients, causing cerebral ischemia, brain herniation, and even death[1,2]. However, the influence of aging on ICP and CPP in patients with cerebrospinal fluid (CSF) disorders is poorly understood and may explain for the poorer treatment outcomes and higher mortality rates observed in older adults. The chief objective of this study was to determine if and how aging affects ICP and CPP in patients with pseudotumor cerebri, CSF leaks, and Chiari malformations.

METHODS: ICP monitoring data collected from patients evaluated and treated at The Johns Hopkins University Department of Neurosurgery between March 2017 and May 2021 were retrospectively reviewed. Both the young (18 – 35 y/o) and older adult (55 – 71 y/o) groups were composed of 18 individuals with the above-mentioned CSF disorders. Statistical analyses were performed using IBM SPSS.

RESULTS: During positional testing, older adults exhibited significantly greater CPPs than their younger counterparts. Mean ICP was also significantly lower in older adults at the 45° head-of-bed (HOB) angle, and greater ICP reductions were evident throughout positional testing, though not to a statistically significant extent.

CONCLUSIONS: Our findings suggest older adults with CSF disorders experience markedly higher ICPs and lower CPPs and may even exhibit greater ICP reductions when HOB angles are increased. Accounting for these aging-associated changes may help optimize care of older adults with CSF disorders.

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D181 Student Presentation

Alcohol Use Disorder is Associated with Increased Post-Discharge Emergency Department Use in Older Trauma Patients

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Background: Alcohol use disorder (AUD) is associated with increased hospital complications and injury recidivism in trauma patients, but is less well-studied in older cohorts. As older adults constitute a growing proportion of trauma hospitalizations, there is a need to define this association and its clinical impact. The objective of this study was to compare patient characteristics, in-hospital, and post-discharge outcomes between older trauma patients with alcohol use disorder and those without.

Methods: A retrospective cohort study was conducted using data from a trauma registry linked to a state death registry and an emergency department (ED) usage database. Patient, injury, and outcomes data up to 1-year post-discharge were collected for all patients 55 years or older admitted for trauma to a level I trauma center between January 2016 and December 2019. Multivariable logistic regression models were constructed to assess the association of AUD with post-discharge ED use and mortality.

Results: Of 5,958 hospitalized older trauma patients, 617 (10.4%) had AUD as identified by the trauma registry. AUD disproportionately affected patients of male sex (13.3% vs. 6.3%, $P < 0.001$), of Hispanic ethnicity (14.9% vs. 10.2%, $P = 0.018$), of Native American race (35.4% vs. 10.4% [White], $P < 0.001$), and insured by Medicaid (20.0% vs. 7.7% [non-Medicaid], $P < 0.001$). AUD patients had longer hospital lengths of stay (median 8 days [IQR 3.5–17] vs. 6 days [3–10], $P < 0.001$) and were more likely to experience a hospital complication (44% vs. 25%, $P < 0.001$) compared to non-AUD. After adjustment, those with AUD had increased odds of ED use within 1-year post-discharge (OR = 1.46 [95% CI 1.20–1.78], $P < 0.001$). However, AUD was not associated with increased in-hospital mortality or 1-year mortality.

Conclusions: Significant disparities exist in the prevalence of AUD among hospitalized older trauma patients. AUD is associated with longer, more complicated hospitalization and post-discharge ED use. Given the increasing prevalence of alcohol use disorder in older adults, targeted interventions could focus on AUD, as well as the recidivism associated with AUD.

D182 Student Presentation

Rehospitalization Rates Among Geriatric PACE Patients Diagnosed with Heart Failure

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Background: The Program of All-Inclusive Care for the Elderly (PACE) is a capitated health program aimed at coordinating and providing medical, social, and healthcare to individuals who qualify for Medicare, Medicaid, and are at high risk for hospitalization and rehospitalization. Heart failure (HF) is a common condition associated with health care utilization. The objective of this study was to analyze hospitalization rates among PACE patients with HF compared to those without HF.

Methods: We retrospectively analyzed data from 75 hospitalized PACE patients from January 2019 to December 2020. Data included rate of rehospitalization, patient demographics (age, sex, race), heart

failure diagnosis, risk score based on hierarchical condition category (HCC), living arrangements, length of stay (LOS), code status, and reason for hospitalization.

Results: Of the 75 hospitalized PACE patients during the study period, the average age of those who survived past December 2020 was 76.36 years (SD= 11.1), 73.3% was female, 67.8% identified themselves as Black/African American, and the average risk score was 2.78 (range: 0.685-7.922). The average hospital LOS was 4.88 days (SD=3.85). HF was present in 42.7% of the population and the rate of any rehospitalizations during the study period was 56.3%. Compared to those without a HF diagnosis, rehospitalization for HF patients within 30 days (34.4 % vs 23.3%), within 60 days (50.0% vs 25.6%), and within the study time frame (59.4% vs 48.8%).

Conclusions: Heart failure and its associated symptoms were one of the most common reasons for readmission among the hospitalized population of frail older adults (enrolled in PACE). PACE providers and all programs caring for older adults should appropriately align services to minimize the risk of readmission in order to potentially improve health outcomes and decrease the frequency of rehospitalizations.

D183 Student Presentation

Geriatric Patients with Periorbital Trauma Have a Higher Probability of Death in Five Year Follow Up

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Background

Ocular trauma is a leading cause of vision loss and visual disability. The etiology of ocular trauma differs depending on age groups. Falls are a major cause of ocular trauma in the geriatric population. For a fall to lead to an ocular injury, there must be a breakdown of protective maneuvers that would shield the face from injury. We suspect this may be a barometer for systemic or neurologic mechanisms. Therefore, the aim of this investigation is to evaluate the 5-year mortality of geriatric patients who sustained periorbital eye injuries.

Methods

This is a retrospective case-control study using data from the I2B2 Carolina Data Warehouse. The study population includes 600 patients over the age of 65 who have sustained ocular trauma and have presented at UNC hospitals from April 2011 to June 2016. The control population includes 1066 patients of similar age who had cataract surgery and no ocular trauma.

Results

In the study group, 74 patients had ocular trauma and died within 5 years. In the control group, 69 patients had cataract surgery and died within 5 years. The study group's mortality rate was 74/600 or 12.33% and the control group's mortality rate was 69/1066 or 6.47%. Mortality rates at 1, 2, 3, 4, and 5-year intervals for patients with trauma were 5.17%, 2.64%, 1.99%, 2.58%, and .57% respectively. Mortality rates at 1, 2, 3, 4, and 5-year intervals for the patients in the control group were 1.03%, 1.7%, 1.64%, 0.88%, and 1.38%.

Conclusion

Geriatric patients who have sustained periorbital trauma are more likely to have died within five years compared to age-matched controls without periorbital trauma. There is also a noticeable one-year spike in mortality rate in the study group. These data are important for focusing on etiologies of geriatric periorbital trauma, and warrant close patient follow up.

D184 Student Presentation

Racial disparities in manipulation under anesthesia rates following total knee arthroplasty for older adults

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Background*:* As the population ages and becomes more diverse, it is crucial to investigate racial disparities in total joint arthroplasty (TJA) care for older adults. Despite national efforts, previously identified disparities have persisted. The aim of this study is two-fold: 1) to determine the relationship between race and rate of manipulation under anesthesia (MUA) as well as time to MUA following total knee arthroplasty (TKA), and 2) to investigate trends in racial disparities in MUA from 2013 to 2018.

Methods: In this retrospective study, the Medicare Claims Limited Data Set was queried to capture 836,054 patients ages 66 to 98 undergoing primary TKA from 2013 to 2018. Patient demographic data including race, age, sex, Deyo-Charlson comorbidity index, and obesity were collected. The primary outcome of interest was MUA within one year of TKA. Time from TKA to MUA in days was also recorded. A mixed-effects multivariable model measured the association between race and odds of MUA. We report odds ratios (OR) and 95% confidence intervals (CI). A Cochran Armitage Trend test was conducted to assess MUA trends over time, stratified by race.

Results: Overall, 1.8% (n=14,808) of included TKAs involved an MUA within one year. This percentage was 1.7%, 3.2% and 2.1% for patients of White, Black and Other race, respectively ($p<0.001$). After adjustment for covariates, specifically Black (versus White) patients had increased odds of requiring an MUA: OR 2.02, 95% CI 1.90-2.15, $p<0.0001$. Moreover, there were significant racial differences in timing between TKA and MUA: 60 days (interquartile range 47-96), 64 days (interquartile range 47-90) and 65 days (interquartile range 46-88), for White, Black and Other race patients, respectively ($p<0.0001$). These disparities persisted from 2013 through 2018 with no worsening or improvement in race-specific MUA rates ($p>0.05$ for White, Black, and Other race-specific MUA trends).

Conclusion: Racial disparities among older adults are present and persistent in MUA rates following TKA. Additionally, Black and Other race patients experienced longer times from TKA to MUA. This study reveals the continued need for arthroplasty surgeons to not only be cognizant of racial disparities when caring for older adults, but also to impart efforts aimed towards eliminating inequalities that exist and persist in TJA care.

D185 Student Presentation

The Role of Frailty on Surgical Outcomes following Pelvic Organ Prolapse Surgery in Medicare Beneficiaries

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Background: Nearly 40% of women ages 60 to 79 years are affected by pelvic floor disorders, including pelvic organ prolapse (POP).[1] Rates of POP surgery are expected to increase by 47% by 2050 – more surgical procedures will likely be done on older women who are also frail.[1] This study evaluated the association of frailty with surgical outcomes following POP surgery in Medicare beneficiaries.

Methods: This is a retrospective cohort study of female Medicare beneficiaries ≥ 65 years of age undergoing POP surgery between 2014 and 2016. Outcomes included hospital length-of-stay (LOS) ≥ 3 days, 30-day post-operative complications (excluding urinary tract infections (UTI)), and 30-day UTI. Frailty was quantified using the validated Claims-Based Frailty Index (CFI) and categorized into not frail (CFI<0.15), pre-frail (0.15≤CFI<0.25), mildly frail (0.25≤CFI<0.35),

and moderately to severely frail (0.35≤CFI≤1). Generalized estimating equations were used to assess the effects of frailty on each outcome of interest.

Results: Among 107,890 women in this study cohort (mean age, 73.3±6 years), 91.3% were White, and 4.3% were classified frail. Women with an increased CFI who were moderately to severely frail experienced a 7-fold increase in rates of hospital LOS ≥ 3 days and 30-day complications (excluding UTI) and a 3-fold increase in rates of 30-day UTI when compared to women who were not frail (all p values <0.001). Women who were moderately to severely frail demonstrated an increased adjusted relative risk (aRR) of hospital LOS ≥ 3 days [aRR 3.1 (95% CI 2.5-3.8, p<0.001)], 30-day complications [aRR 2.8 (95% CI 2.2-3.6, p<0.001)], and 30-day UTIs [aRR 2.5 (95% CI 2.2-3.0, p<0.001)] compared to women who were not frail.

Conclusions: Among Medicare beneficiaries undergoing POP surgery in the United States, frailty is strongly associated with increased risk of prolonged hospital stay and 30-day complications. Frailty should be considered in the preoperative assessment for POP surgeries to improve patient outcomes.

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D186 Student Presentation

Subjectively reported fatigue is associated with validated objective report from Fatigue Severity Scale (FSS)

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Fatigue is a concern in older patients requiring improvement of physical functioning, specifically in those suffering from frailty. Although fatigue is common in many chronic conditions, it is difficult to measure particularly in a busy geriatric outpatient clinic. It is unclear if clinicians can use subjectively reported fatigue to identify at risk patients needing improved physical functioning; and how the subjective assessment compares to the one determined by a validated tool. The objective was to determine if subjective patient-reported fatigue reflects fatigue as assessed by a validated "fatigue" tool.

A cross-sectional study using a retrospective chart review and a survey was conducted on patients seen in a Geriatric Clinic between January 2019 to December 2020. Patients were contacted and asked to complete the FRAIL Scale and Fatigue Severity Scale (FSS) questionnaires over the phone. The FRAIL Scale, a commonly used five-question tool for frailty assessment has a question that asks patients to subjectively report if they are fatigued (yes/no). The FSS is a nine-question validated tool for assessing fatigue objectively, each item scored on a scale from 1-7. For this study, we divided the FSS questionnaire into physical and psychological components depending on whether the focus of the question was on physical or psychological aspects of daily life. An overall mean score of ≥4 for the relevant 5 questions for physical and 4 questions for psychological categories in the FSS were considered "yes" for fatigue. Chi-square was used to determine associations between subjectively reported fatigue (yes/no) and objectively reported fatigue in both physical and psychological categories.

Mean age for 55 patients (6 men and 49 women) was 77 (± 8) years. About 78% of the participants had hypertension, 21% had diabetes, 46% had depression and 47% had backpain. Frail scale identified 19 (35%) as fatigued while psychological and physical components of FSS both identified 16 (29%) as fatigued. About 63% (12/19) of those identified as fatigued by the Frail scale were also identified as such by the both components of the FSS. Frail scale fatigue was significantly associated with FSS measures (p <0.001)

Our results indicate that patients reporting fatigue in FRAIL Scale would very likely be fatigued when assessed by either component of the FSS.

D187 Student Presentation

Room for improvement: Age Friendly 4 M Assessments in VA Specialty Surgical Clinics

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Background: With an aging population, geriatric specific clinical issues are increasingly germane to surgical practice. The Age Friendly Health System's 4M's delineate important domains that should be included in outpatient assessments to adequately address geriatric patients. We hypothesized that prior to instituting the 4M framework, these domains would be captured in a minority of Urologic and Vascular outpatient visits.

Methods: A survey was developed and piloted using key informant interviews assessing the 4M domains including: Mobility and Falls, Medication Safety, Mood and Memory, and What Matters. Surveys were self-administered by Veterans at a single Veterans Affairs (VA) medical center after outpatient Urology and Vascular Surgery Clinics. Surveys assessed if each domain was addressed, who initiated the discussion, and satisfaction with the discussion of the domain on a Likert scale.

