Name: Donna Bartlett, PharmD, BCGP, FASCP

Title: Deprescribing Cascades of Polypharmacy, Anticholinergic Burden, and Frailty

Authors: Pratik Tank and Donna Bartlett

Background: Studies have established individual positive correlation of polypharmacy and individual negative correlation of deprescribing with anticholinergic burden (ACB) and frailty in older patients. However, no study has established a direct correlation of polypharmacy and deprescribing with anticholinergic burden and frailty combined.

Objective: To understand and establish the relationships of polypharmacy and deprescribing with anticholinergic burden and frailty in older adults.

Method: Literature search was carried out using PubMed, PubMed Central, and Google Scholar. Mesh terms used were: “Polypharmacy”, “Anticholinergic burden”, “Frailty”, and “Deprescribing” using the connector “AND” in different combinations of two terms. No restrictions were applied. Studies were selected based on the titles and abstracts of the articles and reviewed for potential inclusion. After review and research, 10 articles were included. Themes and relationships of polypharmacy, deprescribing, ACB, and frailty were determined.

Result: Results of these studies are: each new prescription medication increased the odds of having ACB score 3 or above by at least 1.23 ([95% CI 1.14–1.32], p value < 0.001); polypharmacy was 2.3 times (95% CI: 1.60 – 3.31) and hyper-polypharmacy was 4.97 times (95% CI: 2.97 – 8.32) more likely to cause frailty; anticholinergic medications were 3.9 times (95% CI: 2.9 – 5.3) more likely to cause frailty; at 90 days follow up, deprescribing caused 15% (95% CI, 0.78 – 0.92, p value < 0.001) fewer medications and decrease in mean drug burden index (DBI) of 0.34 (95% CI, -0.63 - -0.07, p value = 0.02); and deprescribing reduced frailty score by -1.35 (95% CI, -2.22 – -0.48) at 6 months.

Conclusion: In older adults, anticholinergic burden and frailty are increased and decreased by polypharmacy and deprescribing, respectively. Frailty is also increased by anticholinergic burden. However, a well-structured randomized control study is required to establish a clear relationship between all these factors.

Source of funding for the research to be presented: N/A

Conflict of interest: Donna Bartlett is the author of *MedStrong- Shed Your Meds for a Better Healthier You* and the *MedStrong Workbook*. She is CEO of WELLhood Publishing.

Name: Bita Behrouzi

Title: Frequency of Medical Visits as a Predictor of New Opioid Prescriptions for Non-Malignant Back Pain

Authors
Bita Behrouzi[1], MD; Cancan Zhang[1], PHD; Keerthi Bandi[1], MD; Corinne Rodgers Corbett[1], MD; Kenneth J. Mukamal[1], MD, MPH [1]
Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA

Introduction
Opioid prescriptions for non-malignant back pain pose a potential for dependence and adverse effects. Understanding factors associated with new opioid prescriptions can guide better clinical practices. This study aims to determine the association between the number of ambulatory visits and new opioid prescriptions among patients with non-malignant back pain. We hypothesized that providers may be more inclined to newly prescribe opioids for patients with repeated clinical visits for back pain.

Methods
We conducted a cross-sectional analysis of the National Ambulatory Medical Care Survey from 2014 to 2019. We included 1871 adults aged 25 and above who were seen for non-malignant back pain and were not currently prescribed opioids. We assessed the association of medical visit frequency over the last year with new opioid prescriptions using weighted logistic regression models adjusted for sociodemographic factors (age, sex, race-ethnicity, payer type, and rural/urban classification).

Results
Opioids were newly prescribed in 13.7% (95% CI [10.0%, 17.3%]) of the visits. Prescription rates were 12% for 0-5 visits, 11% for 6-10 visits, 47% for 11-20 visits, and 40% for >20 visits in the last year ($p < 0.001$). Frequency of past visits was significantly associated with new opioids prescriptions after adjustment for sociodemographic factors ($p<0.001$). Compared to patients with 0-5 visits, the adjusted odds ratios for new opioid prescriptions were 0.60 (95% CI [0.37, 1.78]) for 6-10 visits, 6.93 (95% CI [2.52, 19.09]) for 11-20 visits, and 5.05 (95% CI [0.70, 36.53]) for >20 visits.

Conclusion
The frequency of visits was significantly associated with new opioid prescriptions among patients seen for non-malignant back pain. Notably, opioids were prescribed in at least 40% of visits among patients with 11 or more visits within the preceding year, highlighting a critical area for intervention. These findings indicate the importance of cautious prescribing practices and careful assessment of pain management strategies, especially for patients with frequent healthcare encounters.

No source of funding and no conflict of interest to report.

What is a prescribing cascade? A scoping review of definitions

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Introduction
The term '*prescribing cascade*' was first coined by Rochon and Gurwitz in the 1990s, whereby they described how the "*misinterpretation of an adverse reaction as another medical condition may lead to the prescription of additional medications*" [1,2]. Since then, other researchers have suggested that the initial medication side effect could be 'recognised' or 'unrecognised', and consequently the cascade either 'intentional' or 'unintentional' [3]. This has caused uncertainty for researchers, clinicians, and patients alike – making prescribing cascades harder to conceptualise and identify. Therefore, with a need for greater clarity, the primary aim of this scoping review was to map how the term '*prescribing cascade*' has been defined or described in the published literature.

Method
This study was conducted in accordance with the Joanna Briggs Institute methodology for scoping reviews [4]. Seven electronic databases were searched from inception to January 2023. Studies were included if they i) were published full-text articles in English, ii) mentioned prescribing cascade or an associated synonymous term in the title or abstract, and iii) provided a definition or description of a prescribing cascade in the full text. Study characteristics, specific terminology or images used to define/describe the prescribing cascade, and any nuanced expansions of the term were all extracted. Screening and data extraction were performed by at least two researchers independently, and all findings underwent a narrative synthesis.

Results
In total, 96 articles were included. Half included a definition that stated that the side effect was misinterpreted (*n*=48), whilst 12.5% indicated a possible misinterpretation. Twenty-two articles (22.9%) mentioned that the side effect could be recognised or unrecognised, 20.8% alluded to the cascade's appropriateness or inappropriateness, and 5.2% mentioned their intentional or unintentional nature. Nearly one quarter of articles (22.9%) included an image or map to describe a prescribing cascade (e.g. ranging from a straightforward arrow-based sequence to a clinical process map). Nuances expanding on the original concept included terms such as a '*prophylactic prescribing cascade*', '*prescribing cascade relic*', and '*deprescribing cascade*'.

Conclusion
This review has uniquely mapped how prescribing cascades have been conceptualised in the published literature, finding considerable heterogeneity between studies. These findings suggest the need for consensus and/or operational definitions for prescribing cascades, which would not only enhance the consistency with how we measure their prevalence, but also increase clarity of the concept for clinicians, researchers, patients, and the wider public – ultimately to help better identify and minimise inappropriate prescribing cascades in future.

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Name
Alexa (Lexy) Ehlert

Title
Impact of Recent Guideline Changes on Aspirin Use for Primary Prevention in Older Veteran Nursing Home Residents with Dementia

Authors
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Abstract
BACKGROUND. Following publication of the Aspirin in Reducing Events in the Elderly (ASPREE) trial, the American Heart Association (AHA) and American College of Cardiology (ACC) issued updated guidelines recommending against aspirin use for primary prevention of cardiovascular disease in adults over age 70. We investigated the effect of these results and subsequent guideline changes on the prevalence of low-dose aspirin use for primary prevention among newly admitted older Veterans Affairs (VA) nursing home residents with dementia.

METHODS. This was a retrospective analysis of data from the VA Residential History File, Corporate Data Warehouse, Minimum Data Set (MDS), and Medicare claims for Veterans. We identified Veterans aged ≥70 with dementia and no history of cardiovascular disease, who were admitted to a VA Community Living Center (CLC) for at least a 7-day stay over October 1, 2015, to March 11, 2020. For each month (constructed as 28-day periods), we computed the proportion of admissions with aspirin administration at cardio-protective doses (1-325 mg/day) during the first week of their CLC stay based on barcoded medication administration (BCMA) data. We conducted an interrupted time series analysis using segmented linear regression to examine level and trend changes in monthly aspirin prevalence across three periods: pre-ASPREE trial period (10/2015 – 9/2018), post-ASPREE trial and pre-guideline change period (9/2018 – 3/ 2019), and post-ASPREE trial and guideline change period (3/2019 – 3/2020).

RESULTS. Our cohort of 5,054 new CLC admits were predominantly reported as White on the MDS (77.3%) and male (97.5%), with an average age of 82.1 years. Prevalence of aspirin use was 30.7% in October 2015 and 20.5% by March 2020. Low-dose aspirin prevalence decreased by an average of 0.2% each month (CI: -0.2%, -0.1%). The immediate level changes in aspirin use were not statistically significant after the ASPREE results (-2.3% compared to pre-period, 95% CI= -11.8%, 7.2%) or after the AHA/ACA guideline update (3.2% compared to post-ASPREE period, 95% CI= -5.8%, 12.2%). The estimated changes in slope after both interruptions were also not significant (-0.1%, 95% CI=-2.4%, 2.2% and -0.2%, 95% CI=-2.6%, 2.3%, respectively).

CONCLUSION. Use of aspirin for primary prevention declined slowly over time among older Veterans with dementia admitted to VA nursing homes but did not appear to be strongly influenced by publication of the ASPREE trial results or subsequent guideline changes. These findings underscore the need to further align practice with current evidence to optimize patient care.

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Conflicts of Interest
None to report.

A systematic review to inform emulation of deprescribing randomised controlled trials: Using real-world data within the Registry of Senior Australians (ROSA) platform

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Abstract

Background: Evidence gaps exist in medication effectiveness and safety for older adults due to the underrepresentation or exclusion of this population in randomised controlled trials (RCTs). Target trial emulation has emerged as a promising methodological approach to address these gaps by generating real-word evidence on medications comparative effectiveness and safety in older adults. Our systematic review aimed to identify deprescribing RCTs evaluating the effects of discontinuation on clinical outcomes to inform a deprescribing trial emulation using the Registry of Senior Australians, which is a national population-based data platform integrating aged care, health care and social welfare information.

Methods: Medline Ovid, EMBASE Ovid, Cochrane Library Special Collection on deprescribing, and clinical trial registration platforms from inception to 2022 were searched using the US Deprescribing Research Network deprescribing literature search strategy. RCTs that compared the effect of deprescribing modalities (abrupt discontinuation or down titration) on clinical outcomes in older adults (≥65 years) were included. Key RCT design parameters were extracted and mapped according to components of the target trial emulation framework. RCT characteristics are presented.

Results: 1131 studies were screened, 43 met the inclusion criteria and 9 were of ongoing and registered RCTs. The included RCTs covered many medication classes, including antipsychotics, antidepressants, dementia medications, heart failure medications, antihypertensives, and antiresorptive therapies. The outcomes included the effect of discontinuation on cognitive, functional, or neuropsychiatric outcomes, mortality, and institutionalisation.

Discussion: This systematic review informs ongoing efforts on database emulation of deprescribing trials using the ROSA data. Ongoing work is underway to ascertain the feasibility of the ROSA platform for the RCT emulation.

Other: This study was undertaken with the financial support of the SAHMRI Early and Mid-Career Researcher Seed Funding Grant.

Ishani Ganguli MD MPH

Title: Telemedicine adoption and low-value care use among older adults in traditional Medicare: a difference-in-differences analysis Authors: Ishani Ganguli MD MPH, Christopher Lim BA, Nicholas Daley AB, David Cutler PhD, Meredith Rosenthal PhD, Ateev Mehrotra MD MPH

Background: Low-value care is a persistent, costly problem. The post-pandemic rise in telemedicine adoption may reduce low-value care use by introducing barriers to completing these services at given visits, and/or may increase opportunities for low-value care use by contributing to higher visit volumes, but there are no studies examining this. We used a quasi-experimental approach to assess the impact of telemedicine adoption on low-value testing among Medicare beneficiaries.

Methods: We used 2019-2022 100% Medicare FFS claims data and difference-in-differences (DiD) analysis to compare beneficiaries who were continuously enrolled and alive through December 31, 2022 and attributed pre-pandemic (2019) to systems in the top vs. bottom quartile of telemedicine adoption during the pandemic. We used beneficiary-level linear regression to assess differences in total visits (including in-person and telemedicine) and receipt of 4 low-value screening and acute diagnostic services (binary) in 2022 vs 2019 among those in high vs. low telemedicine systems, clustering results at the Hospital Referral Region level.

Results: We examined 5,624,278 attributed beneficiaries, including 1,383,509 in high telemedicine systems and 999,351 in low telemedicine systems. In 2019, those in high telemedicine systems had more visits per beneficiary (10.90 vs 9.39), were at lower baseline risk of low-value PSA testing (30.17% vs. 31.93%) and low-value imaging for syncope (5.58% vs. 5.76%), and at higher baseline risk of low-value Papanicolaou smears (4.32% vs. 3.13%) and low-value imaging for uncomplicated low back pain (12.26% vs 11.45%) than those in low telemedicine systems. Post-telemedicine adoption, those in high telemedicine systems had a larger differential rise in total visits (diff in diff 0.12 visits per beneficiary, 95%CI 0.09-0.15). Those in high telemedicine systems also had a larger differential rise in PSA testing (DiD 0.77%points(95%CI 0.26,1.29)), a smaller differential rise in Papanicolaou smears (DiD -0.44%points(95%CI -0.53,-0.35)) and back imaging (DiD -0.78%points(95%CI -0.92,-0.63)), and no difference in imaging for syncope (DiD 0.097%points(95%CI -0.009,0.203)).

Conclusions: Older adults exposed to high telemedicine health systems had differentially more visits overall, lower risk of low-value Pap smears and back imaging, and higher risk of PSA tests. This pattern suggests the possibility that for screening services, telemedicine adoption may deter low-value Pap smears (which must be done during office visits); whereas for PSA tests (which can be ordered virtually and completed after a visit), exposure to higher visit volumes may outweigh barriers at given visits. These results can inform ongoing policy debate and imminent decisions on how to reimburse telemedicine visits.

Source of Funding: This research is funded by a co-sponsored grant from Arnold Ventures and The Commonwealth Fund. Conflicts of Interest: We report no relevant conflicts of interest.

Submitted by: CDR Andrew Geller, MD

U.S. Emergency Department Visits by Older Adults for Bleeding related to Oral Anticoagulants and Concomitant Antiplatelet Agents, 2022

Authors: Andrew I. Geller[1], Maribeth C. Lovegrove[1], Jennifer N. Lind[1], Sandra Goring[2], Nina Weidle[2], Kathleen Rose[2], Nimalie Stone[1]

Affiliations: [1]Medical Product Safety Branch, Division of Healthcare Quality Promotion, Centers for Disease Control and Prevention [b]Chenega Enterprise Systems & Solutions, LLC (contractor to CDC)

ABSTRACT

Background: Bleeding related to oral anticoagulants, including direct-acting oral anticoagulants (DOACs) and warfarin, is a common cause of U.S. emergency department (ED) visits for adverse drug events in older adults. Due to the additive bleeding risk potential with concomitant antiplatelet therapy, and recent attention to risks and benefits of combination therapy, we examined the frequency of aspirin or other antiplatelet agent involvement in ED visits for oral anticoagulant-related bleeding in 2022.