Results: Overall, 100 surveys were completed (Vascular 65%, Urology 35%). Average age was 73.4 ± 6.9 years. Most frequently, What Matters was assessed in 60% of visits and more commonly in vascular visits (69% vs. 40%, p=0.03). What Matters was most frequently addressed in the context of treatment and medication discussions (53%). Mobility and Fall discussions were recalled in 44% of visits and were more frequent in vascular surgery (52% vs. 29%, p=0.04). Participants noted Medication Safety discussions in 34% of visits and Mood and Memory in 22% of visits. Perceived importance was highest for Mobility and Falls (85%), followed by Medication Safety (83%) which was higher among Urology patients (94% vs. 77%, p=0.04), What Matters (80%), and lastly Mood and Memory (58%). Physicians mostly initiated 4M discussions: Mobility and Falls (76%), Medication Safety (73%), Mood and Memory (83%), What Matters(84%). Patients reported satisfaction with 4M evaluations even if discussions weren't directly recalled. Satisfaction was highest for What Matters(92%) followed by Medication Safety(85%) Mobility and Falls(70%) and Memory and Mood.

Conclusions: Despite being perceived as important to Veterans, 4M assessment is not routine in Urology and Vascular Surgery VA-based clinics. These findings encourage routine evaluation of the 4M's and future study to streamline incorporation into surgical clinic workflow.

D188 Student Presentation

Capacity to Consent for Randomized Controlled Trials Recruiting Older Adults in the Emergency Department: A Scoping Review

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Background: Conducting Emergency Department (ED) research is complicated by patients' acute and chronic illnesses which often affect cognition and capacity to consent to research. Although validated screening tools exist to assess capacity to consent for research, it is unclear how frequently capacity is assessed during ED research and whether this impacts study enrollment.

Methods: Standard scoping review techniques were used. Inclusion criteria were 1) Randomized Controlled Trials (RCTs) from publication years 2014-2019 which 2) enrolled participants only in the ED, 3) included patients aged 65+, and 4) were fully published in English. Articles were sourced from Embase and screened using Covidence.

Results: From the 3130 initial results, 269 RCTs passed title/abstract and full text screening. Among these 269 trials, 13 (4.8%) waived consent and 95.2% (n=256) required informed consent. Of the 256 requiring consent, only a fourth (26.5%, n=68) specifically excluded patients due to impaired capacity to consent. Formal capacity screening tools (4.3%, n=11) and consent by a legally authorized representative (4.7%, n=12) were rarely used. Specifying lack of capacity to consent as an exclusion criterion led to a 43.8% increase in exclusion of screened participants (studies specifically excluding patients with impaired consent capacity excluded 62.4% of screened patients, whereas those not doing so excluded 43.4% ($p<0.001$)).

Discussion: Formally assessing capacity to consent or using legally authorized representatives in ED research is rare. Most RCTs enrolling older adults in EDs do not address capacity to consent.

Table 1: Screening tools used during the consent process in randomized controlled trials from 2014-2019 recruiting older adults in the ED. Abbreviations: LAR, legally authorized representative; ED, Emergency Department.

Screening tool name	Number of studies	Description of tool and considerations for use
MMSE (Mini-Mental State Exam)	4	Tests orientation, attention, memory, language, and visual-spatial skills. Now requires license to use.
Abbreviated MMSE	1	Not described.
Six Item Screener	3	Tool designed to identify cognitive impairment among potential research subjects. Asks about year, month, day, and 5 minute recall (Apple, Table, Penny) for a total of 6 pts possible. Score <4 is likely impairment.
General Practitioner Assessment of Cognition (GPCOG)	1	Tests date, clock draw, 5 min recall, and asks the person to relay a recent event in the news. 9 points total.
Three Step Command Test	1	Asks the patient to do a 3 step command that crosses the midline. Considered a neurological test rather than a cognitive test.
Decision-making Capacity and Comprehension Assessment based on the Aid to Capacity Evaluation	1	A semi-structured clinical interview designed to assess the four elements of capacity when a patient is facing a medical decision. Instructions and training materials are available online.

D189 Resident Presentation

Magnetoencephalography Signatures of Pain in Older Adults-Preliminary Analysis from Dallas Hearts and Minds Study

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Background: Aging is associated with decreased pain tolerance, but the neural mechanisms of age-related alterations are not clear. Magnetoencephalography (MEG) provides a direct measurement of neuronal oscillatory activity (brain waves) with unparalleled spatial and temporal resolution. The somatosensory cortex in the parietal lobe has been shown to have increased gamma oscillations in response to nociceptive stimuli. We sought to characterize resting state parietal lobe oscillations in older adults with moderate to severe pain in a community-based sample.

Methods: Nine older adults with self-reported pain intensity ≥4 and 10 (age, sex, race, depression matched) pain-free controls completed six minutes of resting-state MEG. MEG data underwent standard preprocessing and was source localized to the subject's T1-weighted brain MRI. Relative mean power of delta, theta, alpha, beta, gamma1, and gamma2 bands was computed in the parietal lobe.

Results: Among those with pain, mean age was 63 years, 78% female, 56% White, 44% Black. The pain-free control subjects had a mean age of 61 years, 80% female, 50% White, 50% Black. We found decreased alpha power, increased delta and gamma2 power in subjects with pain compared to pain-free controls. After adjusting for systolic blood pressure and A1C, the interaction between age and pain was significantly associated with mean delta and gamma2 power (table 1).

Conclusion: We found increased parietal lobe gamma2 and delta oscillations with aging among those with moderate to severe pain. This is the first study to use MEG to identify unique areas of resting state oscillations associated with pain in a diverse community-based population. These results will be confirmed in a larger cohort and the analysis expanded to include additional regions and variables that will help elucidate the neural pathways underlying the complexity of pain with aging.

table1

	Alpha		Delta		Gamma	
	β	p value	β	p value	β	p value
pain vs no pain	0.1740	0.4044	-0.2050	0.0595	-0.0204	0.0780
Age	0.0038	0.4415	-0.0039	0.0934	-0.0002	0.9170
systolic blood pressure	-0.0002	0.9101	0.0011	0.1135	0.00001	0.8399
A1C	0.0036	0.9142	-0.0086	0.6073	0.0010	0.5780
Age * pain	-0.0045	0.1900	0.0044	0.0166	0.0004	0.0296

D190 Resident Presentation

Pre-morbid Frailty and Withdrawal of Treatment within 24 hours in Critically-ill Older Adults Triaged to a Tertiary-care Emergency Department

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Background:

Frailty scores higher on the Clinical frailty scale (CFS) are associated with increased functional decline and mortality. There are older adults who would rather receive palliative than intensive care if their functional capacity and QOL were compromised. Therefore, careful goals-of-care conversation is vital in frail older adults who are critically-ill if there is no advance care planning before arrival to the emergency department. We considered that pre-morbid CFS scores could be a potent factor to prioritize such conversations if higher scores were associated with increased withdrawal of treatment in these patients. The purpose of this study was to investigate the association between pre-morbid frailty and withdrawal of treatment within 24 hours in older adults triaged to a tertiary-care emergency department.

Methods:

This is a retrospective observational study on older adults aged over 65 who were triaged to a tertiary-care emergency department with subsequent admissions for further treatment, from 1st February to September 30th, 2021. We excluded out-of-hospital cardiac arrests and suspected acute stroke or acute coronary syndrome cases. Frailty was evaluated using the CFS from the patients' charts. The primary outcome was withdrawal of treatment within 24 hours. We examined the association between CFS and withdrawal of treatment within 24 hours using a multivariable logistic regression model with CFS 1-4 as a reference.

Results:

During this study period, 593 patients were triaged to our emergency department. After exclusion, a total of 222 patients, median age; 79.6 years (IQR 72 to 87), were included in the study. Of these, 39 patients (17.6%) withdrew intensive care within 24 hours. The adjusted odds ratios were 1.23 for CFS 5 (95% CI 0.31 to 4.82, P = 0.76), 1.94 for CFS 6 (95% CI 0.54 to 4.82, P = 0.31) and 5.24 for CFS 7-9 (95% CI 1.82 to 15.04, P = 0.002).

Conclusions:

Higher CFS in critically-ill older adults were associated with a higher likelihood of withdrawal within 24 hours. Goals-of-care conversation could be held proactively when CFS scores are high to reduce unwanted medical intervention.

D191 Student Presentation

Behavioral change and retention in online interventions for caregivers in dementia

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Background Online interventions aimed at supporting informal caregivers (ICG) of persons with dementia (PLWD) have the potential to improve their psychological health, but to date, few interventions are widely implemented for this population. To better understand this implementation gap we reviewed the literature to map behavior change techniques (BCTs), theories, and agents deployed in the studies. We also explored relationships between these features and retention rates across the studies.

Objectives Our objectives were: 1) to summarize the integration of behavior change theories, agents, and BCTs in online interventions for the ICG of PLWD; 2) to describe the relationships between the participants' characteristics such as age, gender, relationship to the care recipient, behavior change theories, agents, and BCTs and the study retention.

Methods We conducted a literature review in PubMed, Embase, and PsycINFO, regarding the concepts as follows: dementia, caregivers, online or web-based intervention. The time limits were January 1998 to February 2021. Utilizing BCTv1 taxonomy, two coders collected, summarized, and analyzed the frequency distributions of the BCTs. Similarly, they abstracted and analyzed the study participants characteristics, behavior change theories, behavior change agents (BCA), and retention rates

Results The average age, the proportion of spousal ICGs, and retention rates were 62.3 (SD 7.4), 50.6% (SD 24.0%), and 74.6% (11%) respectively. Only 52% of the studies utilized behavior change theory, but 88% included BCA. The most common BCTv1 clusters were "shaping knowledge" and "social support." The median number of "BCTv1 clusters" was 5 (IQR 3). We observed a negative correlation between the proportion of spousal ICGs and the retention rate (r=-0.5, p=0.03) and between the number BCTv1 clusters and retention rates (r=-0.5, p=0.01). None of the other participant characteristics or behavioral factors were associated with retention rates.

Conclusion We found that almost half of the studies were not informed by behavior change theories. We also found that spousal involvement and a higher number of BCTs were each associated with lower retention rates. In planning future studies researchers should consider matching participants' characteristics with their intended intervention as the alignment might improve their retention rates.

D192 Student Presentation, Encore Presentation

Environmental Stressors and Biological Markers of Post-Hospital Syndrome: A Feasibility Study

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Background: Post-hospital Syndrome (PHS) in older adults is characterized by a transient increase in vulnerability to adverse outcomes after hospitalization. We hypothesize that PHS is due to multisystem dysfunction induced by hospital-associated environmental stressors (e.g., sleep disruption, poor nutrition, mobility restrictions). We compared self-reported and biological measures of stress in patients admitted to Hospital-at-Home (HaH) vs inpatient hospitalization (Mobile Acute Care for the Elderly/MACE) for acute care to quantify hospital-induced stress exposure and multisystem dysfunction.

Methods: Participants in HaH and MACE groups were nonrandomized but selected using the same clinical criteria. Participants engaged in in-person research visits on Hospital Day [HD] 1 and 3 to evaluate physical function and hospital-associated environmental stressors, and provide urine and blood samples for clinical laboratory measures of stress.

Results: Twenty participants (10 in HaH, 10 in MACE) >60 years of age, with similar frailty status, were enrolled and included in analysis. Participants of MACE, compared to HaH, reported higher sleep disturbance (X^2, p=0.034), greater changes in nutritional intake (X^2, p=0.025), and a greater reduction in mobility and transfer (AM-PAC) score (t-test, p=0.012) between HD1 and 3. Serum prealbumin on HD3 (18.29±6.85 mg/dL) positively correlated with meal intake relative to baseline (Pearson's r=0.678, p=0.031) and AM-PAC score on HD3 (r=0.644, p=0.045). Participant adherence to research interview and biological sample collection exceeded feasibility cutoff of ≥80% for HD1 or 3 visit.

Conclusions: HaH intervention reduces hospital-associated environmental stressors during acute care in older adults. Serum prealbumin may be a correlate of nutritional intake and biomarker of ambulatory and transfer ability during hospitalization. The successful implementation of this study demonstrates the feasibility of a definitive trial to quantify hospital-induced stress and its effects on multisystem dysfunctions in older adults at risk for PHS.

D193 Resident Presentation

Insulin regimen complexity for older adults who receive primary care in an internal medicine clinic

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Background: Type 2 diabetes is a common condition in older adults that has numerous treatment modalities available, including insulins. This study will explore treatment intensity and insulin regimen complexity in adults at least 65 years of age with type 2 diabetes. The aims of the study are to evaluate the patient-centered A1C goal attainment as established by the primary care provider (PCP), and to determine if patient A1C values are related to insulin regimen complexity.

Methods: This will be a single-center, retrospective study conducted at an academic medical center of all patients 65 and older with a diagnosis of type 2 diabetes who received primary care in an internal medicine resident teaching clinic from July 1, 2020, to June 30, 2021. Patient electronic medical records will undergo manual review. The following data will be collected from the electronic medical record: baseline demographics, A1C values. and insulin regimen details. Insulin regimen complexity will be quantified using the MRCI. Results will be analyzed using SAS 9.3. Any comparisons will be analyzed using Chi-Square or T-tests. The protocol has been approved by the institutions' IRB.

Results: Research is ongoing, however, 238 unique patient charts have been reviewed for inclusion criteria with 93 being included in further review. A total of 44 patients were excluded due to not having 2 separate encounters during the specified time frame and 101 were excluded due to not having active insulin orders.

D194 Student Presentation

Effect of Deprescribing on Caregiver Burden among Older Adults with Cognitive Impairment

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Background: Medication management and deprescribing in older adults are important for preventing polypharmacy and associated adverse health outcomes. For older adults with dementia, optimizing medications frequently involves a caregiver. Caregivers of patients with cognitive impairment are known to have worse health outcomes compared to caregivers of patients without cognitive impairment; however, little is known how deprescribing among older adults with cognitive impairment impacts caregiver burden. The aim of this systematic literature review is to explore the impacts of deprescribing in older adults with dementia on caregiver burden.

Methods: Using a systematic review approach, a comprehensive search of publications in PubMed/MEDLINE, Scopus, CINAHL, PsycINFO, and Google Scholar was conducted through September 23, 2021 for studies reporting the impact of deprescribing in older adults with cognitive impairment on caregiver burden. Controlled vocabularies (MeSH terms) and keywords were searched, with no restrictions on geography or age of participants.

Results: Among 644 studies matching the search criteria, 42 full-text studies were assessed for eligibility, with 2 studies included. The first study was a qualitative analysis of carers and family members' perspectives and experiences with deprescribing in patients living with advanced dementia (n=112). The study focused on the experience of caregivers/family upon discontinuation of a patient's anti-dementia medications and found both positive and negative effects of deprescribing, underscoring the importance of individualizing care. The second study was a pre/post trial looking at reducing anticholinergic burden (AB) and how it affects behavioral and psychological symptoms of dementia (BPSD) and the consequences for caregivers (n=125). Upon reducing AB by 20%, patients experienced reduced BPSD ($p=0.002$) along with a decrease in occupational disruptiveness ($p<0.0001$).

Conclusions: The current literature is limited regarding how deprescribing medications in older adults with cognitive impairment impacts caregiver burden. Much of the current evidence focuses on patient outcomes only, without assessing caregiver outcomes. Further evidence on caregiver burden from deprescribing in cognitively impaired older adults is warranted as caregivers play an important role in medication management.

D195 Student Presentation

How Frequently Do People with Late-Stage Dementia Experience Hospital and Residential Transitions?

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Background: Hospital transfers are common for patients with late-stage dementia, yet little is known about other transfers, such as transitions in residence. Our study had two aims: 1) to describe the frequency and types of transitions experienced by older adults with late-stage dementia, and 2) to describe the frequency of outpatient care and specialty geriatric and palliative care services utilization.

Methods: We conducted a retrospective chart review for 50 patients with late-stage dementia, defined with a Global Deterioration Score (GDS) score of 5-7, who were admitted to the University of North Carolina (UNC) Hospital who also had an identified caregiver. We collected data on hospital, emergency room, and residential transitions using two look-back periods of 60 days and 6 months prior to hospital admission. We also collected data on patient and caregiver demographics, outpatient visits, and the use of specialized geriatrics care, palliative care, and hospice care.

Results: The average number of hospital transfers per patient was 0.60 (SD: 0.99) within 60-days of hospital admission and 1.06 (SD: 1.36) within 6-months of hospital admission. For transitions in place of residency, the average was 0.08 (SD: 0.27) within 60-days and 0.14 (SD: 0.35) within 6 months. Outpatient medical providers contacted patients in the cohort 1.6 (SD: 2.23) within 60-days and 3.02 (SD: 3.47) within 6-months. Comparatively, these providers addressed dementia or Alzheimer's disease as a problem less than half of these encounters -- 0.52 (SD: 1.13) times within 60-days prior to hospital admission and 0.78 (SD: 1.46) within 6-months. Few patients accessed specialty geriatrics (20%), palliative care (10%) or hospice (8%) prior to hospitalization.

Conclusion: Patients with late-stage dementia experience frequent hospital and residential transitions, yet outpatient services explicitly addressing dementia reach only a minority of patients. Treatment approaches appear reactionary in response to acute illness rather than preventive and focused on dementia. Proactive discussions about patients' dementia progression and enhanced access to specialty geriatrics and palliative care may help to support patients with late-stage dementia and their caregivers, and reduce hospital transfers.

D196 Resident Presentation

Considerations in polypharmacy and high-risk medications contributing to inpatient falls in geriatric patients

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Background: Inpatient falls lead to an increased length of stay, higher healthcare costs, and worse patient outcomes. Many medication-related factors can increase fall-risk: sedation, dizziness, confusion, orthostasis, bradycardia, hypoglycemia, and arthralgia. The Beers Criteria identify potentially inappropriate medications, but a comprehensive chart review is necessary to identify all medications which may be considered high-risk in certain situations. The objective of this study is to evaluate medications contributing to falls in hospitalized older adults

Methods: This was a retrospective chart review of patients in an academic medical from January through December 2020. Patients over age 65 who sustained falls while inpatient were included. A clinical pharmacist reviewed patient charts for medications given prior to the fall. Medications were reviewed for: 1) high-risk cocktails, 2) high-risk medications dosing and frequency, 3) contribution to hypotension, bradycardia, and hypoglycemia.

Results: There were 37 falls with 97% of patients were taking 1 or more high-risk medications, and 46% were taking 5 or more. Of the 17 patients taking pain medications, 47% received an opioid in combination with other sedating medications. Gabapentin was renally dosed, but there was reduced tolerability due to frailty. Methocarbamol was scheduled, rather than PRN, in 75% of patients. Anticholinergic medications were used sparingly, with 3 patients receiving diphenhydramine for sleep, 2 receiving scopolamine as an antiemetic, and 1 receiving hydroxyzine for anxiety. Of the 24 patients receiving blood-pressure lowering therapy, 12% of patients were given multiple medications contributing to hypotension or drastic drops in blood pressure. There were no hypoglycemic events caused by excessive insulin use in relation to the timing of the falls.

Conclusion: Many inpatient falls in older adults may be attributed to polypharmacy. Polypharmacy increases falls; however, a single medication is enough to increase fall-risk. Recognizing contributing medications and implementing a plan for more careful prescribing in older adults may help reduce the number of medication-related falls.

D197 Student Presentation

Prevalence and Risk Factors for Motoric Cognitive Risk Syndrome in Middle-Aged and Older Adults: Evidence from the ELSI-Brazil

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Background: Although Motoric Cognitive Risk (MCR) syndrome is a quick and easy-to-use tool to detect independent people at risk of developing dementia and other poor outcomes, we have scarce information on this syndrome in low-and-middle-income countries (LMICs). We estimated the prevalence and risk factors associated with MCR, examining differences between middle-aged (50-64 years) and older (≥65 years) people living in Brazil.

Methods: Cross-sectional study comprising participants without disability of the ELSI-Brazil, a nationally representative sample of Brazilians aged ≥50 years. MCR was defined as memory complaints associated with slow gait speed. Possible risk factors included lifestyle, chronic diseases and age-related conditions.

Results: We evaluated 7,131 participants (mean age = 62 years; 53% women). The prevalence of MCR was 6.8% (50-64 years=6.5% and ≥65 years=7.3%). After adjusting for sociodemographics, different factors were associated with MCR in middle-aged and older people (Figure 1).

Conclusions: MCR is prevalent in middle-aged and older people from Brazil. Interventions for potentially modifiable risk factors related to MCR (e.g., depression, sensory deficits, and lifestyle) might prevent adverse outcomes such as dementia in LMICs.

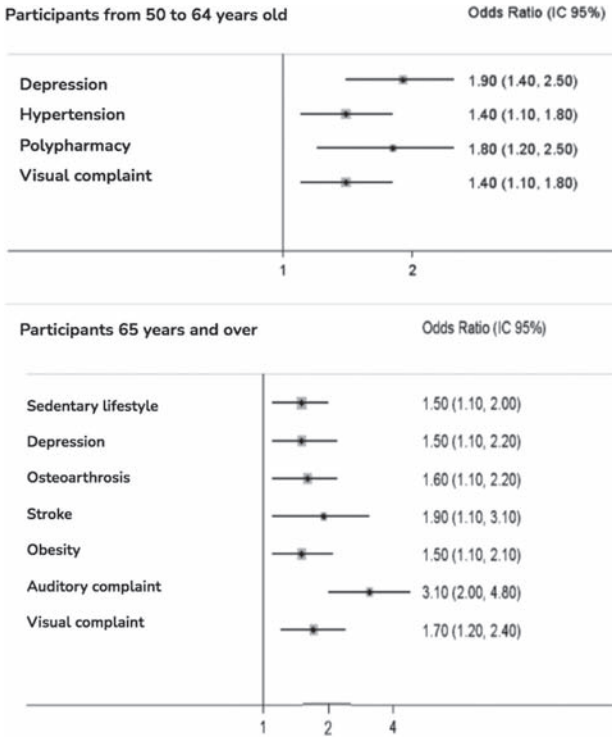

Figure 1. Risk factors related to MCR according to age group

D198 Student Presentation

Attitudes Related to Frailty Assessment and Use of Point of Care Ultrasound

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Background

Frailty is a geriatric syndrome characterized by a loss of biological reserve and increased vulnerability to physiological stressors. The inability to identify pathophysiological changes in frailty has slowed the translation of research into clinical practice. Point-of-care ultrasound (POCUS) may facilitate bedside identification of changes in muscle architecture in patients with frailty. We investigated how medical staff define and measure frailty and assessed their familiarity with and opinions on the viability of using POCUS for objective frailty measurement.

Methods

We conducted semi-structured interviews of 22 staff members at the UNC Hillsborough Hospital on our 20 bed Acute Care of the Elderly unit. Staff who worked directly with patients including physicians (n=6), nurses (n=7), occupational and physical therapists (n=6), and medical assistants (n=4), were included. Each participant provided demographic data and was asked 13 open-ended questions. Responses were analyzed for common themes and coded using Dedoose software.

Results

Participants reported varying definitions of frailty, with loss of independence, nutritional deficits, and weakness being the most common contributors. One-third of participants performed no frailty assessment, one-third assessed via observation only, and the one third used a combination of objective measures, including fall risk and Braden scale. Patient cooperation and time were the most significant barriers to general frailty assessment. While none of the participants were familiar with the use of POCUS to assess frailty, most participants responded either positively (57%) or neutrally (33%) when asked if it had potential to change patient management. Time, training, and cost were commonly listed barriers to using POCUS for the evaluation. A minority (10%) felt that it would not be helpful.

Conclusions

Participants viewed frailty as multifactorial. Our findings suggested discrepancy in the methods used for assessment. While the validity of POCUS as a method of assessing frailty has not been demonstrated, most participants were excited about the possibility of this new objective measure.

D199 Student Presentation

Examining the relationship between medication adherence and multimorbidity in dementia patients

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Background: Having multiple comorbidities and adhering to medications can be difficult to manage in geriatric patients with dementia and their caregivers. The purpose of this study is to examine the complex relationship between chronic multi-morbidity burden and medication adherence among community-dwelling persons with dementia.

Methods: Using a cross-sectional analysis this study examined comorbidities, and medication adherence factors of 646 community-dwelling patients with dementia who enrolled in the MIND-at Home Study in Baltimore, Maryland. The study reviewed the number of comorbidities and prescribed medications, and medication

adherence issues to assess the relationships between these factors. A comorbidity index score was created for each participant based on the number of diseases and geriatric syndromes that they were diagnosed with (out of 23 total categories). The adherence barriers listed in the medication adherence questionnaire were categorized into patient-related, medication-related, and healthcare-related barriers.

Results: The mean comorbidity index score for the sample was 5.5 (SD 2.3) and participants were taking a mean of 8.2 (SD 2.3) daily routine medications. The 3 most common comorbidities other than dementia were hypertension (67%), hyperlipidemia (53%), and urinary incontinence (52%). The total number of chronic diagnoses was significantly positively correlated with the number of medications being taken. 29% reported missing a medication dose at least once per week. The most common reasons for a missed medication dose were patient-related factors; patients simply forgot to take their medication (35%), refused the medication (17%), or forgot to take their medication when out of the home (12%). There was a significant positive correlation between having more chronic comorbid diagnoses and missing a dose of medication because of financial challenges (Pearson r = 0.091, p-value = 0.023) and difficulty swallowing medications (Pearson r = 0.126, p-value =.001).

Conclusion: Overall the results show that chronic multimorbidity burden is high among patients with dementia and they face a high risk of medication adherence challenges, but this relationship is likely multifactorial. Further research is needed to assess the level of impact that optimal medication adherence will have on the quality of life of patients with dementia

D200 Student Presentation

"What one person may not catch, another person will": Team-based primary care in dementia

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Background: Overburdened primary care providers are often charged with dementia detection and care. Value-based payment models like the Maryland Primary Care Program facilitate interdisciplinary team-based care, which may help address biopsychosocial needs in dementia. The objective of this study was to understand primary care staff experiences with team-based care and identify opportunities to facilitate high quality dementia care in this context.

Methods: Interdisciplinary staff were recruited from 5 primary care practices belonging to an ambulatory group practice system in Maryland. Practices were selected by population served, location, and size to maximize site diversity. Semi-structured qualitative interview topics included general and dementia-specific staff roles, interdisciplinary team interactions, and opportunities to support dementia care. Interview transcripts were coded and analyzed by 2 investigators using qualitative content analysis methods to identify themes.

Results: 20 primary care staff (providers, nurses, medical assistants [MA], care managers, social workers, pharmacists, and practice administrators) participated thus far. We identified 5 themes related to team-based primary care in dementia. **(1)***Clear role definition*—understanding scope, abilities, and limitations of other roles relative to dementia care challenges is important (e.g. social work may address living situation, pharmacist may address medication challenges, but both may face cost barriers). **(2)***Real time communication*—direct contact with other staff through secure chat messages, daily "huddles", and team meetings streamlines information and care coordination. **(3)***Familiarity and access*—in-person access to interdisciplinary staff varied. Practices with in-person embedded staff are more likely to engage others in dementia care. **(4)***Practicing at "top of license"*—staff expressed willingness to broaden clinical roles through training and practice, (e.g. MAs facilitating cognitive, functional, and mood assessments). **(5)***Emphasize shared values*— across interviews, the importance of supporting patient care and colleagues was shared.

Conclusions: Team-based primary care may help address the complex needs of people with dementia. This study highlights important topics and strategies to optimize team functioning and buy-in for comprehensive dementia care in primary care.

D201 Student Presentation

Medical Mistrust and Perceptions of Palliative Care in Racially and Ethnically Diverse Patients with Advanced Stage Lung Cancer

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Background: Palliative care (PC) is an understudied area of health equity. There is evidence that medical mistrust (MM) contributes to the underutilization of health care services, but little is known about the relationship between MM and perceptions of palliative care (PPC) in ethnically and racially diverse patients with advanced lung cancer.

Objective: To evaluate differences in MM and PPC and to examine the associations between MM and PPC between minority (Black and Hispanic) and non-minority (Non-Hispanic White) patients with advanced stage (stages III and IV) lung cancer.

Methods: We evaluated baseline data from a pilot cohort study examining disparities in PC and hospice use in patients with advanced stage lung cancer. Participants completed validated measures of MM (*Group Based Medical Mistrust Scale)* and cognitive, emotional, and global PPC (*PPC Instrument*). Wilcoxon and Chi-square analyses were used to compare differences in MM and PPC, respectively, between minority and non-minority patients. Unadjusted logistic regression was used to assess the association between MM and PPC.