Methods: We estimated ED visits for oral anticoagulant-related bleeding among adults aged ≥65 years using the National Electronic Injury Surveillance System-Cooperative Adverse Drug Event Surveillance project, an active public health surveillance system based on a nationally-representative, size-stratified probability sample of U.S. hospitals. Involvement of aspirin or other oral antiplatelet agents (e.g., clopidogrel, ticagrelor) was identified by examining the implicated and concomitant medications documented. We calculated national estimates and corresponding 95% confidence intervals (Cis) using SAS SURVEYMEANS, accounting for sample weights and complex sample design.

Results: Based on 1,761 cases in 2022, bleeding involving oral anticoagulants and concomitant antiplatelet agents caused an estimated 88,148 (95% CI, 50,429-125,866) ED visits among adults aged ≥65 years, comprising an estimated 27.8% (24.9%-30.8%) of all oral anticoagulant-related bleeding visits in this age group. The proportion of anticoagulant-related bleeding visits involving concomitant antiplatelet therapy did not differ between those involving DOACs and warfarin (28.4% [25.1%-31.6%] versus 26.3% [23.1%-29.6%], respectively). Hospital admission was required for an estimated 53.6% (47.2%-59.9%) of anticoagulant-related bleeding visits involving antiplatelet agents, nominally higher than the proportion hospitalized among anticoagulant-related bleeding visits where antiplatelet use was not documented (46.4%; 40.1%-52.8%). A nominally-higher proportion of visits for bleeding related to anticoagulants with concomitant antiplatelet agents involved gastrointestinal bleeding and central nervous system bleeding compared with visits that did not involve antiplatelet agents (38.6% [28.3%-49.0%] and 5.0% [3.5%-6.5%]) versus 35.0% [27.0%-43.0%] and 3.8% [2.6%-5.0%]), but differences were not statistically significant. Aspirin was the most common antiplatelet agent involved (22.5% overall [19.2%-25.8%]), documented five times more frequently than other antiplatelets (5.4% [3.3%-7.5%]).

Limitations: ED medical records incompletely document antiplatelet use, and comorbidity and treatment indication data are limited, constraining the ability to make comparisons or determine likelihood of inappropriate co-prescribing with anticoagulants.

Conclusion: Antiplatelet use is common among older adults presenting to the ED with oral anticoagulant-related bleeding. Efforts to optimize oral anticoagulant treatment and balance benefits with risks of concomitant antiplatelet therapy should be included as part of interventions to decrease oral anticoagulant-related bleeding.

OTHER INFORMATION

Words: 400 (limit 400)

Funding Source: US Government (Department of Health and Human Services, CDC)

Conflict of Interest: None.

Presenter: Carole Goodine
Title of Presentation: Deprescribing Electronic Decision Support for Older Adults Living in Long-Term Care Homes
Authors: Carole Goodine, Justine L. Estey, Émilie Bortolussi-Courval, Jeffrey Gaudet, Pierre Philippe Wilson Registe, Todd C. Lee, Emily G. McDonald
Importance: Polypharmacy is common, costly, and harmful. It is pervasively present in long-term care homes, with almost 90% of residents prescribed 5 or more medications. Deprescribing potentially inappropriate medications (PIMs) is a priority for improving the health outcomes of older adults.

Objective: to test the efficacy of electronic decision support for deprescribing in long-term care

Design: This was a prospective, controlled trial with 5 nursing homes divided into 3 clusters. All clusters spent 3 months in a control phase; every 3 months, a cluster was randomly assigned to enter the intervention phase.

Setting: Five nursing homes in New Brunswick, Canada

Participants: Older adults residing in one of the nursing homes at the start of the study

Interventions: Electronically generated individualized deprescribing report containing prioritized opportunities for deprescribing with evidence-based recommendations for safer prescribing in older adults. The intervention was repeatedly paired with the usually occurring quarterly medication reviews. Reports were accessed through a secure viewer: the Deprescribing App.

Main outcomes and measures: the proportion of residents with one or more PIMs deprescribed in the control phase vs. intervention.

Results: The study included 725 older adults with a median (IQR) age of 84 (14) and 66% female. The median (IQR) number of medications and PIMs was 10 (6) and 3 (2). The proportion of residents with one or more PIMs deprescribed in the control phase was 12.7% compared to 36.4% in the intervention phase, a statistically significant difference (odds ratio 3.98, 99% CI 3.029 to 5.231). Additionally, several medication classes that are often associated with PIMs (like opioids and benzodiazepines) were deprescribed more in the intervention group when compared to the control group. Deprescribing App users were satisfied with the app and described it as a valuable tool due to the information it provides and its ease of use.

Conclusion and relevance: medication reviews should routinely incorporate the principles of deprescribing as part of usual care. Interventions that pair with the usual workflow rendering this process more feasible and ultimately more effective, are needed. Electronic decision support can potentially accomplish this and is a scalable intervention.

Source of funding: The Healthy Seniors Pilot Project, a joint initiative between the Government of New Brunswick and the Public Health Agency of Canada
Conflict of interest: Emily G. McDonald and Todd C Lee are cofounders of MedSafer, the decision support software used in this study.
Justine L Esty is the Executive Director of the Centre for Innovation and Research in Aging (CIRA). This not-for-profit organization owns the license for MedReviewRx, the deprescribing App used in this study.

Name: Samantha Hillen
Development of Artificial Intelligence-Assisted Deprescribing Chatbot for Patients with Cystic Fibrosis Discontinuing Proton Pump Inhibitors

Authors: Samantha Hillen, Nicole Omecene, Dayanjan Wijesinghe, Kristin Zimmerman Patients with cystic fibrosis (pwCF) often take proton pump inhibitors (PPIs) to aid nutrient absorption or treat gastroesophageal reflux disease (GERD), but long-term use may lead to adverse effects (i.e., increased risk of infections) which can be concerning in this vulnerable patient population. Barriers to successful deprescribing of PPIs in pwCF may include healthcare professional (HCP) time and knowledge around deprescribing, as well as patient access to the healthcare team if new symptoms or questions arise. The incorporation of artificial intelligence (AI) in the deprescribing communication process can enhance patient access to accurate and useful information that can support the deprescribing process, while also decreasing HCP workload. The objective of our pilot research is to explore the development and integration of an AI deprescribing tool using OpenAI's ChatGPT-4 Large Language Model for potential inclusion into clinical practice. Herein we describe the tool development.

To create the AI system message, the development team began by delineating a priori background information, current scenario, interaction rules, and closing language for the AI system to follow. We then created four test cases representing different clinical scenarios of pwCF instructed by their provider to deprescribe their PPI. The system message was tested by using the four cases hierarchically until team satisfaction with the simulated interaction was reached. Through this iterative process of testing and refinement, the message evolved to enhance accuracy by adding details on deprescribing approaches, restarting therapy, assessing user symptoms to differentiate between medication side effects and unrelated infections; to enhance appropriateness and satisfactoriness by including instructions regarding use of empathetic language, and ensuring understanding through the use of lay terminology and the teach-back method. To further address satisfactoriness, the team added rules to address specific clinical issues, such as the system's response length, amount of questions asked at one time, and tone. Next, the acceptability of this final system message will be evaluated with HCPs caring for pwCF before testing with pwCF and their caregivers.

Source of Funding: This project is unfunded.

Conflict of Interest: The authors have no conflicts of interest to disclose.

Katharina Jungo, PhD

Title: Associations between gender, race/ethnicity and age and the discontinuation of chronic high-risk medication use in US older adults

Authors: Katharina Tabea Jungo,1 Julie C. Lauffenburger1 1 Center for Healthcare Delivery Sciences (C4HDS), Division of Pharmacoepidemiology and Pharmacoeconomics, Department of Medicine, Brigham and Women's Hospital and Harvard Medical School, Boston, Massachusetts, USA Background: High-risk medication use is associated with an increased risk of adverse events in older adults, which provides the rationale for discontinuing such medications after careful consideration by older adults and their healthcare providers to reduce medication-related harm. Little is known about the association between sociodemographic characteristics and the discontinuation of high-risk medications.

Objective: The aim was to study the association between age, gender, and race/ethnicity and the discontinuation of high-risk medications in new chronic users of high-risk medications.

Methods: In this retrospective cohort study, we identified adults aged ≥65 years enrolled in a national health insurer between 2017-2022 who were new chronic users of 16 high-risk medication classes (≥90 days' supply & ≥2 fills in 180 days prior to the index date). We measured age, gender, and race/ethnicity from enrollment files. The outcome was the discontinuation of high-risk medication use (no fill after grace period of 90 days). Older adults were followed until outcome occurrence, death, disenrollment, or end of data. We used Cox regression to estimate the association between the sociodemographic characteristics and discontinuation. The analyses were adjusted for clinical patient characteristics measured during the 365- day baseline period. We added three-way interaction terms for race/ethnicity, gender, and age to the model (race/ethnicity # age category # gender) to explore whether the relationship between these variables and the outcome varies across different subgroups of race/ethnicity, age, and gender.

Findings: Across 572,093 older adults (mean age: 73 years [SD:7], 74% White, 59% female), 17% discontinued their high-risk medication (mean follow-up: 655 days). Non-White older adults had a higher likelihood of discontinuing high-risk medications (Asian: Hazard Ratio (HR) = 1.29, 95% CI 1.22 to 1.37, Black: HR = 1.23, 95% CI 1.20 to 1.27, Hispanic: HR = 1.33, 95% CI 1.29 to 1.37). Men had a lower likelihood of discontinuing high-risk medications (HR = 0.89, 95% CI 0.87-0.91). And individuals aged ≥75 years had a lower likelihood of discontinuing high-risk medications (HR = 0.88, 95% CI 0.86 to 0.90). The joint presence of White or Hispanic race/ethnicity, male gender, and age ≥75 years increased the likelihood of discontinuation.

Conclusion: Despite being unable to consider the reasons for medication discontinuation, these findings that demonstrate differences across sociodemographic groups suggest the importance of exploring the individualization of medication optimization approaches in older adults.

Source of funding: Katharina Jungo was funded by a Postdoc.Mobility Fellowship from the Swiss National Science Foundation (P500PM_206728) Conflict of interest: The authors do not have any conflicts of interest to declare.

Antihypertensive Deprescribing in Long-Term Care: A Randomized Controlled Trial (OptimizeBP)

Roni Kraut, Erik Youngson, Cheryl Sadowski, Ana Vucenovic, Douglas Faulder, Tina Korownyk, Jeff Bakal, and Scott Garrison

Background: Antihypertensive medication use is prevalent in frail older adults, yet literature suggests that antihypertensive medications in this population have limited benefit and may be harmful.

Objective: To determine in frail older adults in long-term care facilities whether continually reducing antihypertensives provided an upper systolic threshold of 145 mmHg is not exceeded compared to standard practice will lead to a change in time to all-cause mortality.

Methods: Prospective, parallel, randomized, open-label, pragmatic, blinded endpoint trial. This study is in partnership with the Alberta SPOR SUPPORT Unit Data and Alberta Health Services, which use Alberta Health Services administrative data to identify and randomize residents and complete data analyses. Participants are long-term care residents in the province of Alberta, Canada, ≥70 years of age, average systolic BP <135 mmHg, and on ≥1 antihypertensive medication. Pharmacists/nurse practitioners deprescribe antihypertensive medication every second week to a target systolic blood pressure of 140 ±5 mmHg using an investigator-developed algorithm. The primary outcome is all-cause mortality. Secondary outcomes include hospitalization/emergency department visits, nonvertebral fracture, renal insufficiency, cost of care, falls, worsening cognition, worsening activities of daily living, and decubitus skin ulceration.

Results: OptimizeBP is nearing full recruitment: Twenty-two LTC facilities and ~450 residents are participating. At 3 months post-randomization, 75% (intervention) and 21% (control) were deprescribed at least 50% of the dose of one antihypertensive, and 51% (intervention) and 12% (control) were fully deprescribed an antihypertensives. Two percent (intervention) and one percent (control) started on a new antihypertensive at 3 months. The average baseline blood pressure was 121/71 mmHg (intervention) and 123/70 mmHg (control), and 6 months post-randomization was 131/73 mmHg (intervention) and 129/71 mmHg (control).

Conclusion: Deprescribing antihypertensive medication in long-term care is feasible. This study will provide further evidence about the benefits and potential risks of deprescribing antihypertensive medication in the frail older adult population. Final results are expected in 2025.

Sources of funding: Northern Alberta Academic Family Medicine Fund (R14P13, R17P02, R18P23) and Alberta Innovates through Enhancing Alberta Primary Care Research Networks (EnACt). Conflict of interest: None

Changes in long-term GC use among older adults after new diagnosis of late-onset rheumatoid arthritis

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Conflicts of interest: Lee, J, **None; Martindale, J, None; Wallace, B, None; Makris, UE, None; Bynum, JPW, None.**

Background: In older adults with late-onset rheumatoid arthritis (LORA), disease-modifying anti-rheumatic drug (DMARD) use is suboptimal despite these medications being effective and generally well tolerated, and long-term glucocorticoid (GC) use is common despite their adverse effects even at low doses. In this study, we evaluated changes in long-term GC use and factors associated with persistent long-term GC use after LORA diagnosis.

Methods: We identified adults ≥66 years with a new diagnosis of LORA, with any DMARD use or at least two rheumatologist visits, and at least 12 months of follow-up data, using 20% Medicare data from 2008-2017. Information on baseline patient characteristics and patterns of DMARD and long-term GC use during the first 12 months after LORA diagnosis were collected. Older adults were categorized as *DMARD-exposed* or *DMARD-unexposed* based on their use of any DMARD after LORA diagnosis. Long-*term GC use* was defined as having oral GC prescriptions for at least >30 days in a quarter or >90 days in a year with a dose >5mg/day (prednisone equivalent). We compared changes in the proportion of older adults with long-term GC use by DMARD exposure status and performed multivariable logistic regression for factors associated with *persistent long-term GC use*, defined as long-term GC use in Q2-Q4.

Results: We identified 15,425 older individuals with LORA; of whom two-thirds (62.5%) were DMARD-exposed and 37.5% were DMARD-*un*exposed (Table 1). Long-term GC use was higher among the DMARD-exposed (44.4%) than the DMARD-*un*exposed (28.0%). However, the two groups did not differ in their average daily dose (prednisone equivalent) of long-term GC use (9.7mg/day (SD 5.7) vs 9.4mg/day (SD 8.4), p=0.31). Between Q1 and Q4 after LORA diagnosis, the proportion of older adults on long-term GC use was lowered by 19% among the DMARD-exposed compared to 8% among the DMARD-*un*exposed (Figure 1). One year after LORA diagnosis, 14% of the DMARD-exposed and 10% of the DMARD-*un*exposed were persistent long-term GC users. In multivariable analysis, persistent long-term GC use was associated with DMARD use, older age, male, Hispanic/Other race, low-income subsidy status, and having more rheumatologist visits (Table 2).
Conclusions: More DMARD-exposed older adults lower their long-term GC use compared to the DMARD-*un*exposed. Persistent long-term GC use after one year of LORA diagnosis was seen in one in seven DMARD-exposed and one in ten DMARD-*un*exposed raising concern for suboptimal treatment. Further studies are needed to optimize DMARD use and reduce long-term GC use in older adults with LORA.