Results: Of the 99 lung cancer patients, 56% were Black or Hispanic. There were no differences in mean (SD) age between minority and non-minority patients [63.6 (10.6) vs 66.2 (9.7), p=.19]. Minority patients were more likely to report being non-married, have less than high school education, and lower household income, p<.01 for all). Relative to non-minority patients, minorities were more likely to report their PC perceptions as hopeless (36% vs 15%, p=.04) and disrupted (53% vs 30%, p=.03). Mean MM scores between minority and non-minority patients [33.2 (5.9) vs 31.6 (4.5), p=.49] were not associated with cognitive, emotional, or global PPC.

Conclusions: While findings suggest that MM is more common among minorities, our study did not reflect those trends and MM was not associated with PPC in diverse patients with advanced lung cancer. Future studies should consider the influence of social barriers like educational disparities and healthcare access on Black and Hispanic patient's PPC and if these perceptions impact utilization of PC. Providers should address PC knowledge gaps and assess social and cultural PC preferences such as spiritual practices and social support to enhance alignment of PC goals.

D202 Resident Presentation

Challenges with discharge disposition in older adults with COVID-19: a single-center retrospective study from a rural hospital in Indiana

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Introduction: The COVID-19 pandemic has disproportionately affected older adults and severely strained healthcare resources across the world. There are gaps in the literature with regards to the needs of patients who survive COVID-19. We performed a study to investigate the post-discharge disposition and trends across all adult age groups in our hospital.

Methods: A retrospective cohort study at a single 158 bed rural hospital. We identified patients admitted to the hospital from January 2020 to November 2021 with a diagnosis of COVID-19 based on PCR testing. Inclusion criteria: age >18 and admission to hospital. Groups were divided into ages 18-64, 65-79, ≥80. Primary outcome was disposition to home (H), home health (HH), skilled services facility (SSF) (SNF, IPR, LTAC), and death (D). Odds ratios were used with home as the expected outcome.

Results: Total admissions over the period were 623 patients. 621 met the inclusion criteria with a total of 320 males (M) (51.7%) and 301 females (F) (48.3%). In ages 18-64 there were 206 patients, ages 65-79, 274 patients and in ages ≥80 141 patients were identified. Age: 18-64 H 153 (55.8%), HH 27 (9.9%) SSF 33 (16%) & D 30 (10.9%). Age 65-79: H 105 (38.3%), HH 53 (19.3%), SSF 57 (16%) & D 54 (19.7%). Age ≥80: H 19 (13.5%), HH 32 (22.7%), SSF 34 (16%) and D 52 (36.9%). Please see table 1 for age-adjusted odds ratio of disposition.

Conclusion: With increasing age, we observed higher mortality rates and post-discharge care; with the greatest needs for patients aged ≥80. This increased demand for healthcare resources in older adults creates unique challenges for healthcare providers and policy-makers.

	HH (p)	95% CI	SSF (p)	95% CI	Death	95% CI
Age 65-79	2.86 (0.0001)	1.69 - 4.84	2.52 (0.0003)	1.53 - 4.13	2.62 (0.0002)	1.57 - 4.37
Age 80+	9.54 (<0.0001)	4.74 - 19.21	10.14 (<0.0001)	5.06 - 20.32	7.90 (<0.0001)	4.28 - 14.56

Table 1: Age adjusted odds ratios for final disposition in patients admitted to hospital with COVID-19 when compared with patients aged < 65.
Abbreviations: OR - Odds Ratio, CI – Confidence Interval, HH – Home Health, SSF - Skilled Services Facility.

D203 Student Presentation

Standardizing Elder Abuse Data Collection: Development of Multi-Institution Database for Hospital-Based Consultation Teams

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Background: Attempts to improve elder abuse (EA) identification, intervention, and prevention in health care settings have been limited by a lack of comprehensive, longitudinal data available on victims who interact with the health care system. We have designed and launched emergency department / hospital-based EA consultation services in New York and Colorado to improve the care for these vulnerable patients. Our goal was to develop a standardized database that may be used by both and by other similar programs to track these consults.

Methods/Results: We used other interpersonal violence databases as models for this work including: the National Electronic Injury Surveillance System-All Injury Program (NEISS-AIP), National Trauma Databank (NTDB), and Child Abuse Pediatrics Network (CAPNET). We included relevant information from the history that could be obtained from Electronic Medical Records (provider notes, laboratory data, imaging results, photographs and documentation of injuries). We also included information about the EA consult service interventions during the hospitalization and pertinent discharge information. Relevant post-discharge outcome information was included, as the programs conduct phone calls at regular intervals to follow-up on patients. Given that these programs serve a wide range of older adults from urban and rural environments, relevant data for different populations has been included including veterans, immigrants, LGBT older adults, and non-English speaking patients. The database currently includes 521 fields in 12 forms which are completed over a course of a year of follow up.

Conclusions: The development and use of this database will facilitate analysis that will improve understanding of EA and the impact of health care-based programs to address it. By having a strong collaboration between one of the largest urban centers and one of the more rural centers of the country we hope that this database will be readily applicable to centers across the country as they develop.

D204 Student Presentation

Elective Telemedicine: Are Older Women Receiving Post-primary Treatment of Early Breast Cancer Interested?

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Background: Explosive growth in the use of telemedicine occurred during the coronavirus disease 2019 (COVID-19) pandemic. To benefit from telemedicine, patients must have the capacity to engage with technology, for which inexperience and access may pose barriers particularly in older adults. Telemedicine also has the potential to lessen healthcare burden in this population due to frequent appointments, physical and cognitive disabilities, and reliance on caretakers. This study aimed to better understand the perspectives of older women with non-metastatic breast cancer on telemedicine, in regards to visit convenience, completeness, and interpersonal satisfaction.

Methods: In this qualitative study, semi-structured interviews were conducted in a convenience sample of women age 65+, post-primary treatment for Stage I-III breast cancer, who received in-person outpatient care at NCCH (NC Cancer Hospital) before transitioning to telemedicine after March 2020. Patients were interviewed about their perceptions of telemedicine (telephone, video) as compared to in-person visits. Audio files of interviews were transcribed and reviewed to identify themes established *a priori* in the interview protocol.

Results: 15 patients (telephone=5, video=10) were consented and interviewed (July-October 2021), mean age=74. 87% (13/15 participants) reported that they preferred a hybrid care model that included telemedicine care over in-person care alone. COVID-19, physical disability, and transportation burden were associated with telemedicine preference. Comfort with familiar patient-provider interaction and lack of physical exam were associated with in-person appointment preference. In-person appointment was favored early in the post-primary treatment phase; telemedicine was more acceptable when relationships were well-established, and patients had lower illness anxiety. All participants who had appointments via video preferred it over telephone, whereas some participants who had telephone visits wanted to use video but faced technological challenges in its use.

Conclusions: Patient-clinician conversations and clinic protocols guiding decisions about the use of telemedicine should take into account newness of diagnosis, patient comfort and familiarity with the care team, travel burden, disability, and an explanation as to whether the physical exam is or is not essential.

D205 Student Presentation

Important Components of Medical and Mental Health Care in Assisted Living

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Background: The role of assisted living (AL) in long-term care has been evolving as the acuity of AL residents has increased. These communities provide supportive, but not medical, care to more than 811,000 residents in the U.S. However, virtually all residents have chronic and acute medical conditions, resulting in 35% visiting the emergency department and 24% requiring hospitalization annually. Further, 42% have moderate/severe dementia and 31% have depression, underscoring cognitive and mental health needs. Thus, there is

great interest in understanding optimal models of medical and mental health care (MMH) in AL. The purpose of this project was to determine recommended components of medical and mental health in AL based on expert consensus.

Methods: A multistep expert consensus process convened 19 experts representing medicine, nursing, mental health, dementia care, advocacy, and other areas. In the first round of independent review, 250 items across 5 domains were presented, and participants rated each on importance (score 1-9) and feasibility (score 1-3) in components of care. The second round queried areas with uncertainty. A final meeting was convened to discuss the findings based on scores of importance. Using a common convention, items scored ≥7 on importance were marked of "high" importance.

Results: In total, 61 of the items (24%) were rated as of high importance across all delineated domains: staffing and staff training (n=17); nursing and related services (n=15); resident assessment and care planning (n=11); policies/practices (n=11); and MMH providers and care (n=7). The most important items related to staff training, informing responsible parties, direct care worker staffing, and care documentation.

Conclusion: Experts identified components of medical and mental health in AL that were broadly important and feasible/relevant regardless the diversity of AL; in addition, many components were important for medical, mental health, functional, and dementia care. However, experts were cautious to promote the items as quality indicators, given the variability of AL. Results have implications for the evolution of care in AL.

D206 Student Presentation

Nursing Facility Provider Perceptions of Appropriate Use of POLST

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Background: POLST is a medical order form used to elicit and document treatment preferences. POLST is intended for individuals at risk of a life-threatening clinical event due to life-limiting illness. Many, but not all, nursing facility residents meet these criteria, yet there is evidence that POLST is used more widely in some nursing facilities. This suggests providers may use different criteria in assessing which nursing facility residents are appropriate for POLST. The objective of this study was to describe provider perceptions of appropriate POLST use in the nursing facility.

Methods: Nursing facility medical providers were identified through state POLST contacts. A semi-structured interview guide was used to elicit provider perceptions of appropriate POLST use. Interviews were digitally recorded and transcribed. Rapid qualitative analysis was performed to code data and identify themes.

Results: Participants included 27 nursing facility providers (20 MD/DOs, 6 APRNs, 1 PA) from 14 POLST-using states. Participant perceptions of themes relating to appropriate POLST use are organized using the socioecological framework: 1) Individual-level: residents at risk for burdensome interventions; residents with a poor prognosis or declining trajectory; 2) Interpersonal-level: family prefers limits on treatment (i.e., do not hospitalize, DNR, hospice care); 3) Organizational-level: Nursing facility policy and related clinical practices; 4) Public policy-level: State law and/or surveyor interpretation of state law/regulation for all admitted residents. A subgroup of providers noted that "everyone" is appropriate, regardless of patient health status.

Conclusions: Findings suggest a hierarchical set of factors influence perceptions of appropriate POLST use. This suggests that state or facility-level requirements for POLST reduce autonomy in decision making for providers and may contradict the recommended national POLST guidance for appropriate use of POLST in an intended patient population. Findings suggest that multi-level factors other than resident health status and preferences drive potentially inappropriate POLST use.

D207 Student Presentation

Prediction of rehospitalization risk for skilled nursing facilities using a dimension reduction approach

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Background: Hospitals are incentivized to reduce rehospitalization rates, creating an emphasis on skilled nursing facilities (SNFs) for post-hospital discharge. How rehospitalization rates vary depending on patient and SNF characteristics is not well understood, in part because these characteristics are high-dimensional. We sought to estimate rehospitalization and mortality rates by patient and by SNF in a way that is interpretable and accounts for this high-dimensionality.

Methods: Using 1,112,762 discharges from 15,147 SNFs of Medicare patients residing in Wisconsin, Iowa, and Illinois, factor analysis was performed to reduce the number of patient and SNF characteristics. K-means clustering was then applied to SNF factors to categorize SNFs into separate groups. Last, risk of rehospitalization and mortality within 60 days of discharge was estimated by SNF group for various values of patient factors.

Results: Factor analysis and clustering steps reduced 616 patient and SNF characteristics to a small set of 12 patient factors and 4 SNF groups. Each patient factor reflected broad conditions (e.g., heart disease). SNF groups differed in the level of on-site and off-site services and in bed and staff capacity. For patients with cancer (hematological or non-hematological) or women's health issues, SNFs with a high level of on-site services yielded significantly lower adjusted odds of rehospitalization than other SNFs. For patients with heart disease, respiratory disease, or mental health problems, SNFs with high capacity yielded significantly lower adjusted odds of rehospitalization than other SNFs and similarly, significantly lower adjusted odds of mortality than other SNFs.

Conclusions: Risks of rehospitalization and mortality appear to vary significantly by patient and SNF, with certain SNFs being better suited for some patient conditions over others.

D208 Student Presentation

Delirium Consultant Recommendations Vary by Specialty Following Infrainguinal Bypass Surgery

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Background: Peripheral arterial disease is common among those aged 65+ who may require lower extremity bypass (LEB). Perioperative complications including delirium are common after LEB, and this study aimed to identify inpatient consultant utilization for delirium. We hypothesized that consultants would provide actionable recommendations and that recommendations would vary by discipline.

Methods: This single center retrospective analysis included all LEB cases from 2012-2020. Delirium was identified by a validated chart review based on nursing Confusion Assessment Method routine assessments. The primary outcome was the vascular surgery service's use of consultation for delirium. Secondary outcomes included consultant recommendations, characterized into meaningful medication changes and environmental changes.

Results: Among 420 patients undergoing LEB, postoperative delirium developed in 105 (25%). Individuals with delirium were older (mean age 68 SD 13, 74 vs 66 years, $p<0.01$), more likely to be women (33% vs 21%, $p<0.01$) and more likely to have non-elective surgery (33% vs 19%, $p<0.01$). In those with delirium, 32% required

sitters, 16% restraints, and 25% pulled out equipment. Among these 105 individuals with delirium, 24% received a consultation about delirium. Consultants were comprised of pharmacists (52%), acute pain specialists (24%), and psychiatry (24%). Changes to medications were recommended by pharmacists in 31% of consultations compared to 100% in both acute pain and psychiatric consultations ($p<0.01$). Environmental interventions were recommended in 67% of psychiatric consultations but were not recommended specifically by acute pain and pharmacists ($p<0.01$). Furthermore, those with a greater length of stay were more likely to receive a consult and more likely to receive an environmental recommendation ($p=0.02$ and $p=0.04$ respectively).

Conclusions: Consultations for delirium following LEB were more likely in patients with longer length of stay. Compared to other consult services, psychiatry was more likely to provide medication and environmental recommendations. Quality improvement initiatives are needed to increase earlier peri-operative multidisciplinary interventions to prevent delirium.

D209 Resident Presentation

Challenges to Dietary Adherence for Patients with Heart Failure in Skilled Nursing Facilities

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Background

Heart failure (HF) patients discharged to skilled nursing facilities (SNF) are vulnerable to re-admission. Dietary modification remains a critical yet challenging factor for improving outcomes in patients with HF. We therefore sought to explore the unique perceived challenges observed by SNF staff to ensure adherence to dietary recommendations on discharge for patients with HF.