Table 1: Characteristics of Medicare beneficiaries with new diagnosis of LORA

	DMARD-exposed N=9640	**DMARD-*un*exposed** N=5785	**p-value**
Demographics			
Age, mean (SD)	74.5 (6.3)	76.0 (7.0)	<0.0001
Female, n (%)	7081 (73.4)	4302 (74.4)	<0.0001
Race/Ethnicity, n (%)			0.0519
…White	7695 (79.8)	4708 (81.4)	
…Black	818 (8.5)	442 (7.6)	
Hispanic	694 (7.2)	412 (7.1)	
Other	433 (4.5)	223 (3.9)	
Low-income subsidy status, n(%)	2473 (25.5)	1299 (22.5)	<0.0001
Comorbidity, n (%)			<0.0001
<3	4859 (50.4)	2461 (42.5)	
3-5	3768 (39.1)	2403 (41.5)	
≥6	1013 (10.5)	921 (15.9)	
Rheumatology Care			
Rheumatologist visit, n (%)	8194 (85)	5785 (100)	
Number of rheumatologist visits, median (IQR)	4 (2, 6)	4 (2, 5)	0.0017
4+ rheumatologist visits, n(%)	5631 (58.4)	2908 (50.3)	<0.0001
DMARD prescribed during first 12 months after LORA diagnosis			
DMARD within 3 months, n (%)	7250 (75.2)	n/a	-
No. unique DMARD, median (IQR)	1 (1, 2)	n/a	-
No. unique DMARD, mean (SD)	1.34 (0.61)	n/a	-
Initial therapy, n (%)		n/a	-
MTX	5027 (52.1)	n/a	-
HCQ	3099 (32.1)	n/a	-
SSZ	537 (5.6)	n/a	-
LEF	610 (6.3)	n/a	-
AZA	118 (1.2)	n/a	-
Any bDMARD only	249 (2.6)	n/a	-
MTX dose in mg/week, mean (SD)	14.7 (8.8)	n/a	-
GC prescribed during first 12 months post-index			
GC users, n (%)	7151 (74.2)	3243 (56.1)	<0.0001
Cumulative dose, median (IQR)	700 (0, 1798.3)	105 (0 1037.5)	<0.0001
Cumulative dose, mean (SD)	1151.6 (1428.0)	740.4 (1335.0)	
Days supplied, median (IQR)	67 (0, 210)	6 (0, 120)	<0.0001
Days supplied, mean (SD)	118.5 (130.6)	79.5 (125.3)	
Daily dose, median (IQR)	7.7 (0, 12.8)	4.8 (0, 12.5)	<0.0001
Daily dose, mean (SD)	9.5 (10.5)	8.3 (12.7)	
Long-term GC users, n (%)	4275 (44.4)	1620 (28.0)	<0.0001
Days supplied, median (IQR)	230.0 (154.0, 307.0)	246.5 (172.5, 328.0)	<0.0001
Days supplied, mean (SD)	241.1 (102.3)	255.6 (108.9)	<0.0001
Daily dose, median (IQR)	8.5 (5.9, 11.2)	7.4 (5.0, 10.6)	<0.0001
Daily dose, mean (SD)	9.7 (5.7)	9.4 (8.4)	0.3125

Assessing the Usability and Acceptability of MedSafer: A Patient-Centered Deprescribing Tool

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Background—The implementation of deprescribing into clinical practice poses challenges at different levels (the patient, the caregiver, the healthcare provider, and the healthcare system). For example, some healthcare providers lack the time and knowledge to perform a comprehensive medication review for deprescribing. MedSafer is an electronic decision support tool that helps overcome these barriers. It was previously tested in acute care hospitals and found to be safe and effective. MedSafer helps guide healthcare providers through the process of deprescribing by cross-referencing patient medical conditions and medications with guidelines for safer prescribing in older adults. We recently developed a version of the software with a new patient-facing portal, allowing older adults and/or their caregivers to enter in their medial information and generate a personalized deprescribing report to bring to their prescriber. Successful uptake and scaling of the MedSafer patientfacing application hinges on its usability and acceptability by older adults and/or their caregivers, and their community prescribers.

Objective—The study aims to evaluate the usability and acceptability of MedSafer among the public (older adults and/or their caregivers), and community healthcare professionals (doctors, pharmacists, nurse practitioners). Evaluation criteria include ease of use, perceived usefulness, clarity in communication, and overall user experience.

Methods —A mixed-methods feasibility study will be conducted through quantitative surveys and qualitative interviews. Up to 100 participants, comprising a mix of older adults and caregivers, and up to 25 healthcare practitioners, with a mix of specialities, will be recruited through email and social media. Participants will be invited to test MedSafer and answer telephone or electronic surveys via RedCap. The Extended Technology Acceptance Model (TAM2) and System Usability Scale (SUS) will be used for evaluation. A semistructured interview will be conducted with a subset of the participants (5 patients; 5 caregivers; 5 healthcare providers). Survey results will be calculated and normalized, and interview transcriptions will be thematically analyzed to present a comprehensive picture of the participants' perceptions and experiences with MedSafer.

Results —Ethics approval was sought from the McGill University Health Centre on January 14, 2024. Formal recruitment will begin in February 2024. We anticipate that MedSafer will demonstrate feasibility through ease of use and positive acceptance from patients/caregivers, and healthcare professionals.

Conclusion—This study will provide evidence on the acceptability and usability of a new patient facing MedSafer portal, facilitating the generation of insights for enhancements to optimize the tool for broader implementation and scalability.

Funding: Health Canada

Conflict of interest: We have no conflict of interest to disclose.

Polypharmacy, Potential Drug Interactions, and Adverse Outcomes in Older Adults with Cancer Receiving Immune Checkpoint Inhibitors (ICI)

Authors: Mostafa Mohamed, Charles Kamen, Eva Culakova, Song Yao, Erika Ramsdale, Supriya Mohile

Background: Polypharmacy, the concurrent use of multiple medications, poses a significant concern for older adults with cancer and is often associated with an increased risk of potentially inappropriate medications (PIMs) and potential drug-drug interactions (PDI). While multiple investigators have examined polypharmacy in the context of older adults treated with chemotherapy, it has not been investigated in older patients undergoing immune checkpoint inhibitor (ICI) therapy (i.e., a new and expanding population in the clinical oncology setting).

Objectives: The proposed study aims to assess the prevalence, sociodemographic factors, and adverse outcomes related to polypharmacy, PIMs, and PDI among older adults with cancer receiving ICI therapy in a community oncology setting. The objective of Aim 1 (i.e., descriptive) is to describe patterns of medication usage, the prevalence of PIM, and the prevalence, severity, and types of PDI. The objective of Aim 2 is to characterize the socio-demographic factors (race, education, income, marital status, residence place) associated with polypharmacy and PIM use. The objective of Aim 3 is to assess the association of polypharmacy, PIM, and PDI with tolerability outcomes (immune-related adverse events, health-related quality of life, hospitalization, and falls) within 6 months of treatment.

Methods: The proposed study will use a cohort study design utilizing longitudinal data from an ongoing multisite prospective observational study comparing treatment outcomes between patients with cancer of Black ancestry and White ancestry within the first year of starting ICI treatment (DiRECT; NCT05364086; MPI: Yao, Kamen). For this pilot study, we focus on a subset of patients aged 65+ who completed 9 months of follow-up from enrollment (n=400). Polypharmacy will be defined as using ≥5 regular medications. PIMs will be categorized using two screening tools: the 2023 American Geriatrics Society Beers criteria, and the Screening Tool of Older Person's Prescriptions (STOPP) criteria. Lexi-Interact Online will be utilized to assess PDI. Descriptive analyses examine polypharmacy, PIM, and PDI prevalence. Multivariable logistic regression models assess socio-demographic factors associated with polypharmacy and PIM use. Cox-regression models will evaluate the association of polypharmacy, PIM, and PDI with time to immune-related adverse events, falls, and hospitalization, while linear regression models will analyze the effects on health-related quality of life.

Timeline: We anticipate completing all the study activities in a 12-month timeframe. The funding for this pilot project will be critical to gain preliminary data necessary to support a K-award application for a larger, deprescribing interventional study in this population.

Funding: NCT05364086
COI: none

High-throughput Screening Detects Dihydropyridine Calcium Channel Blocker-Induced Prescribing Cascades

Earl J Morris, Kayla Smith, Asinamai Ndai, Shailina Keshwani, Priyanka Kulkarni, Stephan Schmidt, Carl Pepine, Scott M Vouri and Steven M Smith

Introduction: Dihydropyridine calcium channel blockers (DH-CCBs) are effective in treating hypertension, but they can cause adverse effects that prompt the use of additional therapy, i.e., a prescribing cascade. We aimed to identify potential DH-CCB-induced prescribing cascades using high throughput sequence symmetry analysis.

Methods: Using claims from 5% (2011-15) and 15% (2016-20) samples of Medicare fee-for-service beneficiaries we identified new DH-CCB users aged ≥66 years who had continuous enrollment for ≥360 days pre- and ≥180 days post-thiazide initiation. We screened for the initiation of 478 other 'marker' drug classes (based on WHO Anatomical Therapeutic Classification level 4 codes) within ±90 days of thiazide initiation, generating sequence ratios (SRs) representing the proportion of DH-CCB initiators starting the marker class after, compared to before, the DH-CCB. Adjusted SRs (aSRs), accounting for prescribing trends over time, were calculated with 95% CIs >1 suggesting a potential prescribing cascade signal. Among signals classified as potential prescribing cascades, we calculated naturalistic number needed to harm (NNTH) within 1 year as the inverse of the excess risk among exposed.

Results: We identified 388,862 unique DH-CCB initiators (mean ± SD age 76.2 ± 7.4 years, 62% women, 92% with hypertension). Among 478 'marker' classes analyzed, we identified 77 statistically significant prescribing cascade signals. Among the 77 signals, the top five signals (as ranked by lowest NNTH) were C03CA (Sulfonamides, e.g., furosemide), A12BA (Electrolyte solutions, e.g., potassium), C02DB (Hydrazinophthalazine derivatives, e.g., hydralazine), C03DA (Aldosterone antagonists, e.g., spironolactone), and A06AD (Osmotically acting laxatives, e.g., lactulose).

Conclusion: Among 478 classes, we identified 77 possible prescribing cascades in our Medicare population, which may impact patient care outcomes. We are currently in the process of assessing biologic plausibility and determining impact of these cascades on patient outcomes.

Source of Funding
National Heart, Lung, and Blood Institute (NHLBI) Award (5R21HL159576)

Conflict of Interest
SMV is currently employed by Pfizer—this project was completed prior to employment. All other authors declare no potential conflicts of interest relevant to this work.

Deprescribing through an ICU Transitions of Care Rotation for Pharmacy Students

Authors: Katharine Nault, PharmD, MBA, BCCCP; Isis Navarro Tovar, PharmD Candidate 2024; Jie Hao Li, PharmD Candidate 2024

Objective: To assess the need for deprescribing on an ICU transitions of care rotation and the resulting deprescribing interventions made by pharmacy students.

Background: Transition from the Intensive Care Unit (ICU) to a medical or surgical floor is a dangerous juncture in patient care, marked by complex medication management challenges. It necessitates meticulous pharmacotherapy review to ensure a seamless transition. This phase offers a prime opportunity for comprehensive medication assessment—optimizing drug regimens for fluctuations in renal and hepatic function, and changing administration routes, dosages, and formulations correctly after a patient was previously intubated, for example. It is a strategic time for the deprescribing of any unnecessary medications, which are a common yet unfortunate cause of ICU admission. Pharmacy students are aptly poised to help perform medication review and recommend deprescribing of medications started in the ICU that are no longer needed and deprescribing of home medications that may be causing harm or are no longer needed.

Methods: A pharmacy student rotation was developed as well as a checklist, designed to ensure comprehensive medication review and coordination with healthcare providers for necessary medication discontinuation or adjustments upon patient transition from ICU to the floor. Pharmacy students used the checklist to systematically evaluate each patient's medication regimen, while maintaining active communication with providers to discuss and enact any required changes. Checklist items included review of Beer's List medications for elderly patients, renal and hepatic dosing, IV to PO and drug-drug interactions, as well as ICU specific items such as deprescribing of stress ulcer prophylaxis and antipsychotics. Outcomes to be reported include opportunities for deprescribing as well as the rate of accepted interventions and number of medications deprescribed.

Results: To be presented at the conference on May 15th after the initial pilot rotation, which is currently underway, has been completed. Descriptive statistics will be provided for the initial results.

Authors: Helen Omuya, Lauren Welch, Trisha Seys Raňola, Macy McConnell, Jessica Malta, Betty Chewning

Title: Enhancing Older Veterans' Care: Insights from Medication Reviews and Deprescribing Interventions

Background: Patient experience is a critical indicator of quality of care that encompasses aspects of effective communication, respect, dignity, and emotional support. However, qualitative studies exploring the experiences of older adults after deprescribing interventions are sparce, highlighting a gap in knowledge.
This study aims to:

1. Assess the Veteran's experience of a focused comprehensive medication review (CMR) and deprescribing intervention.
2. Identify the Veterans' priorities and evaluate whether they were achieved.
3. Explore challenges and opportunities for improvement in the implementation process.

Method: Data was collected from 18 Veterans through semi-structured interviews using an interview guide. The interview transcripts were analyzed using inductive and deductive content analysis. Data was independently coded by two members of the research team for categories and themes. Similarities were identified, and any divergences were discussed and resolved. To enhance the validity of the findings, member checking was performed with Veterans who confirmed the results.

Preliminary Result: While most Veterans concurred with their pharmacist's recommendations and expressed confidence in following instructions on medication changes, reluctance to make changes surfaced among those who had experienced any adverse effects that they attributed to a previous medication withdrawal. Veterans' overall perception of pharmacists was positive, and they expressed a desire for increased frequency in interactions with their pharmacist. Although most Veterans felt actively involved in medication decision-making, some sought additional information regarding the reasons for suggested medication changes. Challenges expressed by Veterans with medication management and with the VA system were limited.

Conclusion: This exploration of Veterans' experiences with CMR and deprescribing interventions provides valuable insights for quality improvement. The findings suggest positive perceptions and a desire for continued patient-pharmacist interactions.

Source of funding: Veteran Affairs Geriatric Research Education and Clinical Center Clinical Innovations Grant

Conflict of Interest: N/A

Authors: Helen Omuya, BPharm, MPA; Saraswathy Battar M.D.; Lucía García-Carmona, RPh, PharmD, BCGP

Title: Breaking Barriers, Transforming Care: The VA Caribbean Healthcare System's Success Strategies in Improving Patient Safety through VIONE Medication Deprescribing Methodology

Background: The Veterans Administration (VA), the United States' largest integrated healthcare delivery system, launched the VIONE (V-Vital, I- Important, O-Optional, N- Not indicated, E- Every medication should have an indication) polypharmacy reduction methodology for older adults in 2016. Successfully adopted in 135 VA Medical Centers with varying degrees of adaptation, VA Caribbean Healthcare System (VACHS) emerged as a leading early adopter of VIONE. While other sites struggle with adoption, VACHS, through innovative, strategically effective, and proactive situational leadership, implemented, sustained, and continues expanding the VIONE model.