Methods

Detailed individual semi-structured interviews with employees across three SNFs in New York City were conducted. Purposive sampling was used to identify staff members who have experience working with HF patients and are involved in the discharge process at the SNF. Transcribed interviews were analyzed for themes related to diet and HF self-care.

Results

Twenty employees across these SNFs were interviewed. Participants included 4 social workers, 2 nurse case managers, 2 registered nurses, 1 licensed practical nurse, 4 nurse practitioners, 6 physicians, and 1 administrator. Perceived challenges to dietary adherence identified include:

1. Psychological

a. Food represents a source of comfort or reward for patients. Consequently, being placed on a "heart-healthy" diet was seen as a punishment.

2. Social

a. Patients faced limited access to healthy food on discharge. This was particularly notable for those living in food deserts, those homebound due to illness, or those with limitations in independent activities of daily living.

b. Cultural preferences limited certain patients' willingness to modify diet.

c. Caregivers may be unwilling to reinforce a recommended diet if they perceive certain foods as "the one thing" that will keep the patient happy. Staff also had difficulty with families enabling and encouraging dietary non-adherence by bringing in outside fast food while admitted.

3. Educational

a. Non-standardized discharge instructions may be difficult to follow.

b. More educated patients were thought to adhere to HF diets better.

c. Cognitive impairment was often seen as a barrier, particularly when social support was not readily available.

Conclusions

Diet and nutrition remain a challenging, yet important and often overlooked aspect of the discharge process for patients with HF, particularly those discharged from SNF. Specific interventions for improvement should focus on psychological, social, and educational patient factors that will help adherence.

D210 Resident Presentation

Is Length of Stay a Predictive Factor for Mortality in Patients Hospitalized with COVID-19? A Single-Center Retrospective Study from a Rural Hospital in Indiana.

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Introduction: Length of stay (LoS) in hospitalized COVID-19 patients is highly variable. There is limited data on LoS as a predictive factor of mortality in hospitalized older patients.

Methods: A retrospective cohort study at a single 158 bed rural hospital. We identified patients admitted to the hospital from Jan 2020 to Nov 2021 with a Dx of COVID-19 based on PCR testing. Inclusion criteria: age >18 and admission to hospital. Groups were divided into ages 18-64, 65-79, ≥80 and gender (male/female). Primary outcome was age-adjusted all-cause mortality based on LoS. Age-adjusted relative risk (AARR) was used with LoS < 7d as the baseline.

Results: Total admissions over the period were 623 patients. 621 met the inclusion criteria with a total of 322 males (M) (51.7%) and 301 females (F) (48.3%). In ages 18-64: 206 patients (115 M, 91 F); with mortality for M 7.8% (9) and F 9.9% (9). In ages 65-79: 274 patients (146 M, 128 F); with mortality for M 24.7% (36) and F 14.1% (19). In ages ≥ 80: 141 patients (61 M, 80 F) (22.9%); with mortality for M 42.6% (26) and F 32.5% (26).

Conclusion: We observed a clear difference regarding LoS and mortality for those <80 and ≥80, regardless of gender. Most patients aged ≥80 had shorter hospitalization courses < 14 days with higher mortality rates. However, for patients aged 18-64 and 64-79 hospitalized with COVID for >14 days, LoS was a strong predictive factor for all-cause mortality.

Gender & Age Category	Age Adjusted Relative Risk	95% CI	P - Value
M 18-64, LOS ≤7	-	-	-
M 18-64, LOS 8-14	3.7	0.65-21.04	0.27
M 18-64, LOS 15-21	15.9	3.16-79.5	0.02
M 18-64, LOS 22+	27.8	6.31-121.8	0.005
F 18-64, LOS ≤7	-	-	-
F 18-64, LOS 8-14	3.7	0.37-37.1	0.13
F 18-64, LOS 15-21	8.2	1.31-51.4	0.002
F 18-64, LOS 22+	12.3	2.09-72.7	0.005
M 65-79, LOS ≤7	-	-	-
M 65-79, LOS 8-14	1.7	0.84-3.50	0.13
M 65-79, LOS 15-21	2.8	14.30-5.48	0.002
M 65-79, LOS 22+	3.4	1.46-7.71	0.0041
F 65-79, LOS ≤7	-	-	-
F 65-79, LOS 8-14	1.5	0.56-3.89	0.42
F 65-79, LOS 15-21	1.8	0.59-5.74	0.29
F 65-79, LOS 22+	8	4.6-13.9	0.0001
M 80+, LOS ≤7	-	-	-
M 80+, LOS 8-14	0.9	0.37-1.94	0.37
M 80+, LOS 15-21	1.6	0.71-3.41	0.71
M 80+, LOS 22+	0.86	0.14-4.95	0.86
F 80+, LOS ≤7	-	-	-
F 80+, LOS 8-14	1.2	0.60-2.52	0.56

Abbreviations: CI, confidence interval; M, male; F, female; LOS, length of stay

D211 Student Presentation

General public & healthcare professionals' attitudes toward life-support triage based on survivability, life-expectancy, and life-stage

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BACKGROUND: There is controversy over which factors should guide resource allocation decisions during crises. Healthcare professionals (HCP) and general public's different experiences may influence beliefs and be relevant to development and implementation of triage protocols. We compared HCPs and the public's views on how health factors should influence patients' likelihood of receiving life-support in triage.

METHODS: Secondary analysis of UC-COVID data. We analyzed responses from 1,167 adult participants, recruited via community organizations and social media. The survey was fielded May-September 2020. Main outcome measures were how likely patients should be to receive life support, rated on a Likert scale from 1 (should be much less likely) to 9 (should be much more likely). Responses were collapsed into terciles: 1-3 coded "deprioritized", 4-6 "neither deprioritized nor prioritized" and 7-9 "prioritized". Factors assessed included patients who (1) are deemed less likely to survive, (2) have shorter expected lifespans due to chronic illness, (3) are elderly, and (4) are children. Multinomial logistic regression models were fit for each factor.

RESULTS: 31% of participants were HCPs. 21% were between 18-34 years old, 33% were 35-49, 28% were 50-64, and 18% were ≥65. HCPs were younger than the public [Median (IQR) 40 (34;54) vs 51 (37;63), P<.0001]. In adjusted analyses controlling for sociodemographic factors, 65% of HCPs deprioritized patients deemed less likely to survive compared to 48% of the public (P<.0001). Most respondents (55% HCP vs 73% public) neither prioritized nor deprioritized patients with shorter life expectancy, but HCPs more often deprioritized (36% vs 21%, p<.0001). A majority of HCPs (72%) and public (74%) neither prioritized nor deprioritized older patients. Nearly 1/3 of respondents neither prioritized nor deprioritized children (32% HCPs vs 34% public) and almost 2/3 prioritized children (64% HCPs vs 65% public)

CONCLUSIONS: HCPs were more likely than the public to deprioritize patients deemed less likely to survive and with shorter expected lifespans. A majority of HCPs and the public indicated both that older patients should not be deprioritized, and that children should be prioritized.

D212 Student Presentation

COVID-19 Policy Compliance among Aging Adults in Pakistan

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Background:

The Government of Pakistan implemented an age-specific policy to protect the aging adults from COVID-19, in addition to lockdown in the year 2020. This policy disallowed people above 50 years of age from going to mosques to offer prayer during the holy Islamic month of Ramadan. In this paper, we study policy compliance among aging adults.

Methods:

We conducted a telephonic, population-based repeated cross-sectional study with a panel component in 24 districts of Pakistan via a preformed questionnaire between April and July 2020. The primary objective was to assess compliance with the age-specific COVID-19 policy among people above 60 years of age, using difference-indifferences design (comparison group: 50 years or below). We further conducted a descriptive analysis to estimate the proportion of our study population who regularly followed the three main coronavirus preventive measures, i.e. regular handwashing, wearing masks and physical distancing.

Results:

In about 62.1% of our observations, people above 60 years of age went out daily during the lockdown as opposed to the spirit of lockdown. The difference-in-differences regression analysis revealed that individuals above the age of 60 years did not significantly reduce going to the mosque for prayer after the onset of Ramadan as compared to those aged 50 years or younger (p>0.05). Apart from that, our analysis also showed no significant difference between people above 60 years and younger study participants (aged 60 years or less) in terms of going out daily during the lockdown (p>0.05). Furthermore, about 54% of people above 60 years of age washed hands regularly, while about 66.4% of the aging adults practiced physical distancing and 55.9% reported that they wore a mask while going out. The regression analysis revealed no significant difference among the three age groups in terms of regularly following the three main COVID-19 preventive measures (p>0.05).

Conclusion:

These findings indicate that policy compliance among aging adults remained limited in our setting. Moreover, aging adults in our study population did not behave more cautiously during the pandemic, despite being at a higher risk of developing a severe COVID-19 illness.

D213 Resident Presentation

Cognitive Screening and Dementia Diagnoses in Primary Care Settings

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Background: Dementia affects millions of Americans but is underdiagnosed. Geriatrics primary care clinics have advantages that can address barriers to diagnosis often found in primary care settings; however, little is known about the effects of Geriatrics primary care on dementia or mild cognitive impairment (MCI) diagnoses. This study aims to compare dementia and MCI diagnoses in Geriatrics primary care (GeriPACT) and traditional primary care clinics (PACT).

Methods: This study is a secondary analysis of a matched prospective cohort study that enrolled 570 veterans nationwide. Participants were enrolled as matched dyads of one GeriPACT and one PACT participant. Cognitive screening (mTICS) was conducted at study enrollment. Dementia/MCI diagnoses were taken from the EHR before and after 24-months of GeriPACT or PACT exposure. For this analysis, participants were excluded if they or their matched partner had a pre-exposure diagnosis of dementia or MCI. Logistic regression models were used to estimate the odds of incurring a dementia/MCI diagnosis based on exposure (GeriPACT/PACT), overall and by screening result (positive ≤27 vs negative >27).

Results: Of 472 individuals included in this analysis (236 GeriPACT, 236 PACT)(mean age 80.5 years, 11.4% Black, 2.1% female), 44 received a new diagnosis during the observation period: 11.4% of GeriPACT patients compared with 7.2% of PACT participants. Among those with a positive screen for cognitive impairment, 20.8% (n=15/72) of GeriPACT patients received a clinical diagnosis of dementia/MCI compared with 16.7% (n=11/66) of PACT participants. Among those with a negative screen, 7.3% (n=12/164) of GeriPACT patients were diagnosed with dementia/MCI compared with 3.5% (n=6/170) of PACT participants. The unadjusted odds ratio (OR) for dementia/MCI diagnosis based on GeriPACT exposure was 1.66 (95% CI 0.88-3.14) overall: OR 1.32 (95% CI 0.56-3.11) in those with a positive cognitive screen and OR 2.16 (95% CI 0.79-5.89) in those with a negative screen.

Conclusions: Although the modest sample size precludes definitive conclusions, results suggest that GeriPACT exposure may be associated with higher odds of new dementia/MCI diagnoses, particularly among those who initially screened negative for cognitive impairment. If confirmed, these findings have implications for considering benefits of expanded access to geriatrics primary care.

D214 Student Presentation

Multi-employer work and personal support workers: Employment trends in the long-term care workforce

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Background: In Canadian nursing homes, ~75-90% of direct resident care is provided by personal support workers (PSWs). However, despite providing the majority of direct care to residents,

PSWs require the lowest level of education among healthcare providers to practice in long-term care, they are afforded the least autonomy among their colleagues, and receive the lowest salary in the sector. In addition there is a persistent reliance on part-time, temporary, casual, or shift-work contracts. Furthermore, many PSWs have multiple employers or work more than full-time hours across several facilities to earn a living wage. It is more important now than ever that we take a closer look at the this workforce to consider its structure, workplace arrangements, and how these characteristics directly impact the workforce that our long-term care systems rely on. We conducted a descriptive analysis to better understand the characteristics, including sociodemographic and health, of PSWs who practice multi-employer work.

Methods: We recruited PSWs from multiple nursing homes (n=26) across Ontario, Canada. Survey data was collected between February and September 2021. The survey specifically captured the following domains: participant sociodemographics, workplace arrangements, history of COVID-19, vaccination status, health status and health care use.

Results: 323 PSWs completed the survey and were included in the analysis. Of these, 22% (n=71) held 2 or more jobs. Of those that held 2 or more jobs, 84% (n=60) self-identifed as female. With respect to immigration status, 58% (n=147) of PSWs who only held one job identified as immigrants, whereas 66% (n=47) of PSWs who held 2 or more jobs were immigrants. Finally, there were no significant differences in self-reported health status. 60% of those with 2 or more jobs reported excellent health, while similarly, 58% of those with 1 job also reported "excellent" when asked about their health status.

Conclusions: Our findings indicate there is a trend among this workforce in holding additional jobs, suggesting it is worth exploring why they do so, and what our long-term care systems can do to better support this workforce. As such, follow-up interviews are underway.

D215 Student Presentation

Exploring education to support vaccine confidence among health and long-term care staff amidst the COVID-19 pandemic

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Background: The vaccination of healthcare (HC) and long-term care (LTC) workers against COVID-19 has been a top priority, given their high risk of exposure and close contact with vulnerable populations. Despite the demonstrated effectiveness of vaccines, high levels of hesitancy among workers were observed in the first few months of the COVID-19 vaccine rollout in Canada. Despite our understanding of why HC and LTC workers might be vaccine hesitant, the evidence around the measurable impact of various education strategies to improve vaccine confidence is limited. This scoping review intended to minimize the gap between existing research and practice regarding the approach to and efficacy of education interventions to improve COVID-19 vaccine confidence among HC and LTC staff. We aimed to explore and characterize both informal and formal educational interventions delivered during the pandemic to support COVID-19 vaccine confidence.

Methods: In consultation with a medical information scientist we searched 5 databases including, Ovid MEDLINE and Web of Science, as well as grey literature. We considered all study designs and reports. We chose to include a breadth of sources to ensure our review could capture preliminary evidence, as well as more experiential experiences of COVID-19 vaccine education delivery. Articles were screened by three reviewers independently. The data were charted and results described narratively.

Results: After screening 1,917 titles and abstracts and 72 full-text articles, 7 articles met our inclusion criteria. In addition, we included 6 papers from our grey literature search. Of these, 46% (n=6) included formal evaluations of their educational interventions. The following themes were identified: educational content, delivery structure, targeting specific communities, and personal connections.

Conclusions: Our review suggests that interventions should consider leveraging community (patient, cultural, religious) partnerships when both developing and facilitating COVID-19 vaccine education. Train the trainer approaches with recognized community members could be of value as trust and personal connections were identified as a facilitator throughout the review.

D216 Student Presentation

Telemedicine Use and Acceptability among Older Adults During the COVID Pandemic

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Background:

Telemedicine utilization has increased dramatically during the COVID pandemic. Few studies have evaluated the use and acceptability of telemedicine in older populations. This study examined the use and acceptability of telemedicine with older adults in an urban, geriatric practice.

Methods:

An anonymous survey was sent to patients seen at an urban, geriatric practice using MyChart in EPIC in March 2021. This population of patients is 55 years and older, 50% Black, 40% white, 3% Latino, 3% Asian and 4% other. This panel is comprised of 71% Medicare, 23% non-Medicare/non-Medicaid, and 6% Medicaid. The total panel of patients includes approximately 1400 patients. The percent of patients on MyChart at the time of the survey was 78%. Thus about 1092 patients received the survey.

Results:

247 (22.6%) patients responded to the survey. 80.37% of respondents rated their overall experience with telemedicine as good or excellent. Theme areas emerged around the advantages and disadvantages of telemedicine as described in Table 1. 70.28% of respondents rated themselves as Somewhat Confident to Very Confident in use of telemedicine without family/friend assistance. 74.16% of respondents state they plan to use telemedicine again.

Conclusions: This survey demonstrated the feasibility and acceptability of telemedicine in an urban, geriatric population. A limit to this study is that the survey was administered on-line, so that participants may be biased regarding use of on-line technology. However, this study showed that the vast majority of older adults were confident in using telemedicine as an alternative to in-person visits during the COVID pandemic and plan on using it again.

Acknowledgments: Jackie Raab, MSN, RN, Jennifer Langley, EdD, ATC, Wydera Stubbs, CCMA and Stephanie Pilotti, NRCMA

D217 Student Presentation

Racial Disparities in Caregiver Support Among Adults Caring for Aging Parents

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Background: Adult children provide a large portion of caregiving and support for older adults, including direct care, care coordination, and financial support. This study assesses racial and ethnic group differences in caregiver support among adult children of aging parents.

Methods: We conducted a retrospective study using survey responses from the Health and Retirement Study (HRS) between 2002 and 2018. The sample population (n=8,040) included decedents aged 65 and over with at least one living adult child at their time of death. Caregiver support was defined as providing financial support, providing help with basic or instrumental activities of daily living (ADLs or IADLs, respectively), or coresiding with the care recipient. Respondents self-identified as Hispanic, non-Hispanic White, or non-Hispanic Black. Respondents were further stratified by dementia and marital status.

Results: Out of 8,040 respondents, only 17% of White respondents reported receiving financial support from adult children, compared to 24% of Hispanic and 29% of Black respondents. Only 21% of White respondents coresided with an adult child, compared to 44% of Hispanic and 38% of Black respondents. Rates of financial support and coresidence remained significantly higher for Hispanic and Black respondents regardless of marital status ($p<0.001$). Among married respondents, 31% of Hispanic and 27% of Black respondents received ADL/IADL help from adult children compared to 15% of White respondents. Among unmarried respondents, 58% of Hispanic respondents received ADL/IADL help, compared to 48% of White and 47% of Black respondents. For all race and ethnicity groups, dementia status was associated with greater financial support and ADL/IADL help but not coresidence.

Conclusions: Compared to White older adults, Black and Hispanic older adults are more likely to receive care and financial support from their adult children. Even when a care recipient is married, Black and Hispanic adult children still maintain integral caregiving roles. The disparate intergenerational impact of caregiving on racial and ethnic groups must be further examined. Policies providing more robust support to family caregivers are needed to address these disparities and lessen the negative long term financial impacts on familial caregivers.

D218 Student Presentation

Pioneering research in community pharmacies: Investigating facilitators and barriers in community pharmacy study recruitment for a urinary incontinence study

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Background: Older adults visit their community pharmacy up to 8 times more frequently than a physician's office. Pharmacists have increasingly broad scope of practice and there is evidence that their involvement improves patient outcomes. A study that was implemented in Alberta was designed to recruit patients for a randomized controlled trial to study community pharmacist intervention to assess and intervene for urinary incontinence. The study was adapted for online delivery for COVID, yet there was minimal recruitment by the pharmacists. To understand the challenges we conducted a narrative review of pharmacy practice research to describe the barriers and facilitators of research in community pharmacies.

Methods: A systematic search was conducted on MEDLINE, EMBASE, and Scopus to identify relevant published literature on community pharmacists' attitudes and experiences with practice research, as well as the barriers and facilitators to participation from database inception to May 2021. Data extraction and thematic analysis were performed by the main author in consultation with co-authors.

Results: A total of 35 studies from 11 countries were identified and included in the review. Studies used a variety of methods such as questionnaires, interviews, and/or focus groups. Main drivers for participation included improving patient health outcomes, advancing the profession, satisfying a personal interest in research, and solidifying therapeutic knowledge. Main barriers included time, inadequate staffing, lack of remuneration, self-perceived incompetence, patient skepticism, and corporate/physician resistance. Pharmacist characteristics were also found to impact engagement.

Conclusions: There are many factors that influence research participation. In addition to time, staffing, and lack of reimbursement, there are factors specific to pharmacists (i.e. mindset, characteristics), researchers (i.e. study timing and feasibility, communication), and stakeholders (i.e. patient perceptions, pharmacy environment, physician resistance). The findings of this review has informed the research team to develop a new engagement strategy, recruitment of frontline resources in the pharmacies, and an increase in empathy for frontline pharmacists.

D219 Student Presentation

Implementing A New Multidisciplinary, Remote, Dementia Staff Training Program for VA Nursing Homes

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Background: Preventing Loss of Independence through Exercise (PLIÉ) is a group program for people living with dementia that combines movements to support daily function with present moment body awareness and social engagement and has been found to have physical, emotional, social, and cognitive benefits.

Methods: In the pre-implementation study, we used iterative Plan-Do-Study-Act (PDSA) cycles to develop and refine a multidisciplinary, remote, PLIÉ staff training program from June to September 2021 at 2 VA nursing homes (Community Living Centers, CLCs). The 10-week training was delivered via Microsoft Teams. Training included 1-hour live-streamed weekly didactic sessions (staff with instructor) focused on PLIÉ principles and 1-hour weekly live-streamed experiential sessions for staff to apply PLIÉ principles with CLC residents. We administered weekly feedback surveys to obtain staff feedback and iteratively refine the training process.

Results: 16 CLC staff members participated (5 recreation therapists, 3 social workers, 3 chaplains, 3 registered nurses, 1 psychologist, and 1 speech pathologist). A subset of participants (n=5) was not able to attend live-stream sessions regularly due to their work schedules. We created 10-minute video summaries to support their learning, which 80% (4/5) rated as "very helpful." The experiential sessions were rated as most helpful overall. Many participants were not practicing the PLIÉ principles outside the training sessions, so we incorporated self-reflection and goal setting to address this gap and staff use of PLIÉ principles increased from 56% to 89%. At the end of the training, 100% of regular attendees (11/11) expressed high confidence using 6 of 8 PLIÉ principles and rated their overall satisfaction with the training as "very good" or "excellent."

Conclusions: Participants who regularly attended training sessions had high satisfaction and high confidence in using PLIÉ principles after completing this remote training program. The experiential component was important to include so individuals can practice PLIÉ principles with instructor guidance. Alternate strategies may be needed to train those who cannot attend live sessions. These refinements will inform the future implementation of PLIÉ remote training at other CLCs across the country.

D220 Student Presentation

Disparities of Colorectal Cancer Screening – The Impact of Stool FIT-DNA Screening

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Background: Colorectal cancer (CRC) is the second highest cause of cancer death in the U.S. despite decreasing incidence due to CRC screening in 50-75 year-olds. However, there are

well-documented disparities in CRC screening. Stool FIT-DNA testing was introduced in 2014, detecting both molecular markers in sloughed cells and blood in stool for CRC. It is less invasive than colonoscopy and requires testing every 3 years, not annually like other fecal tests, thus it is preferential for some older adults reluctant to undergo a colonoscopy. We aim to identify disparities within adults screened with this new modality.

Methods: All Stool FIT-DNA orders from 3/2019 - 4/2021 in the Mount Sinai health system were used. Status of the tests and patient demographics including age, sex, race (African American, Asian, Other, or White), language (English, Spanish, Other, or unknown), and insurance (Public, Private, or None), were collected from patient charts. Multivariable logistic regression was used to identify disparities related to completion of the test and completion of follow-up screening when the Stool FIT-DNA test is positive, as per USPSTF guidelines. Demographic variable inclusion was based on univariate Chi-Squared tests or one-way ANOVA with $\alpha = 0.2$. Statistical tests were run with SPSS v24.

Results: 51.5% of patients where a Stool FIT-DNA test is ordered are screened per USPSTF guidelines. Multivariable logistic regression shows that African American (OR 0.669; 95% CI 0.601-0.744) and other minority patients (OR 0.814; 95% CI 0.737-0.900) are less likely to complete Stool FIT-DNA tests, while privately insured patients (OR 1.352; 95% CI 1.242-1.472) and older patients (OR 1.012; 95% CI 1.007-1.016) are more likely. African American (OR 0.594; 95% CI 0.383-0.981) and other minority patients (OR 0.646; 95% CI 0.446-0.936) are less likely to have diagnostic screening following a positive Stool FIT-DNA test. African American (OR 2.549; 95% CI 2.022-3.212), other minority (OR 2.293; 1.844-2.851), and Spanish-speaking (OR 1.604; 95% CI 1.222-2.104) patients are more likely to have an inconclusive test result.

Conclusions: These findings show non-Asian minority patients are less likely to be screened for CRC by Stool FIT-DNA, and suggest a greater need of outreach to minority and non-English speaking patients regarding CRC screening.

D221 Student Presentation

"I depend on her for everything": A mixed-methods analysis of the role of home care workers caring for medically and socially complex patients during the COVID-19 pandemic

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Background: The devastating impact of the COVID-19 pandemic on long-term care facilities has illustrated the need for quality home-based care. Home care workers (HCWs) have played critical roles in meeting the medically and socially complex needs of homebound adults during COVID-19, yet their essential work is often undervalued and understudied. Our purpose was to explore the association between patients' medical and social circumstances and HCW services during COVID-19.

Methods: In this mixed-methods study, we collected demographic and clinical data and performed a thematic analysis of medical records from 53 homebound patients with HCWs in a home-based primary care program in New York City. We abstracted unstructured clinical notes from 12/1/19 - 12/31/20 into *a priori* and emergent categories, including patient medical and social risk and changes to HCW responsibilities. Core themes were identified via team meeting discussions.

Results: Of the 53 patients, 24.5% died during the initial COVID surge, 34% lived alone, and 41.5% had 24-hour HCWs. 50.9% of the patients lived with dementia and the mean Elixhauser Comorbidity Index was 3.66. Three themes emerged from our analysis: 1) Among this high-risk, high-need population, patients with certain risks (i.e. dementia diagnosis, living alone) had more intense and dynamic medical and social needs than others, 2) Patient medical status and risk factors influenced HCW tasks in meeting patient needs, such as managing progressing dementia behaviors or helping food-insecure patients obtain food, and 3) The combined effect of COVID-19 and HCW disruptions (i.e. unstable schedules, aide turnover) created difficult situations for patients and their caregivers, including increased risk of hospitalization and nursing home placement.

Conclusions: During COVID-19, HCWs were essential in meeting the existing and new needs of homebound older adults. HCW disruptions were particularly challenging for patients who had more complex medical and social needs, leading to risk of hospitalization. This analysis can inform policies to better integrate HCWs on medical teams, further develop HCW training to identify social as well as medical risks, and address workforce shortages to expand access to adequate HCW services for homebound older adults and their caregivers.

D222 Student Presentation

Motoric Cognitive Risk Syndrome and Cognition: The Influence of Depression

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Background: Motoric Cognitive Risk (MCR) syndrome is a simple tool used to identify independent people at risk of developing dementia. Although mood disorders and MCR relates, whether depression changes the association of MCR with cognition remains unknown. We estimated the associations of MCR with cognitive performance and impairment in people aged ≥50 years and examined whether depression modifies the relationship between these conditions.

Methods: Cross-sectional analysis comprising participants without dementia or disability of the Brazilian Longitudinal Study of Aging (ELSI-Brazil), a nationally representative sample. MCR syndrome was defined as presence of memory complaints and slow gait (one standard deviation below age- and sex-specific gait speed means). Depression was assessed through the 8-item Center for Epidemiologic Studies Depression Scale (CES-D). We estimated the associations of MCR with global cognition, orientation, memory, and verbal fluency z-scores, using linear regressions adjusted for sociodemographic, clinical, and lifestyle factors. The relationship of MCR with cognitive impairment was examined using logistic regressions. We explored interactions between MCR and depression for cognition.

Results: We evaluated 7,131 participants (mean age 62±9 years; 53% women). Individuals with MCR (7% of the sample) had poorer scores for global cognitive performance than those without the syndrome ($\beta = -0.29$; 95% CI = -0.42 to -0.17). Participants with MCR were also associated with 2-fold odds of cognitive impairment compared to those without the syndrome (39% vs. 19%; aOR = 1.9; 95% CI = 1.4 to 2.7). However, depression modified the relationship between MCR and cognitive impairment in people aged 50 to 64 years (p-value for interaction = 0.02). In middle-aged adults without depression, MCR was not related to cognitive impairment. In contrast, in middle-aged adults with depression, MCR was associated with cognitive impairment (aOR = 2.7; 95% CI = 1.6 to 4.4).

Conclusions: MCR syndrome was associated with worse cognitive performance. Among middle-aged adults, MCR was related to cognitive impairment only in those with depression. Depression evaluation alongside MCR may help clinicians detect individuals who are more likely to experience cognitive impairment. Future studies should test the impact of treating depression on those with MCR.

D223 Student Presentation

Risk factors for self-reported anxiety in subjective cognitive decline

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Background: Anxiety is common in early Alzheimer's disease (AD), including the preclinical stage of subjective cognitive decline (SCD). Anxiety and SCD each portend progression to mild cognitive impairment and dementia, but the risk factors for anxiety in SCD are unclear. A limitation has been informant-based reports of anxiety, which may be inaccurate in preclinical stages. We examined self-reported anxiety in SCD, considering the influence of demographic and genetic factors.