Design: This impact case study employs the REAIM framework to illustrates the transformation of ideas into concrete actions, showcasing the sustained success of deprescribing interventions that consistently surpass expectations. The study delves into the experiences, facilitators, barriers, and lessons learned from VIONE. Data was collected through interviews and implementation dashboards.

Findings: The VACHS deprescribed of over 85,900 medications between 2020 – 2023 that positively impacted 18,500 veterans and led to approximately $4.7 million in cost avoidance in the period. Employing a multipronged approach to VIONE, some of their strategies are: 1)Deliberate orchestration of professional rapport with ongoing sensitization of healthcare professionals to the Beers criteria, including pocket guide distribution. 2) Tailoring interventions to individual patient life goals with the VA's whole health approach. 3) Engaging patients in potentially inappropriate medication (PIM) education, shared decision-making, and pacing deprescribing with a reassuring, non-rushed cadence. 4) Appropriate follow-up and monitoring to reduce or eliminate PIM.

Discussion: As a level 1a high-complexity facility, the VA CHS successfully implemented VIONE with significant impact. The achievement is attributed to effective implementation strategies that led to a cultural change among healthcare professionals and impacted veterans, showcasing committed early adopters of change. Conclusion: This study provides valuable insights into effective implementation strategies for the successful adoption of the VIONE methodology in deprescribing interventions. When translating this knowledge to other VA and non-VA health care systems, it is imperative to carefully consider the unique facilitators and barriers present at each location, ensuring a tailored approach to achieve comparable success.

Source of Funding: None

Conflict of interest: None

Title: Early Implementation Lessons of the EMPOWER Intervention to Deprescribe High-Risk Medications in VA Outpatient Care

Abstract Authors: *Lindsay Pelcher, MPH*; LauraEllen Ashcraft, PhD, MSW; Amanda Peeples, PhD; Rebecca Brown, MD, MPH; Robert E Burke, MD, MS, FHM

Word Count: 336/400

Background: Medications that affect the sensorium are commonly associated with adverse outcomes among older adults, such as falls and higher health care utilization. Thus, they are a high-yield target for reducing harm. The "Eliminating Medications Through Patient-Ownership of End Results" (EMPOWER) intervention is a direct-to-consumer informational pamphlet paired with academic detailing to prescribing physicians, encouraging older adults to discuss decreasing, or stopping their use of high-risk medications with their doctor.

Methods: We observed prescribing patterns in frail Veterans using a retrospective cohort study from 2015 to 2019 and chose to focus the EMPOWER brochures on antipsychotics and gabapentinoids based on the observed increase in both prevalence and percent of days covered. We conducted 70 semi-structured pre-implementation interviews with front-line staff and leadership from nine Veterans Affairs Medical Centers (VAMCs) between 2021 and 2023 to identify potential EMPOWER implementation barriers and facilitators. Then, we supported sites' implementation of EMPOWER with monthly audit and feedback reports, interactive problem-solving, and technical assistance to tailor implementation to the local context.

Findings: The implementation of EMPOWER in the Veterans Health Administration (VHA) faced challenges including limited staff capacity, culture change, and competing initiatives. We also identified strengths to leverage, including utilizing support staff and Academic Detailing Pharmacists, strengthening relationships between Primary Care and Pharmacy, and collaborating with other initiatives, including a national polypharmacy initiative ("VIONE").Between February 2022 and February 2024, over 250 Veterans were identified as potentially inappropriately prescribed either antipsychotics or gabapentinoid medications; after clinician review, over half of these were deemed appropriate for intervention and were sent an EMPOWER brochure. We believe that having a champion at each site to coordinate efforts and to provide training, mentorship, and support would be key to successful sustainment of EMPOWER.

Implications: These findings highlight the importance of gathering multi-disciplinary perspectives before implementing an evidence-based patient-centered deprescribing intervention in the VHA. We incorporated these lessons to tailor implementation and to identify strategies for sustainment. Future work should leverage these facilitators to overcome existing barriers and increase adoption and sustainment of consumer-directed deprescribing initiatives.

Jacob Plaisted

Title: Polypharmacy: A Growing Concern of an Aging Population
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Source of funding for the research to be presented: University of Colorado Division of General Internal Medicine, Aurora, CO, United States
Conflict of interest: The authors have no conflicts of interest to disclose

Case:
DB is a 63-year-old male with a history including treatment-resistant depression (TRD), trigeminal neuralgia (TN), SVT, and HTN, who presented to his PCP with chronic insomnia and a diffuse rash. His medical record contained a list of 30 medications prescribed by several different providers. He denied allergies, recent illness, new products, or any other symptoms. Antihistamines, topical steroids, and oral steroids provided no relief. The rash began shortly after starting quetiapine 3 months prior as an adjunct for his TRD. The physical exam was notable for diffuse erythematous patches with excoriations covering his trunk and upper extremities.
The most likely etiology of both his persistent insomnia and new rash was a drug-drug interaction (DDI). The carbamazepine that he was taking to treat his TN has been documented to decrease the efficacy of quetiapine. The combination has also been shown to cause a rash. Through shared decision-making, both drugs were discontinued. On follow-up 2 weeks later, he reported a significant improvement in his sleep quality and his rash.

Discussion:
This case highlights the dangers of polypharmacy: the regular use of ≥5 medications. As a person ages, the increased risk of multi-morbidity leads to a greater chance of being prescribed multiple medications, resulting in an increased risk of adverse drug effects and related hospital admissions. These outcomes can be due to physiological changes that occur with aging such as impaired metabolism or because of DDIs. Misinterpreting new symptoms as the onset of a new disease process can lead to further harm and prescribing cascades.
The need to address polypharmacy is becoming increasingly important as the median age of the U.S. continues to rise and 34.5% of elderly adults routinely use ≥5 medications. One of the biggest challenges is balancing effectively treating a patient's co-morbidities and avoiding medication-induced harm. This can be partly attributed to treatment guidelines focusing on a single condition and management of common chronic conditions requiring the use of multiple drugs. Many interventions have been developed to target polypharmacy, including educational programs, use of computer feedback and regular medication reconciliation. However, there are no high-quality studies proving they lead to clinically significant improvement. Further research with collaboration between providers and patients is needed to identify optimal solutions to reduce harmful polypharmacy.

Name: Kevin Pritchard

Title: Opioid Deprescribing Rates and Predictors after Fracture: A retrospective cohort study of 2013-2018 Medicare enrollees with dementia or frailty

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Conversations between Pharmacists and Patient-Care Partner Dyads to Align Medications with What Matters Most

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Background: Optimizing prescribing in line with patient and care partner goals through deprescribing is an essential component of high-quality care for people living with dementia (PLWD). Successful deprescribing depends on meaningful communication between PLWD, care partners and clinicians.

Objectives: The objective of this study was to gain in-depth knowledge of how elicitation of PLWD and care partner medication-related priorities during a deprescribing intervention shaped discussions with pharmacists about medications.

Design: Qualitative analysis of audio-recorded interactions between pharmacists and patient-care partner dyads in ALIGN: Aligning Medications with What Matters Most, a pilot of a pharmacist-led deprescribing intervention for PLWD in primary care.

Participants: Patients aged ≥65 years, taking ≥7 medications, with a care partner who helps them manage medications were recruited from an integrated delivery system in Colorado and a community-based medical practice in Maryland.

Approach: Rapid assessment procedures were used to develop a preliminary codebook, which was refined and applied to the transcripts using qualitative content analysis.

Results: We analyzed 83 transcripts from 55 patient-care partner dyads. PLWD were on average 81 (8.1) years old; 45% were women, 33% Black, and 15% Hispanic. PLWD took an average of 13 (±5.3) medications at baseline. Care partners were on average 66 (±13) years. Most were women (80%) and spouses/partners of the PLWD (53%). Content analysis identified five themes: 1) Reducing medication-related treatment burden; 2) Alleviating symptoms; 3) Maintaining cognition/function; 4) Discussing tradeoffs; 5) Challenges to deprescribing. After eliciting patient and care partner priorities, pharmacists recommended both deprescribing and prescribing.

Conclusions: Findings from this secondary analysis of a pilot deprescribing intervention suggest that eliciting medication-related priorities of PLWD and their care partners can support goal-concordant care. These results can inform development of interventions to optimize medications for this population.

Source of funding: This study is supported by grant number R01 AG077011 from the National Institute on Aging (NIA).

Conflict of interest: No conflict of interest to disclose.

Restarting medications after successful deprescribing: retrospective analysis of a randomized clinical trial.

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ABSTRACT

Introduction

Among hospitalized older patients, 45% have polypharmacy, and 90% have at least one unnecessary or inappropriate medication. In 2023, we published trial results demonstrating a patient-centered intervention decreased the total number of medications from hospital admission to 90 days post skilled nursing facility (SNF) discharge. The primary aim of this sub-analysis was to identify factors associated with restarting medications to inform future efforts to improve the durability of deprescribing interventions.

Methods

The clinical trial included hospitalized patients in an academic medical center who were 50 years and had 5 prehospital medications. We randomized patients to the intervention or usual care. The intervention consisted of a comprehensive medication review during hospitalization, and deprescribing actions continued through the SNF encounter. We used structured interviews with patients or caregivers to assess patient characteristics and medication regimens during the intervention and at 7, 60, and 90 days after SNF discharge. We assessed the frequency of restarting medications (or return to previous or higher dose) among drug classes at each interval, and we assessed factors associated with restarting medications using mixed-effects models.

Results

Among 4,272 deprescribed medications (281 patients), 903 (21%) were restarted. Across time periods, most medications were restarted between 7 and 60 days (38%) (Figure). Patients had a slight increased odds of restarting medications if they had a higher number of providers (OR = 1.02; 95% CI, 1.00–1.03; P = .049) and if they were discharged home from SNF alone (OR = 1.13; 95% CI, 1.05–1.25; P = .002) or with family (OR = 1.10; 95% CI, 1.03–1.18; P = .006), compared to assisted living. Patients had a decreased odds of restarting medications if they had higher health literacy (OR = 0.99; 95% CI, 0.99–0.99; P = .041).

Conclusion

Although our approach to deprescribing was safe and effective, one in five medications were restarted.

Patients with multiple providers and lower health literacy who transition home to manage their own medications may be at higher risk for restarting deprescribed medications. Future deprescribing interventions should include support for both providers and patients following discharge to reinforce deprescribing decisions.

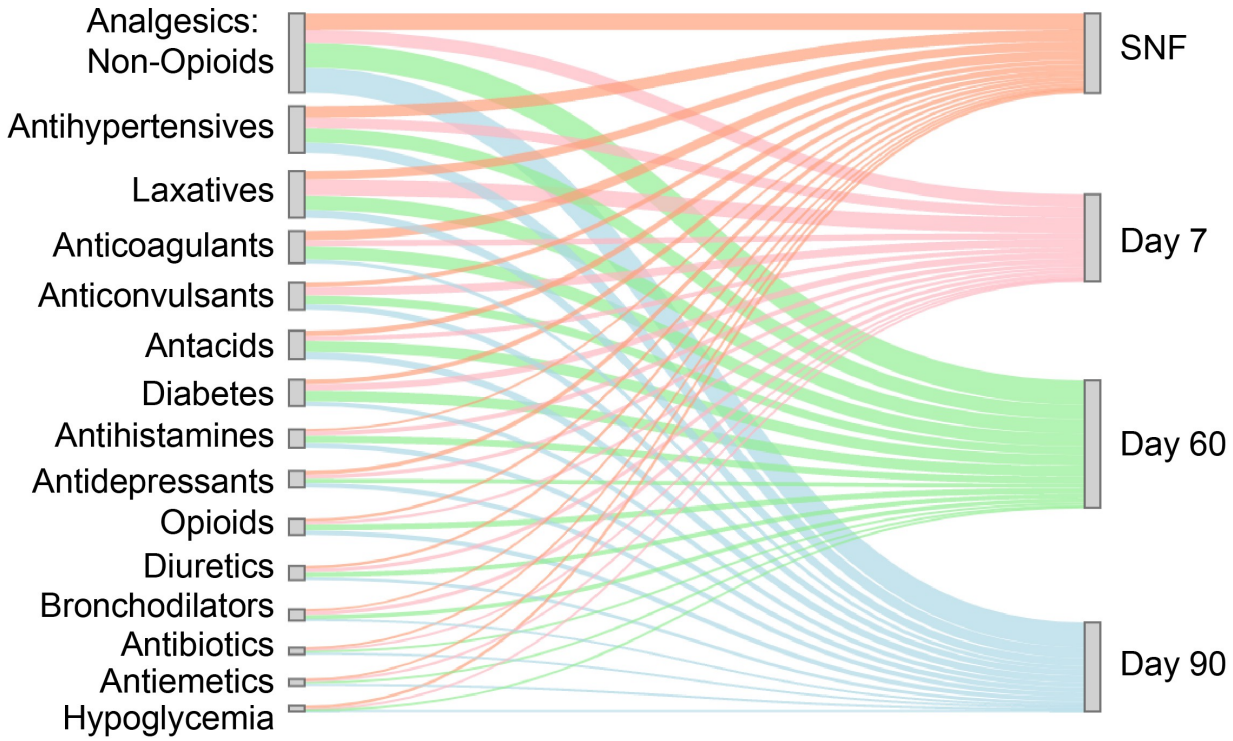

Figure. Frequency of restarted medications across classes and study periods

Learning objectives:

1. Determine the frequency of restarting medications following an effective deprescribing intervention for hospitalized older patients experiencing multiple care transitions.
2. Identify factors associated with restarting medications.

Name: Mahnum Shahzad

Title: The Impact of Negative Confirmatory Trials on Prescription Volumes for Indications Approved using the FDA's Accelerated Approval Pathway

Authors: Mahnum Shahzad, Huseyin Naci, and Anita Wagner

Abstract: This paper studies the impact of negative confirmatory trials on use of drugs for indications approved using the FDA's accelerated approval pathway. The accelerated approval pathway allows drugs to be approved on the basis of a surrogate endpoint with the stipulation that clinical benefit is verified by confirmatory trials conducted post-approval. In some cases, these confirmatory trials have failed to confirm benefit. We use an event-study framework to study the impact of these confirmatory trials for 15 injectable oncology drug-indications on prescription volumes. Our results suggest that there is, on average, a 2.5-4.0% decline in usage per month after the results of the trial are made public and this result is maintained when focusing specifically on new initiations. We also document some limited heterogeneity in response across drugs. These results show that information about these negative confirmatory trials is taken up by prescribers even before a formal approval or withdrawal by the FDA providing evidence of the important role of other sources of information in this process.

Funding: Anita Wagner's work was supported by a grant from the American Cancer Society.

Remotely-delivered Yoga Nidra for Decreasing Use of BZRAs for Insomnia and Anxiety in Older Adults: Protocol and Recruitment Progress

Erica Sharpe[1,3], Ripu Jindal[2], Matthew P. Butler[4], Ryan Bradley [1,5]

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Objective: To describe the study design for our 1-year pilot trial on the feasibility and impact of a remotely delivered 30-minute guided meditation practice, Yoga Nidra (translated to mean "yogic sleep"), for decreasing benzodiazepine receptor agonist (BZRA) use in older adults.

Methods: Forty participants over age 65, recruited from within the Birmingham VA system, who have been taking BZRAs for insomnia and anxiety for at least 3 months, and who are interested in decreasing use, will be enrolled the 6-week trial. The study will involve practicing Yoga Nidra or completing a Sleep Hygiene, Anxiety, and BZRA Safety Education control, both delivered remotely, for 30-minutes at a time, 3-5 days per week. All participants will be asked to complete electronically-administered surveys, submit urine samples, and wear small wearable respiration and pulse monitors.

Results: The primary outcome measures will focus on feasibility measures, including acceptability, recruitment yield, safety, and measures of intervention adherence. Exploratory outcomes will focus on diary- and urine-concentration- assessed changes in BZRA use, as well as self-reported changes in sleep, anxiety, and quality of life.

Conclusions: The planned feasibility trial will demonstrate important preliminary data to determine if Yoga Nidra, delivered remotely, may be appropriate for efficacy testing to reduce BZRA use in larger samples of older adults.

Source of Funding: USDeN Benzodiazepine Receptor Agonist Pilot Awards
Conflict of Interest: The authors claim no financial conflicts of interest.

Name: Jennifer A. Stoll PhD

Title: Addressing Health System Complexities for Older Adults with MCCs: A Caregiver Perspective

Authors: Jennifer Stoll, PhD, Courtney Olbrich, BS, Alexandria Wahler, BS, Andrew Baumgartner, MD, Robert G. Wahler, Jr., PharmD, Ranjit Singh, MB BChir, MBA

Background: As individuals grow older, they often acquire multiple chronic conditions (MCCs) and experience more frequent care transitions, with increased exposure to potentially inappropriate medications, prescribing cascades, and polypharmacy, with multiple opportunities for deprescribing. Patient and caregiver involvement is critical to navigate the multiple health care settings encountered as communication between settings may be poor or non-existent. The study's objective was to explore patient and caregiver experiences with transitions of care and identify potential barriers to patient-centered and successful transitions.

Methods: This qualitative study used an iterative participatory process to explore patient and caregiver experiences with medications during transitions of care. Four interactive sessions, guided by a participatory learning and action (PLA) framework, were conducted to identify issues and design strategies to address transitions of care. The sessions included an informational workgroup, semi-structured individual interviews, and two follow-up focus groups to gain an in-depth understanding of their experiences and validate preliminary research findings through preference ranking and member checking. Sessions were recorded and transcribed verbatim. Inductive thematic analysis identified and categorized themes within a communication framework.

Results: Study participants that completed all components (N=7) were all female older adult caregivers (65+) with above-average health literacy. The participants noted frequent medication changes, overmedication, complex treatment plans with little patient or caregiver involvement, and unidentified Health Related Social Needs. Overarching themes were poor and fragmented communication and system policies that negatively impact patient-centered care. Participant suggestions included improved communication and EHR documentation to track communication that explicitly incorporates the patients' values and priorities.

Discussion: Our data suggests that communication within transition cascades is a prominent problem, leading to a multitude of poor outcomes, concerns for medication safety, and caregiver distress. While further study is needed, our preliminary findings suggest the need for MCC-specific communication tools aimed to improve patient-centered care and centralize communication at the time of discharge. Such tools should include identifying opportunities for deprescribing that would otherwise be missed.

While workflow protocols for transitions of care exist, to our knowledge there are no MCC-specific templates or tools for centralized documentation of patient-specific medication notes, goals of care, patient priorities, and Health-Related Social Needs. This information should be included in discharge summaries within all care settings for those with MCCs as they are at higher risk of entering transition cascades and experiencing associated medication harm.

Funding Source: This research is supported by the Health Care Systems Research Network (HCSRN) – Older Americans Independence Centers (OAICs) AGING Initiative R33AG057806.

Conflicts of Interest: The authors disclose no financial conflicts of interest.

Submitter: Kelly Tenzek

Title: Spreading the message: Introducing Team Alice educational medication safety videos to at risk older adults

Authors: Kelly Tenzek, PhD
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Alexandria Wahler, BA
Tahleen Lattimer, MA

The dangers of medication harm in older adults are highlighted by the *Alice Story*, a real case derived from the horrific death of Alice Brennan triggered by preventable medication harm and system failure [1-2]. Team Alice is an interdisciplinary team with shared goals of empowering older adults and their caregivers with information to detect medication harm and give them the knowledge, skills, and tools to advocate for themselves during health care interactions. The purpose of the current project is to extend Team Alice's message into a new community in Western New York, assisted living facilities. Previously, Team Alice has produced three innovative animated educational videos, created with community stakeholder Senior Center members (Elder Voices) [3]. Here we continue this work by engaging in community-based participatory research working closely with Mobile Primary Care (MPC) [4] whose mission is to fill a gap in primary care services for patients who were either unable to leave their home or living in independent or assisted living settings. Our overarching goal is to determine the feasibility of using these videos within the assisted living facility environment.

There are three phases to this ongoing project: phase 1 is building the community relationship with Mobile Primary Care and phase 2 is conducting mixed-method research with assisted living facility residents, caregivers, and staff through pre-posttest measures and video screening with a focus group discussion. The third phase is to take what we have learned and prepare to pilot the program in a variety of assisted living facilities, including working closely with MPC to bring the videos into patients' homes.

Here we will focus on phase 1 and phase 2 of our project as we have held one session with 22 residents and one caregiver. We shared the video *Beware of Medications in the Hospital: Your Life Depends on It!* [5]. The session lasted approximately one hour, 17 of the residents and the caregiver consented to be in the study. While we have just collected the data, the next steps are to review the responses to get an understanding of their experiences with medication safety and if there was any change in response after the video and conversation about medication safety. We will share challenges and opportunities that we have had thus far in the process as we prepare to hold a session for the assisted living facility staff next.

Funding Source: US Deprescribing Network

No conflict of interest

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Presenting Author: Samuel W Terman, MD MS

Title: Variation in seizure risk increases from antiseizure medication withdrawal among patients with well-controlled epilepsy: A pooled analysis

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Abstract

Objective: Guidelines suggest considering antiseizure medication (ASM) discontinuation in seizure-free patients with epilepsy. Past work has poorly explored how discontinuation effects vary between patients. We evaluated 1) What factors modify the influence of discontinuation on seizure risk; and 2) The range of seizure risk increase due to discontinuation across low- versus high-risk patients.
Methods: We pooled three datasets including seizure-free patients who did and did not discontinue ASMs. We conducted time-to-first-seizure analyses. First, we evaluated what individual patient factors modified the relative effect of ASM discontinuation on seizure risk via interaction terms. Then, we assessed the distribution of two-year risk increase as predicted by our adjusted logistic regressions.
Results: We included 1,626 patients, of whom 678 (42%) planned to discontinue all ASMs. The mean predicted two-year seizure risk was 43% (95% confidence interval [CI] 39%-46%) for discontinuation versus 21% (95% CI 19%-24%) for continuation. The mean two-year absolute seizure risk increase was 21% (95% CI 18%-26%). No individual interaction term was significant after correcting for multiple comparisons. The median (interquartile range [IQR]) risk increase across patients was 19% (IQR 14%-24%; range 7%-37%). Results were unchanged when restricting analyses to only the two RCTs.
Significance: No single patient factor significantly modified the influence of discontinuation on seizure risk, though we captured how absolute risk increases change for patients that are at low- versus high-risk. Patients should likely continue ASMs if even a 7% two-year increase in the chance of any more seizures would be too much and should likely discontinue ASMs if even a 37% risk increase would be too little. In between these extremes, individualized risk calculation and a careful understanding of patient preferences are critical. Future work will further develop a two-armed individualized seizure risk calculator and contextualize seizure risk thresholds below which to consider discontinuation.

Funding

Dr Terman was recently supported by the Susan S Spencer Clinical Research Training Scholarship and the Michigan Institute for Clinical and Health Research J Award UL1TR002240. Dr Terman is now supported by an American Epilepsy Society Research and Training Fellowship for Clinicians. Dr Terman was a member of the Junior Investigator Intensive Program of the US Deprescribing Research Network, which is funded by the National Institute on Aging (R24AG064025).

Conflict of interest

There are no relevant conflicts of interest.

Your name: Robert Wahler

Title of presentation: Prevalence of Potentially Inappropriate Medications and Associated Geriatric Syndromes from a Health Information Exchange database in Western New York

Authors: Robert G. Wahler, Jr., PharmD, Allison N. Murchison, PharmD Student, Steven Feuerstein, MS, Sabrina Casucci, PhD, MBA, David M. Jacobs, PharmD, PhD Ranjit Singh, MB BChir,

Introduction: Potentially inappropriate medications (PIMs) have been associated with geriatric syndromes (GS), although prevalence studies are lacking. Applying geographical Health Information Exchange (HIE) medication data to GS offers an innovative approach to identify problematic PIMs usage and target focused interventions.

Research question or hypothesis: To characterize cumulative polypharmacy, PIMs prevalence and Medications Associated with Geriatric Syndromes (MAGS) in the Western New York (WNY) older population.

Study design: Cross-sectional study utilizing WNY HIE data from 1/1/2021 to 12/31/2021.

Methods: Data were extracted for adults ≥65 years old under primary care in 2021 from the WNY HIE using electronic health records, therefore representing providers' intended prescribing. Medication load included prescription and over-the-counter medications. Cumulative polypharmacy is defined as the sum of medications administered over a specific period whereas continuous polypharmacy measures the number of medications given simultaneously. ICD-10 codes identified GS. Using Minitab® v20.2, medication utilization and PIMs prevalence were tabulated, and associations between PIMs and GS were evaluated using Fisher's Exact Test.

Results: The dataset (N= 260,093) showed 139,310 between 65-74 years old, 83,337 between 75-84, and 37,446 above 85 with 53.92% female. Disease burden was high based upon Charlson comorbidity index mean 5.39 (SD 2.81). Mean medication load was 12.70 (SD 9.42). Cumulative polypharmacy (≥5 meds) was seen in 82.61%; hyperpolypharmacy (≥10 meds) was seen in 55.43% of the population. Cumulative

Mean PIMs prevalence was high at 1.44 (SD 1.67). PIM categories previously described as MAGS were confirmed as noted in Table.

Table - PIMs prevalence in Geriatric Syndromes

	Total Population	Delirium	Cognitive Impairment	Falls	Malnutrition	Urinary Incontinence	Depression
Antipsychotics	4.74%		22.15%*	10.25%*		8.31%*	14.67%*
Antidepressants	4.11%	5.61%*	4.92%*	5.90%*	6.07%*	6.64%*	
Benzodiazepines	12.58%	27.12%*	19.40%*	19.32%*			

Non-BZD Hypnotics	2.50%	3.45%‡	1.47%*	3.18%*			
Anticholinergics	14.63%	26.66%*	19.32%*	22.15%*		39.22%*	
Muscle Relaxants	5.45%	5.99%†	2.91%*	7.14%*		8.00%*	

*= p< 0.001
‡= p= 0.002
†= p= 0.20

Conclusions:

High polypharmacy and PIMs rates, especially those associated with geriatric syndromes, provide a target subset of individuals for future interventions to prevent medication associated harm.

Source of funding for the research to be presented. Please list this funding source on your poster or on a supplemental sheet that can be placed adjacent to the poster.

RRF Foundation for Aging Grant #2019060 Community-Based Participatory Research for Reducing Medication Harm among Retirees

Conflict of interest: Please disclose financial conflicts of interest. These include funding by, or a financial interest held by you or an immediate family member in, a commercial supporter or creator of a commercial product or service that is in any way relevant to the research described. Please disclose any conflicts of interest that you have on your poster or on a supplemental sheet that can be placed adjacent to the poster.

The authors report no significant conflicts of interest.

Title: Development of the Team Alice Senior Center Curriculum on Medication Safety

Authors: Alexandria Wahler, Jennifer Stoll, Courtney Olbrich, Kelly Tenzek, Robert Wahler, and Ranjit Singh

Abstract: 373 words
Background: Unsafe medication use and error are a leading cause of injury and preventable harm in older adults. As patients age, it is common to have an expanding medication regimen, thus increasing the risk of potentially inappropriate medications and negative side effects. Deprescribing offers medication harm mitigation through shared decisions between patients and their physicians. It is vital that patients have the proper tools to understand their medications, including inherent risks, and feel confident in their interactions in the process of medication optimization, especially when expressing care goals and preferences. For appropriate deprescribing interventions to occur, patients need to be active members in their interactions within healthcare systems. Arming patients and their caregivers with knowledge and skills around medication safety can potentially reduce the risk of harm, promote medication safety, and enhance self-efficacy.

Methods: Utilizing previous community-based participatory research (CBPR), curriculum components were developed in partnership with a group of senior center members (Elder Voices) through a series of focus groups to ensure the messages resonated with the intended audience. The curriculum framework used evidenced-based behavioral models (Experiential Learning Cycle, COM-B for behavioral changes) and the Age-Friendly Health Systems Framework (4Ms).

Results: The developed curriculum consists of two interactive sessions to enhance participants' and caregivers' knowledge and understanding of medication safety and self-efficacy. The curriculum focuses on two fundamental components of medication safety: session 1 promotes functional medication knowledge, and session 2 promotes self-advocacy in healthcare settings, providing specific tools to initiate deprescribing conversations with clinicians. Elder Voices provided critical input aiding in the design of the educational video components, suggesting ideas for dissemination, and indicating the importance of empowerment and motivation pieces. Imagery from the videos was integrated throughout the curriculum workbook to reinforce messages through visual cues and repetition.

Conclusions: Utilizing a combination of behavioral models, CBPR, and patient-centered approaches, the curriculum was uniquely developed to educate older adults and caregivers about medication safety and self-advocacy. This curriculum is a patient-facing communication framework to aid in patient-initiated deprescribing conversations. Subsequently, the tool may serve as a patient resource to promote age-friendly health systems from a patient perspective, encouraging better healthcare outcomes. Future pilot testing will be completed to ensure the acceptability, effectiveness, and feasibility of implementation before a national pilot study.

Funding sources: RRF Foundation for Aging Grant #2019060
United States Deprescribing Research Network. Subaward STE2196-17
Conflicts of Interest: The authors disclose no financial conflicts of interest.

Name: Jinjiao Wang

Title: Feasibility and acceptability of implementing deprescribing in post-acute home health care

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Source of Funding: This study was conducted with the support of the following funders: U.S. Deprescribing Research Network (1R24AG064025; 2021-2022 Pilot Award [JW]) and the Alliance for Home Health Quality and Innovation (now called "Research Institute for Home Care"; 2021 Home Health Care Research Funding [JW]). The views expressed in this article are those of the authors and do not necessarily represent the views of the funders. The funders had no role in study design, data collection, analyses, or interpretation of results.

Conflicts of Interest: None.

Abstract Text (400 words)

Background: Polypharmacy is present among many older home health care (HHC) patients. In a prior study, we interviewed patients, providers in acute, post-acute, and primary care, pharmacists, and HHC nurses to identify their perspectives regarding essential components of deprescribing. In this study, we report the feasibility and acceptability of implementing these deprescribing components in HHC.