Methods: A retrospective, cross-sectional analysis was conducted on participants in the NYU Alzheimer's Disease Research Center evaluated from 2010-2019, and with consensus diagnosis of SCD based on the Global Deterioration Scale and the National Alzheimer's Coordinating Center's Uniform Data Set (n = 113). Self-reported anxiety was evaluated using the Beck Anxiety Inventory (BAI). We examined the impact of sex, age (< 65 or >= 65 years old), education (< 16 or >= 16 years), race/ethnicity, and AD genetic risk factor ApoE4 on total BAI score magnitude and anxiety features delineated by individual BAI responses. Statistics were performed using unpaired t-test for magnitude comparisons and ANOVA for individual responses, with p-values corrected for multiple comparisons.

Results: BAI scores ranged from 0 to 34 (moderate anxiety), with 31% (n = 35) reporting no symptoms and 67% (n = 76) reporting symptoms in the low anxiety range between 1 and 21. Higher BAI scores were associated with female sex (4.28 vs. 1.59, p = 0.026), lower education (5.56 vs. 3.04, p = 0.037), and Hispanic ethnicity (6.61 vs. 2.88, p = 0.0032). There was a trend for ApoE4 carriers to have higher BAI scores (3.78 vs. 2.46, p = 0.17). There were minimal magnitude differences based on age. Only lower education and Hispanic ethnicity associated with differences in individual BAI elements, including higher levels of "feeling hot" and "face flushing" in both and "hot/cold sweats" in the latter.

Conclusion: Female sex, lower education, and Hispanic ethnicity are risk factors for elevated self-reported anxiety in SCD. The latter two also impact anxiety symptomatology. Given the association of anxiety with disease progression, this motivates further work on how these risk factors influence anxiety and progression, and also if persons with SCD and these risk factors may benefit the most from anxiolytic treatment to slow progression.

D224 Student Presentation

The Effect of Sleep Disordered Breathing on Cognitive Function in Patients with Normal Pressure Hydrocephalus

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Both normal pressure hydrocephalus (NPH) and sleep apnea (SA) are associated with cognitive deficits. The former specifically affects executive function, memory and attention domains. We sought to explore the specific cognitive domains affected in NPH patients with and without SA. Patients with both NPH and SA have lower scores in attention, memory and recall domains of the Montreal Cognitive Assessment (MoCA) test. We conducted a retrospective chart review of patients with presumed NPH who were admitted to The Johns Hopkins Hospital between the years 2016 and 2018 for extended lumbar drainage (ELD). All patients were administered the MoCA and 33 obtained polysomnograms. Analysis was performed using STATA 15.1. Independent variable was SA and dependent variable was individual MoCA domain scores. Cov ariates included demographic and anthropometric measurements. In our sample 52.7 % were male, 83.3% white. 26 (73.3 %) had polysomnograms. 69.2 % had SA (apnea hypopnea index of more than 5 per hour). We used unpaired t-tests to analyze differences in MoCA scores in patients with and without SA. Visual spatial p=0.22, Naming p=0.35, Attention p=0.41, Language p=0.49, Abstraction p=0.28, Recall p=0.88, Orientation p=0.79. In patients with NPH, there was no statistically significant difference in MoCA scores in those with sleep apnea. Our results suggest that sleep apnea does not affect cognition in patients with NPH.

D225 Resident Presentation

The Montreal Cognitive Assessment: Assessing Scores and Impact of Socioeconomic Status in a Louisiana Cohort Ages 65-75

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Background: The Montreal Cognitive Assessment (MoCA) is common to assess mild to moderate cognitive impairment. A normal score may be adjusted for education level. Anecdotally MDs in the Shreveport LSU Psychiatry Residency Consults service have noted that many persons functioning independently in the community score below the normative range even after correction for education. On Pubmed and google scholar searches there is a lack of research on a normative MOCA score in the population served.

Aims and Objectives: To ascertain normative MOCA ranges in patients aged 65-75 and to establish if the baseline performance of the relatively well patients in the Shreveport population are comparative to those nationally. We hypothesize that the MOCA underestimates the functional cognitive level of the Shreveport level, since the population is less academic in qualification and more vocational. To utilize the MacArthur socioeconomic status questionnaire (MASES) to explain possible reasons for any difference.

Methods: Individuals were recruited when they presented to the Family Medicine Community Care Clinic in LSU Shreveport for their appointments. Exclusion criteria were applied for other organic causes that could affect the score. After their appointment a medical student in clinic administered the MOCA and MASES

Results: 25 data points were obtained between March and June 2021 cycle of the study which is ongoing. This was not enough for statistical significance but showed some qualitative results. Mean age of cohort was 68, 88% were African American and 12% identified as White. Mean score adjusted for education on the MOCA was 20.92, the median was 22.00, with a standard deviation of 3.98. Marks were most consistently lost on delayed recall component, with 44% scoring 0. On the ladder component of the MASES the median ranked score on the SES ladder in communities was 6, and in the USA was 5.

Conclusions: Linear regression analysis indicated that adding around 82 more data points would make the study able to detect small effects of statistical significance. Qualitative inspection of data is suggestive that the normative score may be less than 25 for this community, and the sample section studied ranked themselves as in the middle of the socioeconomic ladder.

D226 Student Presentation

Older Age is Associated with less Psychological Distress in ICU Family Caregivers

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Background: Many family caregivers of patients in the intensive care unit (ICU) experience anxiety, depression, and post-traumatic stress disorder (PTSD). Evidence shows that older caregiver age is associated with less psychological distress, but whether this is modified by relevant factors such as resilience and length of caregiving experience is less well characterized. The objective of our study was to measure the association between age and psychological distress in ICU family caregivers, controlling for clinically relevant covariates.

Methods: We performed an analysis of data collected for a prospective cohort study measuring PTSD symptom trajectories for family caregivers of patients admitted to the medical ICU with acute cardiorespiratory failure. Patient and caregiver characteristics were measured within 48 hours of ICU admission. We performed a multiple linear regression model, with age as the exposure and psychological distress as the outcome. Symptoms of anxiety, depression, and PTSD were measured using the Hospital Anxiety and Depression Scale (HADS) and the Impact of Event Scale – Revised (IES-R), respectively. A directed acyclic graph (DAG) was used to select covariates. Resilience was measured using The Connor-Davidson Resilience Scale.

Results: Our analysis including 94 patients and their primary family caregivers. Mean caregiver age was 54 years (SD 13.8), 77% of caregivers were women. The caregiver population was 25% Black, 72% Caucasian, 1% Asian, 1% American Indian, and 1% other. The patient population was 26% Black, 69% Caucasian, 2% Asian, 2% American Indian, and 1% other. 3% of caregivers and 1% of patients identified as Hispanic or Latino. The mean patient Functional Independence Measure (FIM) score was 110.67 (scores range from 18-126, higher scores indicate better physical and cognitive function).

After adjusting for caregiver resilience, number of years spent providing care, and prior diagnosis of anxiety or depression, older caregiver age was associated with lower symptoms of anxiety and depression (beta coefficient -0.15, p value 0.03). Caregiver age was not associated with PTSD symptoms.

Conclusion: Older age is associated with less psychological distress in ICU family caregivers, even after controlling for key covariates that may be related to aging. Further work is needed to understand this association to guide potential interventions aimed at reducing psychological distress.

D227 Student Presentation

The Role of the Thalamus and Thalamic Subfields in Mediating Post-Treatment Cognitive Changes in Primary Brain Tumor Patients

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Neurocognitive impairment is an important adverse effect following radiotherapy (RT) in brain tumor patients, more common among older adults. Previous work has shown that microstructural injury may underlie domain-specific decline in memory, language, executive function, attention and processing. The role of the thalamus and its subfields in mediating these post-treatment neurocognitive changes is unclear. To better understand the impact of thalamic changes on neurocognition following RT, we studied the association between imaging biomarkers of injury to regions of interest (ROI) and cognitive impairment among primary brain tumor patients. We hypothesized that measures like decreased volume in thalamic ROIs would be associated with worse cognitive function following brain RT. On a prospective trial, 90 primary brain tumor patients undergoing fractionated RT underwent volumetric brain MRI and cognitive function assessments (Brief Visuospatial Memory Test [BVMT], Delis-Kaplan Executive Function System [D-KEFS], Grooved Pegboard Dominant Hand [PDH] and Grooved Pegboard Nondominant Hand [PNDH]) at baseline and 3, 6, and 12 months post-RT. Bilateral (R/L) thalamic ROIs were segmented into individual subfields and then grouped by anatomical region (anterior, lateral, ventral, intralaminar, midline, dorsomedial, geniculate, pulvinar). Tumor, surgical bed and edema were censored to avoid confounding. Volume was measured within each ROI. Linear mixed-effects models assessed volume as a longitudinal predictor of cognitive function scores, controlling for time and subject-specific effects. There was significant atrophy over time after RT in the L/R-anterior ($p=0.038$, $p=0.016$), L/R-lateral ($p=0.022$, $p=0.033$), R-ventral ($p=0.032$), R-intralaminar ($p<0.001$), L/R-midline ($p<0.001$, $p<0.001$), R-geniculate ($p=0.02$) and R-pulvinar ($p=0.001$). In the L-geniculate nuclei increased mean RT dose was associated with a decreased volume ($p=0.001$). Decreased volume in the L-geniculate nuclei was correlated to worse performance on BVMT Delayed ($p=0.01732$). Decreased volume in the L-pulvinar nuclei was correlated to worse performance on BVMT Delayed and PDH ($p=0.02138$, $p=0.0489$). Injury to L-geniculate and L-pulvinar nuclei was associated with worse visuospatial memory and worse fine motor skills. These thalamic subfields may indicate potential areas to avoid during RT planning for brain tumor patients.

D228 Student Presentation

Localizing Plaques and Tangles in formalin fixed, paraffinized brain tissues of Down Syndrome and Early Onset Alzheimer's Disease for Differential Proteomics Analysis

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(Background) Down Syndrome(DS) and Early Onset Alzheimer's Disease(EOAD) show similar early age onset of dementia and AD pathology, also accumulation of amyloid plaques and neurofibrillary tangles. Differentiation of the proteomics between DS and EOAD in postmortem brain tissue became achievable by recent application of Laser Capturing Microdissection(LCM).

(Purpose) However, immunofluorescence microscopy is necessary to localize amyloid plaques and neurofibrillary tangles before LCM (Fig1) for proteomic analysis.

(Method) In this study, paraffinized, formalin fixed postmortem brain tissue slides, according to a standard IHC protocol were deparaffinized, and incubated with commercialized antibody. Afterwards, immunofluorescent images were obtained under microscopy.

(Results) Immunofluorescent microscopy shows extensive localized deposition of amyloid plaques and neurofibrillary tangles(Img1-3).

Image 1 shows Pyro-Abeta(Green, vs DAPI, Blue) expression, post translational modified Abeta.

Image 2 shows Abeta(Green, vs DAPI, Blue) expression, a marker in amyloid plaques.

Image 3 shows Paired Helical Filament 1(PHF1, Green) expression, related to Tau, highly expressed in neurofibrillary tangles in dystrophic neurons.

(Future Direction) A computer based standard algorithm(Pic1-3) will be used to compute the quantitative pixel threshold after proccesing these high resolution immunofluorescent microscopy images. The numerical values will subsequently be gathered with proteomic data and APOE genetic profiles to differentiate DS and EOAD.

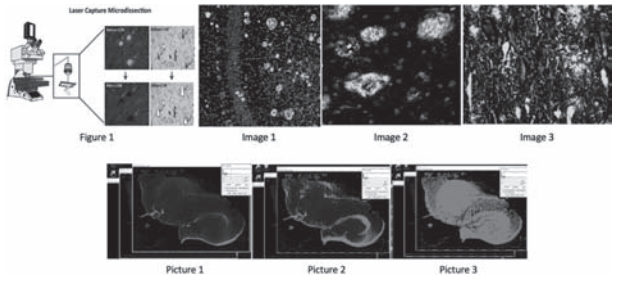

Fig1. Laser Capturing Microdissection(LCM) cuts out region of plaques and tanlges from a tissue slide (Drummond et al. 2017).
Img1. Pyro-Abeta(Green vs DAPI, Blue).
Img2. Abeta(Green vs DAPI, Blue).
Img3. Paired Helical Filament 1(Green vs DAPI, Blue).
Pic1-3. Pixel Threshold Analysis Algorithm.

D229 Student Presentation
Psychosocial Resilience Measurements as Predictors for Postoperative Pain in PRIME-KNEE

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Background: Post-operative pain can interfere with healing and recovery and increases the risk of delirium in older patients. This study examines how measures of pre-operative psychosocial reserve, which may be modifiable, relate to pain after total knee arthroplasty.

Methods: PRIME-KNEE is an ongoing prospective cohort study to identify predictors of resilience after elective knee arthroplasty in patients over 60 years old. This sub-analysis utilizes data from the first 94 participants with complete data on variables of interest. Measures of pre-operative psychosocial reserve included the PHQ9 depression screen (dichotomized at score of ≥ 5), Wagnild's resilience score (dichotomized at lowest quartile), and PROMIS emotional support score (average rating across four items, reverse-coded so low scores indicate better reserve). On days 1 through 7 post-surgery, participants rated their average pain and their worst pain that day. Outcome variables included mean "average pain" and mean "worst pain" ratings across the 7 days. Linear regression models were constructed to quantify the relationship between each measure of psychosocial reserve and the pain outcomes. Models that revealed a significant bivariate relationship were adjusted for age, sex, and activities of daily living.

Results:

Lower ratings of "worst pain" in the 7 days after surgery were observed in patients with higher pre-operative resilience scores (difference of 0.4745 on pain scale, SE 0.149, p=0.002) and lower pre-operative depressive symptom scores (difference of 0.419 on pain scale, SE 0.164, p=0.0128). These associations remained significant in adjusted models, with resilience scale adjusted effects of 0.516 (p=0.002), and depressive symptoms effect of 0.442 (p=0.0115). We did not observe significant associations between the reserve measures and daily ratings of "average pain" after surgery. The PROMIS emotional support score was not related to post-operative pain.

Conclusion: Measures of depressive symptoms and psychological resilience, but not emotional support, were predictive of peak pain perception after surgery. Patient-centered interventions to improve affective symptoms and to promote adaptive stress response may help mitigate pain crises in the week after knee surgery.