Methods: The deprescribing components, implemented by the research team (an HHC nurse, a clinical pharmacist, and staff), included home-based medication review (nurse), obtaining medical and medication history (nurse), identifying deprescribing targets (pharmacist), communication with PCPs (staff), deprescribing implementation (nurse), patient education (nurse), and safety monitoring (nurse [home visits], staff [phone calls]). After the implementation of deprescribing components in a sample of 5 older post-acute HHC patients with polypharmacy, feasibility and acceptability were assessed via online / phone surveys and qualitative interviews with patients (5), their PCPs (3), and the HHC nurse (1).

Findings: Five patients received all deprescribing components over 3 - 4 home visits / patient.

Feasibility: PCPs reported spending an average of 5 minutes/patient to review deprescribing recommendations. The HHC nurse spent approximately 2.5 hours per home visit (including 1.5 hours on driving and documentation). The pharmacist spent about 1 hour/patient developing deprescribing recommendations. The patients' PCPs rated deprescribing components to be "*very feasible*" with patient-PCP rapport being a facilitator. PCPs also commented, "*It's easier when an outside person makes this point and talks to a patient.*" Potential barriers included PCP time constraints, inertia, concern about withdrawals or symptom reoccurrence, and patient attachment to medications. The HHC nurse rated the deprescribing components to be "*very feasible*", with the multidisciplinary team approach as a facilitator but indicated time constraints and challenges in communication with PCPs as major barriers.

Acceptability: PCPs and patients generally liked the components, commenting "*It's a good program. It can help a lot*." Patients rated deprescribing components to be "*moderately helpful*" to "*extremely helpful*". Patients shared feeling empowered to "*take ownership*" of their care and medications, particularly with multiple providers and "*never knowing who to talk to*". PCPs rated deprescribing components to be "*moderately useful*", especially the identification of deprescribing targets. Approximately 70% of deprescribing recommendations were adopted by the patients' PCPs, with 30% not adopted mostly due to patient preference.

Implications: Deprescribing components were feasible and perceived with high acceptability by patients, PCPs, and HHC nurses. Effective communication between patients, HHC and PCPs is key to appropriate deprescribing in HHC.

Primary Author: Carla Williams, MD
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Title: Needs Assessment for Geriatric Oncology Curriculum Development

Authors: C.T. Williams, Gerontology, Harvard Medical School, Boston, Massachusetts, UNITED STATES; M. Abdallah, R. Chippendale, Boston University, Boston, Massachusetts, UNITED STATES; C.T. Williams, J. Driver, M. Martinchek, A. Schwartz, C. Dumontier, VA Boston Healthcare System Jamaica Plain Campus, Boston, Massachusetts, UNITED STATES.

Background: We performed a mixed-methods needs assessment to inform the development of a curriculum for a 1-month elective for Geriatric Oncology (GO) fellows in the VA Boston Oncology Clinic (VABO) using (1) unstructured interviews focused on learners' expectations and (2) chart review to elicit patient population needs.

Methods: Unstructured interviews via email and virtual meetings were conducted with key stakeholders: GO fellows (2), the geriatrician at VABO, and the GO Program Director. We identified 110 veterans aged ≥ 65 with cancer who received GAM from a geriatrician in VABO from 2/16/2019 – 9/6/2023. GAM documented by the 4M's (Mind, Mobility, Medications, Matters Most) was evaluated using content analysis of notes to identify the most prevalent issues among the veteran population.

Results: Unstructured interviews revealed that the main priority was to create ways that GO fellows could incorporate geriatric principles consistently and sustainably into their practices. Among the 110 older veterans, polypharmacy (87 [79.1%]) and mobility issues (79 [71.8%]) were the most prevalent concerns identified. All veterans with issues received one or more interventions. The Matters Most domain was frequently assessed (106 [96.4%]), and most veterans had documented healthcare goals, life- sustaining treatment, and advance directives (95 [85.5%]).

Conclusions: The results demonstrate that the domains most likely to be impaired in older veterans with cancer receiving care in VABO are Medications and Mobility, and stakeholders emphasized the importance of the Matters Most domain for patients with

cancer. Our 1-month curriculum was limited to three (3) objectives for sustainability. It will focus on the following: (1) screen for polypharmacy and engage with clinical pharmacists to consider deprescribing potentially inappropriate medications, (2) screen for falls and mobility limitations with objective performance measures, and (3) refer to social work for health care proxy documentation.

Word count: 288

Source of funding: None

Conflicts of Interest: The authors have no financial conflicts of interest to disclose.

Name: Connor Wurst, M.S.
Title: The Cognitive Work of Deprescribing: A Human Factors Pilot
Authors: Connor Wurst, M.S., Huei-Yen Winnie Chen, PhD, Kelly Tenzek, PhD, Laura Brady, PhD, Alexandria Wahler, Grace Faulkner, Andrew Baumgartner, MD, Scott Monte, PharmD, Ranjit Singh, MBBS, MBA, Robert G. Wahler, Jr., PharmD.
Abstract Text:
Background: Deprescribing involves substantial cognitive work on the part of practitioners, work that includes processes of situation analysis, prioritization, and plan development. Understanding these processes can offer new insight into how practitioners conduct deprescribing and how they might be better supported, but research into the details of this cognitive work is limited.
Objective: This study aimed to address this knowledge gap by supplementing prior observational data with insight into internal decision-making processes provided by deprescribing-oriented physicians.
Methods: This study utilized semi-structured interviews with two physicians to better understand the decision-making processes used to identify and execute deprescribing. Each interview was structured around the review of a prior deprescribing event during a patient-physician encounter that had been recorded and analyzed using a decision-ladder framework. This framework organizes decision-making into a series of steps including medication history, identification of potentially inappropriate medications, determination if medication can be ceased, planning medication tapering, and monitoring and support. The interviews focused on aspects of decision-making that were left ambiguous following those analyses. One researcher led each interview, which were conducted via Zoom, while other members of the interdisciplinary team observed and presented supplementary questions. These physicians are part of a clinic with explicit deprescribing goals which has led to extensive experience with the practice.
Analysis: Two researchers with clinical and cognitive engineering expertise utilized thematic coding of the interview transcripts, and an interdisciplinary team, consisting of experts in human factors, communications, family medicine, pharmacy, and anthropology, met to discuss the identified themes. Findings from these interviews were organized by the stages of the decision-ladder framework that they were associated with. These organized themes were then compared to prior results obtained through thematic coding of patient-physician interactions.
Findings: Findings related to problematic drug identification, prioritization, relationship building, and deprescribing approaches lay an important foundation for the design of future training and support interventions. The decision-ladder continues to function as a valuable frame for this area of study by clarifying how various stages of cognitive work interact and how each stage might best be supported to facilitate more effective deprescribing. Future work to analyze the approaches of additional providers will allow the decision-ladder to be further applied and refined.
Source of funding: UB Centers for Successful Aging (CSA) – Seeds for Innovation in Successful Aging (SISA) Program
Conflict of interest: None

Pattern and Barriers of Benzodiazepine Discontinuation Among Older Adults Following Hospitalization

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Background
Benzodiazepines (BZDs) may be prescribed to manage acute insomnia, anxiety, or behavior disturbance among hospitalized older adults. However, it could lead to BZD dependence and serious adverse drug events if BZDs are not timely discontinued. Very little is known about BZD utilization and the barrier of its discontinuation after acute hospitalization.

Objective
To assess the discontinuation rates of BZDs and barriers to discontinue BZDs following hospitalization among older adults in the US.

Methods
This retrospective cohort study was conducted using Optum's deidentified Clinformatics Data Mart database from 2004/01/01, to 2023/08/31. We included patients aged 65 years or older who newly initiated a BZD prescription within 30 days of hospitalization. The cohort entry was the date of the first BZD prescription. We excluded patients with chronic indications for BZD use, such as anxiety disorder or other mental illnesses, alcohol abuse, and those receiving palliative care. BZD discontinuation was defined as a gap of exceeding 15 days following the end of a BZD prescription. We estimated the discontinuation rates by the Kaplan-Meier method and evaluated the patient characteristics associated with BZD discontinuation using Cox proportional hazard model. Inverse probability of censoring weight was applied to adjust for the competing risk of death. In sensitivity analyses, the dispensing gap of 7 and 30 days to define BZD discontinuation were applied to test the robustness of study findings.

Results

Our study cohort included a total of 33,473 persons (mean age [SD]: 75.6 [7.3] years; 51.7% men). The BZD discontinuation rates by 30, 60, and 90 days after initiation was 51.3% (95% CI) (50.7%-51.9%), 85.5% (85.1%-85.9%), and 91.4% (91.1%-91.8%), respectively. An increasing trend in BZD discontinuation rate was observed over the study period (30-, 60-, 90-day discontinuation rates: 32.0%, 73.4%, 81.3% and 68.0%, 92.7%, 95.5% in 2004 and 2023, respectively). Major factors associated with BZD continuation were sleep disorders (censoring weight-adjusted hazard ratio for discontinuation: 0.66 [0.63-0.70]), use of antidepressants (0.80 [0.75-0.85]) and atypical antipsychotics (0.90 [0.82-0.99]) during hospitalization, frailty (moderate-to-severe: 0.80 [0.74-0.88], mild: 0.91 [0.86-0.96]), and dementia with pharmacological treatments (0.92 [0.86-0.98]). Sensitivity analyses showed consistent findings with the primary analysis.

Conclusions

Around 15% of patients used BZD for more than 60 days after initiation. The discontinuation rates of BZDs were noted to increase over time, but insomnia, use of psychotropic medications, frailty, and dementia were associated with a lower discontinuation rate.

Discontinuation of antipsychotic medications in older adults following hospitalization and risks of adverse clinical outcomes

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Background
Antipsychotic medications (APMs) are commonly prescribed to manage behavioral disturbance caused by delirium during hospitalization. The safety of discontinuing APM following acute hospitalization in the routine care setting is largely unknown.

Objective
To evaluate the association between APM discontinuation versus continuation and adverse clinical outcomes.

Methods
This retrospective cohort study was conducted using Medicare Jan. 2013 – Dec. 2018 and Optum Clinformatics Data Mart database Jan. 2004 – Feb. 2023. Patients who were without psychiatric disorders, aged ≥65 years, and newly initiated an APM prescription within 30 days of hospitalization discharge were included. APM discontinuation was defined as having a dispensing gap of more than 15 days following the end of an APM prescription.
The end of the last APM exposure with a 30-day extension (as a washout period of left pills from the last APM exposure) was considered as the discontinuation date (i.e., cohort entry date). We used a risk-set sampling approach to select APM continuers, matching on the duration and type of APM (i.e., haloperidol or atypical APMs) as the discontinuers. Propensity score (PS) matching was applied to adjust for confounding. Association between APM discontinuation and study outcomes, including all-cause death, re-hospitalization, admission to skilled nursing facility (SNF), inpatient delirium, hospitalized pneumonia, and fall-related injury, were evaluated by the Cox proportional hazards model. Analyses were conducted in the two databases separately and the effect estimates (e.g., hazard ratios [HRs]) were pooled using random-effect meta-analyses.

Results
A total of 9,237 and 7,117 PS-matched pairs were identified from Medicare (mean age [SD]: 83.3 [7.6] years; 8,006 [43.3%] men; mean follow-up: 159 days) and Optum (mean age [SD]: 80.5 [6.6] years; 6,920 [48.6%] men; mean follow-up: 152 days) databases, respectively. APM discontinuation was associated with significantly lower risks of re-hospitalization (HRs [95% CIs]: 0.89 [0.86-0.93]) and admission to a SNF (0.91 [0.84-0.97]); numerically lower rates of inpatient delirium (0.93 [0.85-1.01]), hospitalized pneumonia (0.88 [0.75-1.04]), fall-related injury (0.91 [0.64-1.30]); and similar all-cause death rates (1.06 [0.99-1.12]) compared with continuation. Sensitivity analyses that varied the prescriptions gaps for defining APM discontinuation and applied high-dimensional PS to adjust for confounders showed the same pattern with the primary analysis.

Conclusions
Based on two national US databases, we observed a reduced risk of adverse clinical outcomes associated with APM discontinuation, suggesting a net clinical benefit associated with timely discontinuation of APMs among older adults following hospitalization.

Initiation and Persistence of Antipsychotic Prescriptions at Hospital Discharge Among Community-Dwelling US Veterans with Dementia

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Background: Adults with dementia are frequently prescribed antipsychotic medications despite concerns that risks associated with antipsychotics outweigh benefits. Understanding conditions in which antipsychotics are initially prescribed to adults with dementia, such as hospitalization, may offer insights into how to reduce inappropriate use. We characterize antipsychotic initiation at hospital discharge and discontinuation in the subsequent year among veterans with dementia.

Methods: We used Veterans Health Administration (VA) and Medicare administrative data to construct a national cohort of community-dwelling veterans aged ≥68 with dementia with VA hospitalizations in 2014, excluding those with psychotic or bipolar disorders or prior antipsychotic use. Our primary outcome was outpatient antipsychotic prescription within -2/+7 days of hospital discharge date. We used a generalized linear model to study the association between antipsychotic initiation and patient, hospitalization, and facility characteristics, accounting for clustering at the facility level. Among veterans with antipsychotic initiation, we evaluated for discontinuation in the year following hospitalization, defined as a ≥90-day gap between fills, using a cumulative incidence function to account for competing risks of re-hospitalization, admission to skilled nursing facility or hospice, or death.

Results: 4,719 community-dwelling veterans with dementia were hospitalized in the VA in 2014, who were 97.8% male with a median age of 83. Most veterans were discharged from medical units (n=4,032, 85.4%); median length of stay was 3 days, and 350 (7.4%) hospitalizations included delirium as a diagnosis. 264 (5.6%) veterans filled a new outpatient antipsychotic prescription around hospital discharge, with a median days' supply of 30 days (IQR 30-30); most were atypical antipsychotics (n=222, 84.1%). Antipsychotic initiation was associated with discharge unit (surgical vs medical, OR 0.41, 95% CI 0.19-0.87; psychiatric vs medical, OR 6.58, 95% CI 4.48-9.67), length of stay (OR 1.03 per day, 95% CI 1.02-1.05), and presence of delirium (OR 2.61, 95% CI 1.78-3.83), but not with demographic or facility characteristics. Among veterans with new antipsychotic initiation, the 1-year cumulative incidence rate of

discontinuation was 18.2% (n=47); 15.9% (n=42) remained on an antipsychotic at 1 year. Most veterans (n=169, 64.0%) experienced competing events in the intervening time.

Conclusions: Antipsychotic initiation at hospital discharge was relatively uncommon in this national cohort of community-dwelling veterans with dementia. However, once initiated, antipsychotics were continued at least 1 year in many veterans with dementia who remained community-dwelling. These findings highlight hospitalization as a contributor to potentially-inappropriate medications, and suggests the importance of medication review after hospitalization.

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Conflicts of Interest: None

TITLE: Evaluation of the effectiveness of care coordination on medication adherence among high-cost, high need commercially insured beneficiaries

PRESENTER: Carol Mangione

PRESENTER (INSTITUTION ONLY): University of California Los Angeles David Geffen School of Medicine

ABSTRACT BODY:

Background: High-cost, high-need (HCHN) patients experience several biopsychosocial stressors that complicate their health care and medication management. Although care coordination programs may improve outcomes for HCHN patients including medication adherence, prior studies that often utilize pre-post or quasi experimental study designs and may lack control groups have shown mixed findings. Thus, we analyzed data from a randomized controlled trial conducted by a large national insurer that delivered a robust and comprehensive care coordination program and assessed its impacts on medication adherence for three chronic medical conditions: diabetes, atrial fibrillation, and hypothyroidism.

Methods: We performed an intention-to-treat analysis using administrative and pharmacy claims data for HCHN patients from 2019-2022. We examined adherence to metformin in patients with diabetes (n=2,875), statin in patients with diabetes (n=3,057), direct oral anticoagulants (DOACs) in patients with atrial fibrillation (n=267), and levothyroxine in patients with hypothyroidism (n=1,983). To define adherence, we calculated proportion of days covered (PDC) for each medication and created a binary variable defined as PDC > 80%. We used logistic regression to model the difference in likelihood of having PDC > 80% between treatment and control. Similarly, linear regression was used to model the difference in mean PDC between treatment and control. Covariates included age, gender, geographic location, plan type, and 18 comorbidity indicators.

Results: We did not identify a significant difference in medication adherence between treatment and control groups across the four drug classes examined. Among the intervention group with diabetes compared to the control group, we did not see significant difference in metformin adherence (66% vs. 68%, p = 0.38) or statin adherence (70% vs. 70%, p = 0.98) as measured by a PDC > 80%. Among the intervention group with atrial fibrillation compared to the control group, we did not see significant differences in DOAC adherence (71% vs. 67%, p = 0.44) as measured by a PDC > 80%. Lastly, among the intervention group with hypothyroidism compared to the control group, we did not see significant differences in levothyroxine adherence (77% vs. 74%, p = 0.10) as measured by a PDC > 80%. In addition, we examined PDC as a continuous measure and found no significant difference across the four drug classes. Conclusions: Our results align with prior studies showing that comprehensive care coordination programs for HCHN patients may not improve medication adherence. This may be in part because these interventions tend to be broad and not targeted specifically to medication adherence. In order to have a greater effect, future interventions may need to focus specifically on the facilitators and barriers to medication adherence among HCHN patients.

TITLE: Impact of simulation training on high-risk prescribing to older adults by junior physicians in the inpatient setting: Pragmatic randomized trial

PRESENTER: Julie Lauffenburger

PRESENTER (INSTITUTION ONLY): Brigham and Women's Hospital Department of Medicine

ABSTRACT BODY:

Background: High-risk medications like benzodiazepines, sedative hypnotics, and antipsychotics are commonly prescribed for hospitalized older adults, despite guidelines recommending avoidance. Prior interventions have not fully addressed how physicians make such prescribing decisions, particularly when experiencing stress or cognitive overload. When stressed, individuals often revert to "System 1" thinking (e.g., making choices quickly) and make choices different from when using "System 2" thinking (e.g., considering issues more slowly). Simulation training may help improve this decision-making but has not been evaluated for overprescribing.

Methods: In this 2-arm pragmatic trial, we randomized 40 first-year general medical resident physicians (i.e., interns) assigned to evening inpatient general medicine services at an academic medical center. Interns were block-randomized 1:1 to either intervention (a 40-minute immersive simulation training) or control (online educational training) arms about high-risk medications, which they received at the beginning of their general medicine rotation. We focused on interns, as they may be more prone to rely on System 1 thinking. The primary outcome was the number of new benzodiazepine, sedative hypnotic, or antipsychotic orders for treatment-naïve older adults during hospitalization, measured using electronic health record data. Secondary outcomes included prescribing by all providers, being discharged on a target medication, and prescribing of related or control medications. Outcomes were measured using electronic health record data over each intern's service period (~2 weeks). Outcomes were evaluated using generalized estimating equations, adjusting for clustering.

Results: In total, 522 treatment-naïve older adult patients were included in analyses, including 263 and 259 patients in the control and intervention arms, respectively. Over follow-up, interns prescribed ≥1 of these medications for 13
(4.9%) intervention patients and 13 (5.0%) control patients. The intervention led to no difference in the number of new prescriptions (Rate Ratio [RR]: 0.85, 95%CI: 0.31-2.35) versus control and no difference in secondary outcomes. In secondary analyses, the intervention-group interns wrote significantly fewer as needed ("PRN") orders for the target drugs (RR: 0.29, 95%CI: 0.08-0.99) and instead tended to write more "one-time" orders than control interns, though this difference was not statistically significant (RR: 2.20, 95%CI: 0.60-7.99).

Conclusions: While this simulation intervention did not impact total high-risk prescribing for hospitalized older adults, it did influence how the interns prescribed, resulting in fewer PRN orders, suggesting possibly greater ownership of care as PRN orders require discretion by others on the care team. Future work focusing on deprescribing interventions should explore nuances in

prescribing outcomes that may not be reflected in total prescribing outcomes alone and other implementation lessons learned.

TITLE: Automated Text Message-Based Program to Manage Uncontrolled Blood Pressure in Primary Care Patients: A Randomized Clinical Trial

PRESENTER: Klea Profka

PRESENTER (INSTITUTION ONLY): University of Pennsylvania

ABSTRACT BODY:

Background: Although evidence-based treatments for hypertension are widely available, uptake can be limited by reliance on conventional office visits. We developed and tested an automated, bidirectional text-messaging program with a human backend to support longitudinal, remote blood pressure (BP) management in primary care patients with uncontrolled hypertension. We hypothesized that an automated program could improve BP by offering a higher intensity, more incremental approach and a lower friction medium to engage with the clinical team.

Methods: Patients at two primary care clinics were randomized 1:1. Eligibility criteria were: uncontrolled hypertension (two BPs > 140/90 mmHg in the last 12 months, including most recent) and use of ≥1 anti-hypertensive. The control arm received usual care at their PCP's discretion. Patients assigned to the intervention received an SMS invitation into the study; those who did not respond received a call from a study coordinator. Patients who agreed to participate were mailed a cuff and received weekly SMS requesting a BP reading. An RN and APP reviewed BP trends, and contacted patients and adjusted medications as needed. At the end of the trial, all patients were offered a $95 incentive to complete an in-office BP check at their primary care clinic. The primary outcome was change in SBP at 6 months. Secondary outcomes were the change in SBP at 3 months post randomization; change in DBP at 3 months and 6 months; and the proportion of patients who achieved BP control (<140/90).

Results: The mean (SD) age (n=300) was 63 (±12.2) years; 133 (44.3%) were male; 154 (51.5%) identified as Black, and 120 (40.1%) as White; 119 (39.7%) were insured by Medicare and 41 (13.7%) by Medicaid. Of 150 patients in the intervention, 97 agreed to participate and 84 sent in at least one BP reading. Of those who completed the visit (n=99), the starting SBP was higher in the intervention (153.74) than control arm (148.80). The change in SBP at 6 months was greater in the intervention (14.66) than control arm (10.87), but this was not statistically significant. There was no difference when including those with non-study visit (EHR) measurements at 6 months. Those in the intervention arm experienced a greater decrease in SBP and DBP at 3 months.

Conclusions: In this randomized clinical trial of a 6-month automated text message-based hypertension management program, the improvement in BP was not significantly different between arms. The study was limited in part by uptake of the end-of-study measure. Future study may be directed at staff and patient experiences with this centralized, connected health-enabled model of care.

TITLE: Characteristics and Clinical Context of Outpatient Opioid Treatment through VA Care in the Community

PRESENTER: Wei Duan-Porter

PRESENTER (INSTITUTION ONLY): VA Center for Care Delivery and Outcomes Research, University of Minnesota Twin Cities

ABSTRACT BODY:

Background: Since 2013, the Department of Veterans Affairs (VA) Opioid Safety Initiative has expanded resources for pain management and reduced high-risk opioid prescriptions across VA facilities. In 2019, MISSION Act expansion of VA Care in the Community (CITC)—VA-purchased services provided by non-VA facilities and clinicians. This included greater authorization for CITC-prescribed medications to be filled by VA pharmacies, including opioids for outpatient pain management. The MISSION Act also charges VA to ensure that CITC-prescribed opioids meet VA standards for safety and appropriateness. However, past studies reported substantial challenges in communication and tracking infrastructure for CITC-prescribed medications, raising concerns about risks related to CITC-prescribed opioids. To properly evaluate risks and pain outcomes associated with CITC-prescribed opioids, it is important to first understand how patient, community, and clinical factors affect the likelihood of veterans receiving CITC vs. VA-prescribed opioids.

Methods: We used VA data (June 2022-May 2023) to identify veterans who received outpatient opioids with a minimum prescribed duration of 2 weeks, excluding those with a diagnosis of cancer, palliative care, or opioid use disorder. We determined receipt of CITC-prescribed opioids using VA prescription and prescriber data. Veteran demographics and medical conditions were identified using VA data. To assess clinical context of opioid prescriptions, data on clinical training and specialty of prescribers were obtained from the National Provider Identifier (NPI) Registry.

Results: We identified 111,919 veterans who received opioids for outpatient pain treatment, 12.5% (n=14,020) of these with CITC-prescribed opioids. Veterans receiving CITC-prescribed vs. only VA-prescribed opioids were slightly younger (mean age 63.8 [SD 13.03] vs. 65.3 [12.99]), and more likely to live in rural communities (50.4% vs. 42.3%). CITC-prescribed opioids were also more often related to post-surgical (18.5% vs 6.0%) or pain specialist care (24.0%vs 4.1%). The prevalence of chronic medical conditions and pain diagnoses was similar for veterans receiving CITC vs. only VA-prescribed opioids.

Conclusions: Receipt of CITC-prescribed opioids was more common in veterans residing in rural settings and those receiving specialty care, such as surgical referrals. These findings are consistent with higher CITC utilization in rural areas and frequent use of CITC referrals for surgical and procedural indications. Future evaluations of opioid safety and pain treatment outcomes from CITC referrals must account for differences in veteran characteristics and clinical context of treatment.

TITLE: Decrease in opioid prescribing among older adults with chronic pain following implementation of the I-COPE toolkit

PRESENTER: Ainur Kagarmanova

PRESENTER (INSTITUTION ONLY): University of Chicago Division of the Biological Sciences

ABSTRACT BODY:

Background: Chronic pain management in older adults can be challenging due to their higher risk for drug interactions and adverse events. In particular, opioids may be appropriate for some patients; however, older adults have a higher risk for opioid-related side effects, more emergency department visits, and increases in heroin use and opioid overdose deaths. To develop an effective pain management plan, a thorough understanding of each patient's goals, preferences, comorbidities is necessary. Improving Chicago Older Adult Opioid and Pain Management through Patient-centered Clinical Decision Support and Project ECHO® (I-COPE) was designed to increase multimodal pain management by collecting patient-reported data on symptoms and preferences, implementing clinical decision support and shared decision-making tools, and providing primary care provider (PCP) education on the full range of chronic pain treatment options based on clinical recommendations from the American Geriatric Society. We aimed to understand whether implementation of I-COPE led to a change in opioid prescribing among older adults with chronic pain, opioid use, and/or opioid use disorder (OUD).

Methods: I-COPE was a clinic-level intervention piloted at two urban academic primary care practices for one year beginning in June 2021. Patients were included if they were 65 years or older, received primary care at a study site, and had one or more of the following: pain score ≥6, chronic pain diagnosis, current opioid prescription, or OUD diagnosis. We compared quantity of annual opioid prescriptions per patient between pre-intervention (6/1/2020-5/31/2021) and intervention periods (6/1/2021-5/31/2022). Morphine milligram equivalents (MME) was used to standardize opioid dosages across various medications. A linear mixed model was used to determine significance difference between pre- and post-intervention values.

Results: A total of 5,709 and 6,084 patients met eligibility criteria in pre-intervention and intervention periods respectively. Pre-intervention patient population was on average 79 years of age, 73% female, and 75% Black; intervention patient population was 78.6 years of age, 72% female, and 74% Black. 29% (N=1,683) of eligible patients had at least one opioid prescription during the pre-intervention period and 27% (N=1,643) had at least one opioid prescription during the intervention period. Total MME decreased from 844,706 to 683,884 after I-COPE implementation and mean (median) MME decreased from 502 (72) to 416 (50) ($p=0.03$ by LMM after transformation).

Conclusions: After implementation of the I-COPE toolkit, there were significant decreases in mean MME. Incorporating tools to collect patient preferences, encourage shared decision-making, and provide clinical decision support may lead to decreases in opioid prescription rates. More research is needed to differentiate the effects of I-COPE on multi-modal pain management.

TITLE: e-Consultation for deprescribing among older adults in primary care: evaluating barriers to and facilitators of implementation

PRESENTER: Matthew Evan Growdon

PRESENTER (INSTITUTION ONLY): University of California San Francisco, San Francisco VA Health Care System

ABSTRACT BODY:

Background: Electronic consultations (eConsults) allow for asynchronous consultation between primary care providers (PCPs) and specialists. eConsults have been used successfully to manage a variety of conditions and have potential to help PCPs manage polypharmacy and promote deprescribing. To develop an eConsult deprescribing intervention, we elicited clinician perspectives on barriers to and facilitators of using eConsults for deprescribing among older adults within a large university health network.

Methods: We recruited PCPs, geriatricians, and pharmacists for semi-structured interviews. Interviews explored barriers/facilitators of 1) successful deprescribing among older patients and 2) potential use of eConsults to facilitate deprescribing. We used the COM-B (Capability, Opportunity, Motivation, and Behavior) model to structure the interview guide and used rapid analysis methods to identify barriers/facilitators of deprescribing behaviors.

Results: Of 28 participants, 19 were PCPs (13 physicians, 4 residents, and 2 nurse practitioners), 7 were geriatricians, and 2 were pharmacists. Successful deprescribing: Most PCPs considered deprescribing to be an important component of medication optimization among older adults in their clinical practice but identified myriad barriers to deprescribing (e.g. time constraints, fragmented clinical care, lack of pharmacist integration, and patient/family resistance). Among these, time constraints were paramount, as summarized by this PCP: “For people who want to get things done, the most efficient thing to do is just hit refill. Every time you want to stop something, from a time or RVU standpoint, deprescribing is more time and work than hitting refill. Same thing in the visit, deprescribing is a conversation that will slow the visit down.” Use of eConsults for deprescribing: Both PCPs and geriatricians highlighted the limits of contextual information available through electronic health record (vs. face-to-face) to render specific and actionable eConsults (e.g. knowledge of prior deprescribing attempts, patient/family attitudes). Participants from all groups expressed interest in a targeted process whereby eConsults could be offered for selected patients based on key factors (e.g. polypharmacy or certain comorbidities) and accepted or declined by PCPs, with pithy recommendations delivered in a timely manner relative to patient appointments. This was encapsulated by one PCP: “they need to be crisp and to the point to be helpful, with specific suggestions of something that could be discontinued or switched…not, ‘did you know your patient is on over 12 medicines?’”