D230 Student Presentation, Encore Presentation
Evaluating the Effects of the COVID-19 Pandemic on Depression and Resilience in Older Adults

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Since March 2020, COVID-19 has affected the physical and mental health of older adults. However, when faced with adversity, studies have shown older adults to be at least, if not more, resilient than younger cohorts. This study aimed to understand the extent of psychosocial impact the pandemic had on older adults with and without depression currently enrolled in the Neurobiology of Late-Life Depression (NBOLD) Study. We hypothesized that over the course of the pandemic depression and resilience scores would increase.

There is still little research available regarding outcomes and factors from COVID-19 impacting older adults' depression and resilience, which this study aims to address while strengthening the validity of the EPII-G.

The study population included older adults previously diagnosed with Major Depressive Disorder (MDD) and non-depressed controls, enrolled in the N-BOLD study at the University of Connecticut Health Center. Inclusion criteria were: age of 60 or greater, ability to read and write English, and Mini-Mental State Examination score of 25 or greater. Depressed subjects met the criteria for MDD. The study utilized the EPII-G, Brief Carroll Depression Scale (BC), and Brief Resilience Scale (BRS). The surveys were verbally administered by the research staff in both in-person and via phone interviews.

From mid-2020 to summer 2021, both older adults with a history of depression and emotional controls saw BC scores and BRS scores increase, as seen in the included table.

We found a negative correlation between positive home life on EPII-G and BC scores, with a correlation coefficient of -0.3645 and a p-value of 0.0616. There was also a positive correlation with positive home life and social activities and BRS scores, with correlation coefficients of 0.26304 and 0.29869 and p-values of 0.0845 and 0.0489 respectively.

Individuals who didn't see disruption to their normal routine and had the means to communicate with loved ones had strong psychosocial supports in place but were still vulnerable to the detrimental effects of isolation. Through their years of experience, older adults have had the time needed to develop protective factors such as self-reliance. They have also lived through poignant events such as war and economic depression, putting suffering into perspective. This strong foundation has contributed to the resilience needed to overcome the stressors that surfaced during the pandemic.

D231 Student Presentation
Greater Brain Ischemia Protection Time with Prehospital Versus In-Hospital Neuroprotective Agent Start in Elderly Patients with Acute Ischemic Stroke

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Background: As time lost is brain lost in acute ischemic stroke, neuroprotective therapies are projected to exert greatest benefit the sooner after onset they are started. A promising strategy to increase the duration of brain protection is prehospital neuroprotective agent start by paramedics in the field. This study was undertaken to quantify the additional treatment time gained with neuroprotective agent start in the prehospital setting.

Methods: Comparative analysis of two randomized trials of neuroprotective agents: 1) prehospital strategy: Field Administration of Stroke Therapy-Magnesium (FAST-MAG) Trial conducted from 2005 to 2013 in 315 ambulances and 60 receiving hospitals in Southern California; 2) in-hospital strategy: Efficacy and safety of nerinetide for the treatment of acute ischaemic stroke (ESCAPE-NA1) Trial conducted from 2017 to 2019 at 48 hospitals in North America, Europe, Australia and Asia.

Results: In the FAST-MAG trial, among 1041 acute ischemic stroke patients, patient age was 69.3 yo (12.0), 44 were treated with endovascular reperfusion therapy (ERT), including 32 treated with both intravenous thrombolysis and ERT and 12 treated with ERT alone. In the ESCAPE-NA1 trial, among 1105 acute ischemic stroke, mean age was 71 yo, with 659 treated with both intravenous thrombolysis and ERT and 446 treated with ERT alone. Start of neuroprotective agent was sooner after onset with prehospital vs in-hospital start: 45m (IQR 38-56) vs 122m. The neuroprotective agent in FAST-MAG was started 8 minutes prior to ED arrival compared with 64 minutes after arrival in ESCAPE-NA1. The total time of "brain under protection" (neuroprotective agent start to reperfusion) was greater with prehospital than in-hospital start: 94m (IQR 90-98) vs 22m.

Conclusions: Initiating a neuroprotective agent in the prehospital (versus in-hospital) setting enables faster treatment start, yielding 72 minutes longer brain protection time for elderly patients with acute ischemic stroke. These findings provide support for increased performance of ambulance-based, prehospital treatment trials in the development of neuroprotective stroke therapies.

D232 Student Presentation

An Assessment of Vasospasm Risk Following Aneurysmal Subarachnoid Hemorrhage in Older Adults

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Cerebral arterial vasospasm is a dreaded sequela of aneurysmal rupture. This phenomenon occurs approximately 3-7 days after aneurysmal subarachnoid hemorrhage (SAH) and can result in significant narrowing of the surrounding vasculature leading to ischemic events. The treatment for vasospasm involves the administration of vasopressors to allow for extreme hypertension, intra-ventricular treatment with medicine delivered into cerebrospinal fluid reservoirs, and angiography where intra-arterial agents are given to dilate vessels in the brain. All of these treatments are associated with their own risk profile, including prophylactic treatments which may be associated with increased risks in older adults. Anecdotally, it seems that among patients with ruptured brain aneurysms, older adults appear less likely overall to develop severe vasospasm. This retrospective chart review aims to assess if there is indeed a decreased incidence of vasospasm among elderly patients treated at UNC Medical Center with spontaneous aneurysmal SAH. Electronic Health Record (EHR) data from EPIC, compiled by the Carolina Data Warehouse for Health, were analyzed for patients over the age of 18 who were previously treated at UNC Medical Center for SAH secondary to aneurysm within the past 10 years. Additional covariates were analyzed including patient demographics, prior comorbidities, medication(s), substance use, location(s) of aneurysm rupture, length of hospital stay, and treatment course. Logistic regression was used to calculate an adjusted odds ratios and to determine the association of age with the occurrence of vasospasm following aneurysmal SAH. In preliminary results, we found that patients 65 or older with aneurysmal SAH were found to be 4 times less likely to develop vasospasm compared to their younger counterparts ($p < 0.05$). This finding supports the hypothesis that older patient populations are less likely overall to develop vasospasm, suggesting that the treatment paradigm for aneurysmal SAH should be revised to minimize potentially unnecessary interventions and adverse outcomes for older adults.

D233 Student Presentation

Evaluating the Association of SES, Race, and Ethnicity on Stroke Morbidity

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Introduction: Ischemic stroke is a leading cause of death in the United States. Health care disparities related to socioeconomic status (SES), race, and ethnicity lead to adverse health outcomes[1,2]. We hypothesize that our data will reveal a correlation between SES, race, and ethnicity on ischemic stroke morbidity.

Methods: This retrospective cohort study looked at patients treated for precerebral occlusion with infarct; data was gathered from a New York State database[3]. Our final data set consisted of 18,555 patients aged 30+ treated in New York hospital facilities in 2016. Median county annual income was used to approximate SES, divided into four categories. All Patient Refined (APR) Severity of Illness (SOI) score was used for our outcome. A Chi-square test of association with crosstabulation was performed using IBM SPSS 27.

Results: We found a significant correlation between SES and SOI for the 70+ age group (p=0.005). Those in the highest SES bracket had higher than expected counts within severe and extreme categories. A significant difference was seen between expected and observed numbers of patients in each severity category by race, but only for the 50-69 age group (p<0.001): a disproportionately lower percent of Black/African American patients had minor to moderate outcomes. No other significant findings related to race, ethnicity, or SES were identified.

Conclusion: Our results confirmed our prediction of racial differences in stroke morbidity for the Black/African American population. However, the wealthiest among the 70+ population had worst outcomes, which contradicts our hypothesis, but may suggest SES-driven differences in lifestyle, caretaking, and living arrangements among the elderly.

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D234 Student Presentation, Encore Presentation

Assessment of the Relationship Between Visual Function and Cognitive Dysfunction in Older Adults

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Background: Visual impairment in older adults has been associated with increased risk and severity of Alzheimer's disease (AD) [Cronin-Golomb, 1995]. There is a great need to understand the relationship between these two disease processes in an effort to improve coordinated care for these patients. The purpose of the study is to determine the relationship between cognitive dysfunction and self-reported visual function using the National Eye Institute Visual Function Questionnaire (NEI-VFQ) and Mini-Mental Status Exam (MMSE).

Methods: Subjects for this investigation were enrolled from the Alzheimer's Disease in Primary Care (ADPC) study, in which each participant undergoes a medical exam, interview, neuropsychological testing, 3T MRI of the brain and PET amyloid scans. This study recruited 131 participants from the ADPC cohort to complete the NEI VFQ-25. The 25-item questionnaire consists of 12 subscales that measure the impact of ocular disease on several domains of health. To examine the relationship between cognition and self-reported visual function, we correlated mini-mental state exam (MMSE) scores with NEI-VFQ overall composite scores.

Results: 74.05% of the participants in this study were Caucasian with the majority being females. The minority of participants were Asian at 2.29%. We observed a significant association between overall NEI-VFQ composite score and MMSE score ($p = 0.0359$). On average, for every 1-point increase in MMSE total score, the overall composite score increases by 0.3992 units.

Conclusions: The consideration of visual function and quality of life is an important component during the ophthalmic and neuropsychological evaluation of a patient with cognitive dysfunction. Vision tests, such as visual acuity, are not a comprehensive representation of visual impairment experienced by individuals [Cullinan, 1978, Genensky, 1976], and do not account for the influence of visual disability on health-related quality of life (HRQOL) such as emotional well-being or social function [Mangione, 2001]. The use of the NEI-VFQ in a primary care setting could help identify patients with reduced self-reported visual function, which could simultaneously identify those at increased risk for cognitive dysfunction.

D235 Student Presentation

Practice Effect and Cardiorespiratory Response to Cognitive Test-Retest with Aging

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Background: This study aimed to examine the age-related difference in practice effect on cognitive performance and cardiorespiratory frequencies during test and retest with the same materials in different cognitive domains.

Methods: Twenty cognitively normal older and younger men and women (65±2 vs 26±1 years old) provided the informed consent (approved by IRB) and participated in cognitive test and retest using Mini-Mental State Examination (MMSE), Digit Span, Trail Making Test (TMT-B), and California Verbal Learning Test (CVLT-II) with 3 weeks apart. During the testing, heart rate (HR) and breathing frequency (BF) were continuously monitored from electrocardiogram and plethysmograph. ANOVA was applied to examine the significance of the age factor and test-retest time factor.

Results: The age factor had no significant effect on cognitive performances except in TMT-B (P = 0.057). The outcomes of cognitive performance in older vs younger groups during the first test were 29.2±0.4 vs 29.6±0.2 in MMSE, 15.6±1.6 vs 16.7±1.2 in digit-span, 2.72±0.74 vs 2.18±0.67 in CVLT-II, and 58.8±6.4 vs 48.0±3.6 in TMT-B, respectively. The test-retest time factor on cognitive performances also was not significantly different in all cognitive domains. Baseline HR and BF were not different between the two groups, older vs younger: 72±5 vs 80±3 beats/min and 17±1 vs 16±1 breaths/min. Both HR and BF were significantly augmented (P<0.01) in response to the cognitive test. However, both these responses were significantly attenuated during the retest (the time factor P<0.01). Only HR, not BF response was significantly affected by the age factor.

Conclusions: There was no practice effect on cognitive performance in both older and younger subjects. However, there was a practice effect on the cardiorespiratory responses to cognitive challenge, which were significantly reduced during the cognitive retest. Aging significantly diminished HR response during cognitive challenge.

D236 Student Presentation

Interventions to Reduce Loneliness in Caregivers: An Integrative Review of the Literature

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Background: Older adults are at an increased risk of loneliness. Most persons with dementia and other disabling conditions are cared for by informal or family caregivers. Loneliness is particularly challenging in caregivers, who struggle to manage caregiving demands with their own personal needs. Research on loneliness interventions for caregivers is limited.

Method: An integrative review of the literature was conducted using five electronic databases and 12 studies were included for further analysis. Data were extracted regarding the type of intervention implemented, caregiver characteristics, and intervention effects.

Results: Five main intervention types emerged: mindful meditation, computer applications, music therapy, peer support, and community programs. Most care recipients had dementia, and most caregivers were spouses. Peer support was the most frequently utilized intervention, and common intervention strategies included providing emotional support, expanding one's social network, and supplying psychoeducational materials.

Conclusion: Most interventions had methodological limitations and demonstrated small effect sizes. Hence, there remains a continued need for welldesigned interventions that target loneliness in informal caregiver. Caregivers may benefit from interventions that expand their social network to improve their emotional regulation and understanding of their role. Further research on the role of group versus individual therapy is necessary to strengthen interventions and broaden their application

D237 Student Presentation

The anxiety level and its associated factors of the community-dwelling older adults during COVID-19 epidemic

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Background: The psychological well-being of older adults may have been negatively affected by the outbreak of the COVID-19 epidemic due to the presence of comorbidity, increased risk of complications, mortality, and difficulty in adapting to mhealth and social isolation. The study aimed to investigate the anxiety level of community older adults during the COVID-19 epidemic and explore its associated factors, so that there can be more evidence-based advice to improve the mental health status for the older adults.

Methods: Online questionnaires and face to face communication were used to investigate 320 community older adults, who were selected randomly. The questionnaires were used to investigate the sociodemographic characteristics, anxiety and resilience level of the participants. One-way ANOVA, correlation and regression analysis were performed to explore the factors associated with the anxiety among the older adults.

Results: The mean of the anxiety among the all participants is 44.03±10.89 and 128 persons (40%) suffer from the anxiety (mild anxiety: 84.38%, moderate anxiety: 14.06%, severe anxiety: 14.06%). The mean of resilience is 56.68±18.26, and the three dimensions of CD-RISC is negative correlation with the anxiety. The SAS can be influenced by the chronic disease history (P=0.045), physical health conditions (P=0.024), economic income (P=0.026), the health education of the COVID-19 epidemic (P<0.001) and the level of resilience (P=0.002).

Conclusions: The morbidity and score of the anxiety among the community older adults are higher during the COVID-19 epidemic than the usual. While the score of the CD-RISC is lower than the previous studies. Anxiety emerged as a prominent issue for community-dwelling older adults during the COVID-19 epidemic. Interventions that targeted resilience may have the potential to reduce anxiety level and improve the psychological well-being of the older adults.

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