Conclusions: Clinicians identified multifaceted factors influencing the utility of eConsults for deprescribing among older adults in primary care. Deprescribing eConsult interventions should be timely, actionable, and mindful of limitations of electronic chart review.

TITLE: Which older adults are at highest risk of prescribing cascades? A study of the gabapentinoid- loop diuretic cascade

PRESENTER: Matthew Evan Growdon
PRESENTER (INSTITUTION ONLY): University of California San Francisco, San Francisco VA Health Care System

ABSTRACT BODY:

Background: Prescribing cascades, which occur when a medication causes adverse effects that are treated with a second medication, are important contributors to polypharmacy among older adults. Little is known about which older adults are most at risk of experiencing prescribing cascades. We explored which older adults are at highest risk of the gabapentinoid (including gabapentin and pregabalin)–loop diuretic (LD) prescribing cascade.

Methods: Using VA and Medicare claims data (2010-2019), we performed a prescription sequence symmetry analysis (PSSA) to assess loop diuretic initiation before and after initiation of gabapentinoids among older veterans (≥66 years) without heart failure. To identify the cascade, we calculated the adjusted sequence ratio (aSR), which assesses the temporality of LD relative to gabapentinoid initiation. To explore high-risk groups, we used multivariable logistic regression with prescribing order modeled as a binary dependent variable and adjustment for patient/healthcare utilization factors. We calculated adjusted odds ratios (aORs), measuring the extent to which factors associated with one prescribing order vs another. As a secondary analysis, we performed a stratified PSSA by key factors.

Results: The cohort included 1,981 patients (mean age, 73 years; 97.5% male; 13% Black, 5% Hispanic, 80% White) and 1,599 patients who initiated LD within 6 months after and before initiating gabapentinoid, respectively. Patients in each group were similar across patient and health utilization factors. The aSR was 1.23 (95% CI, 1.13, 1.34), confirming the cascade's presence. Among 151,442 gabapentinoid initiators between 2013 and 2019, the estimated incidence rate of the cascade was 4.8 prescribing cascade events per 1,000 gabapentinoid-initiator years. People age ≥ 86 years were less likely to have the cascade (compared to 65-74 years; aOR 0.74, 95% CI: 0.56-0.96), and people taking ≥10 medications were more likely to have the cascade (compared to 0-4 drugs; aOR 1.39, 95% CI, 1.07-1.82). Stratified analyses revealed little variation in aSRs (around the population average aSR of 1.23) across variables including comorbidity burden and number of outpatient providers.

Conclusions: Among older Veterans, those who are younger and those taking many medications may be at highest risk of the gabapentinoid-LD cascade. As we did not identify strong predictors of this cascade, approaches to preventing and managing prescribing cascades should be widespread rather than focused on specific subgroups of older adults. There is an ongoing need to supplement large epidemiological studies of prescribing cascades with deeper forms of inquiry (such as chart review and qualitative inquiry into medical decision-making and patient perspectives around cascades) aiming to disentangle the decision-making processes giving rise to prescribing cascades and to identify promising avenues to detect and avoid prescribing cascades among older adults.

TITLE: Feasibility of engaging care partners for electronic outreach interventions in primary care

PRESENTER: Julie Lauffenburger
PRESENTER (INSTITUTION ONLY): Brigham and Women's Hospital, Harvard Medical School

ABSTRACT BODY:
Background: Care partners are important stakeholders for persons living with dementia (PLWD), playing a critical role in patient support and medication decision-making. However, effectively identifying and engaging care partners within electronic health record (EHR) systems remains a challenge, particularly in a scalable manner that could be used for outreach. Therefore, we sought to evaluate the feasibility of strategies for reaching care partners of PLWD using EHR data. We focused on care partners of PLWD using cognition-affecting medication as an anchoring clinical problem.

Methods: We identified PLWD ≥65 years of age using validated EHR algorithms who were taking a benzodiazepine, sedative hypnotic, and/or antipsychotic in a large northeastern US health system. Within these PLWD, we used structured EHR data to identify: how many PLWD had care partners with sufficient contact information for mail/telephone outreach and/or had care partners who had an official patient portal account set up for electronic outreach about the PLWD (i.e., a "proxy" account). To specifically assess care partner engagement strategies, we sent these care partners a brief survey about their experiences in a staged manner: 1) by patient portal (if portal proxy use was established), 2) by postal mail, and 3) by telephone, twice through the portal and once each through mail and telephone in Fall 2023. We also measured the specific reach rates of these care partners, independent of survey completion, by measuring portal read receipts and telephone call answer rates.

Results: In total, 4139 PLWD met eligibility. Of these, 2555 (62%) had any care partner in the EHR data, but only 1085 (23%) had a specific name for a care partner recorded in structured EHR data. Of these 1085 care partners, 261 (24%) had complete telephone and address information from structured EHR data, including 86 (8%) had a proxy patient portal account set up. (All care partners with proxy access had complete telephone and address information.) In total, 59 out of these 261 (23%) care partners returned the survey; 13 (22%) completed it via the portal, 28 (47%) completed it by mail, and 18 (31%) completed it by telephone. Most care partners with portal access (54/86, 63%) viewed the electronic message about the survey. Similarly, most care partners (who had not previously responded) also were reachable via the telephone call about the survey (103/184, 56%).

Conclusions: Relatively few persons living with dementia in this population had a care partner who had a patient portal account set up or had contact information within structured EHR data sufficient for outreach. However, reach rates were high for care partners who did have portal accounts or sufficient contact information, indicating that it may be feasible to contact these care partners as part of health system or clinic outreach. Thus, more concerted effort should also be made to formalize care partners within EHR systems and establish proxy portal accounts to help facilitate care for PLWD.

TITLE: Assessing the implementation of clinical pharmacist outreach for medication titration in a remote patient monitoring program for hypertension

PRESENTER: Helen Hsiao-Hsing Shi
PRESENTER (INSTITUTION ONLY): Albert Einstein College of Medicine

ABSTRACT BODY:

Background: Uncontrolled hypertension (HTN) is driven by clinical inertia for medication titration. While remote patient monitoring (RPM) programs using team-based care are encouraged for HTN management, there is insufficient research on which components of RPM programs in a real-world setting are associated with BP control and overcoming barriers to medication titration. We developed an RPM-HTN program in the Bronx, consisting of out-of-office BP measurements collected via an online RPM portal, coupled with clinical pharmacist telephonic outreach for medication titration. We aimed to assess the implementation of RPM-HTN's intervention components and their association with BP improvement.

Methods: This is a retrospective cohort implementation study of primary care patients enrolled in RPM-HTN from January 1, 2022 – June 30, 2023. We identified patients enrolled for ≥3 months with uncontrolled HTN. We evaluated the implementation of the RPM-HTN program using implementation outcome measures: (1) the proportion of enrolled patients with uncontrolled HTN that received clinical pharmacist outreach and (2) the proportion that received antihypertensive medication titration (by the clinical pharmacist or any other clinician). We analyzed how these outcomes correlated with the effectiveness outcome of BP control defined as a reduction in average (SBP) by >5 mmHg within 3 and 6 months. Medication and clinical encounter data were extracted from electronic medical records and BP data from the RPM portal. Relative risk (RR) and chi-square analysis were used to assess associations between receiving clinical pharmacist outreach and medication titration at 3 and 6 months, and each of these variables with reduction of SBP at 3 and 6 months.

Results: Among 830 RPM-HTN patients, 385 (46%) had uncontrolled HTN in the first month. Within 3 months, 51% of patients completed clinical pharmacist telephone visits, 51% had medication changes, and 53% achieved SBP reduction. Within 6 months, this increased to 62%, 72%, and 80% respectively. Medication titration was positively associated with SBP reduction at 3 months (RR 1.60, $p < 0.001$) and 6 months (RR 1.43, $p < 0.001$). Clinical pharmacist outreach was positively associated with SBP reduction at 3 months (RR 1.24, $p = 0.04$) but not at 6 months (RR 1.03, $p = 0.79$). Pharmacist outreach was positively associated with medication titration at 3 months (RR 1.59, $p < 0.001$) and 6 months (RR 1.52, $p < 0.001$).

Conclusions: We found that not all participants in the RPM-HTN program received the intended intervention components, which highlights opportunities for RPM-HTN delivery improvement. Although pharmacist outreach did not significantly impact BP control, it was associated with instigating medication changes. Because medication change is important to achieving BP control, we need to focus on strategies for PCPs and specialists who manage HTN to overcome clinical inertia for medication titration and improve medication adherence amongst patients.

TITLE: Improving Stimulant Prescribing Practices and Safety in a Large Urban Primary Care Practice

PRESENTER: Nicole Soo Wong
PRESENTER (INSTITUTION ONLY): Oregon Health & Science University

ABSTRACT BODY:

Background: Schedule II stimulant prescribing increased during the SARS-CoV-2 pandemic. Primary care providers lack training in the diagnosis and management of adult attention-deficit/hyperactivity disorder (ADHD). Furthermore, high rates of comorbidity, co-prescribing, and substance use complicate management. The aim of our quality improvement project is to improve safety practices in schedule II stimulant prescribing and diagnostic accuracy for adult ADHD.

Methods: In June 2022, we identified patients in our internal medicine clinic who were prescribed schedule II stimulants. Over the following year, we provided clinic-wide guidance on stimulant management through in-service trainings, educational infographics, and direct feedback to prescribing clinicians. We developed stimulant agreement forms and best practice guidelines for stimulant prescribing.

Results: We evaluated 14,501 patients prior to any intervention, of whom close to 4% received a schedule II stimulant. This remained stable post-intervention (Table 1). Of these patients, 71% of patients had a diagnosis of ADHD pre-intervention compared to 77% post-intervention which was statistically significant ($p < 0.05$). Major depressive disorder and anxiety disorders continued to be common post-intervention (54% and 61%, respectively). Nearly 30% of patients on stimulants had hypertension. Urine drug testing (UDT) was only performed 12% of the time pre-intervention and improved to 16% post-intervention ($p < 0.05$). Frequency of use of a controlled medication agreement specific to stimulant medications increased as well following our intervention.

Conclusions: Our quality improvement project was associated with improved rates of UDT, increased use of a stimulant-specific controlled medication agreement and an increase in ADHD diagnosis in patients on schedule II stimulants. In the future, we hope to incorporate electronic health record tools and the periodic review of a schedule II stimulant registry to optimize functional improvement, safety, and accurate diagnosis of adult ADHD.

TITLE: Facilitators of and Barriers to Deprescribing Diabetes Medications in Older Adults: A Qualitative Study

PRESENTER: Aimee N Pickering
PRESENTER (INSTITUTION ONLY): University of Pittsburgh School of Medicine

ABSTRACT BODY:

Background: Over half of older adults with diabetes remain on overly intensive medication regimens to treat diabetes and its complications, leading to falls, polypharmacy, and increased risk of hospitalization and death. Implementation science offers novel approaches to evaluate and address barriers to deprescribing (i.e., discontinuing or de-intensifying medications when risks outweigh benefits); however, there has been limited application of implementation science frameworks to systematically identify factors influencing successful deprescribing in older adults with diabetes. Our objective was to identify facilitators of and barriers to deprescribing diabetes medications in older adults.

Methods: We conducted 15 semi-structured interviews with adults aged ≥65 with diabetes on ≥1 of the following diabetes medications: insulin, sulfonylurea, meglitinide or ≥1 of the following medications to treat diabetic peripheral neuropathy: gapapentinoids, tricyclic antidepressants; and 10 family caregivers of older adults meeting inclusion criteria. Informed by the updated Consolidated Framework for Implementation Research (CFIR), we explored 1) participants' general views on diabetes medications; 2) barriers to and facilitators of following a prescriber's recommendation to deprescribe; and 3) reactions to specific barriers and facilitators. Interviews were audio recorded and transcribed verbatim. Two members of the research team developed a codebook, coded the transcripts, and met to reconcile differences. We then conducted a thematic analysis to identify salient themes.

Results: We identified the following facilitators of deprescribing: trust in prescriber, good understanding of prescriber rationale, side effects of medication, and collaboration between prescribers. For example, one caregiver stated, "We have been taken care of by our doctor for such a long time that we really do trust her, and I know that she would not make any recommendation without careful thought so I would have no problem following her orders." We also found the following barriers: perceived benefit of the medication, lack of side effects, perceived lack of expertise of prescriber, and poor relationship with prescriber. For example, when asked about barriers to deprescribing, one patient expressed, "My primary reluctance would be that I have had no bad side effects with insulin, and so that then makes me reluctant to want to change the dosage even at the recommendation of a healthcare provider."

Conclusions: We identified key facilitators and barriers that influence patients' and caregivers' willingness to have diabetes medications deprescribed. Our findings will inform the ongoing development of strategies to support deprescribing diabetes medications in older adults.

TITLE: Naloxone Outreach Initiative: A Pharmacist-Led Quality Improvement (QI)Study

PRESENTER: Polly D Fraga

PRESENTER (INSTITUTION ONLY): Lahey Hospital and Medical Center

ABSTRACT BODY:

Statement of Problem/Question: There were over 100,000 deaths from opioid overdose in the United States in 2021, and 23% of these deaths involved prescription opioids. The 2022 CDC guidelines recommend co-prescribing naloxone for all patients prescribed over 50 Morphine Miligram Equivalents (MME) daily of opioids. In a Massachusetts academic medical center, an assessment of current opioid and naloxone prescribing trends showed 3% of patients prescribed high dose opioids had a concomitant prescription for naloxone, similar to rates seen elsewhere. In this study, we examine the effect of a QI pharmacy outreach initiative aimed at increasing naloxone prescribing to patients prescribed high dose opioids in a General Internal Medicine (GIM) practice.

Description of Program/Intervention: Patients who are prescribed greater than 50 MME/day of opioids without a concomitant prescription for naloxone will be identified via the electronic medical record (EMR). Patients meeting inclusion/exclusion criteria will be mailed a letter introducing the project and informing them to expect a call from a pharmacist. A pharmacist will provide naloxone education to the patient by telephone. If the patient accepts the offer of a naloxone prescription, the pharmacist will send a prescription for naloxone nasal spray to the patient's PCP or designee. The pharmacist will confirm if the naloxone was actually dispensed.

Measures of Success: The primary endpoint is the percent change pre vs post intervention in patients with a concomitant naloxone prescription who are prescribed ≥ 50 MME daily of opioids. The secondary endpoint is the percent change pre vs post intervention of patients with a confirmed naloxone prescription fill. Additional data collected will include the overall number of naloxone prescriptions, the cost of naloxone, and the reasons for declining naloxone.

Findings to Date: Pre intervention data was obtained from the electronic medical record. From September 14, 2023 to December 13, 2023, 39 patients had an opioid prescription for 50-90 MME/day, and zero of these patients had a concomitant naloxone prescription. In the same time period, 63 patients had an opioid prescription ≥ 90 MME/day, and three of these patients had a concomitant naloxone prescription. This means approximately 3% of patients prescribed high dose opiods as defined by the CDC have been co-prescribed naloxone. Participants have been sent the introductory letter and we are starting to contact identified patients directly. We will report additional data on the impact of these letters and pharmacist phone calls.

Key Lessons for Dissemination: Initial data show the academic practice patterns for appropriate naloxone prescribing do not differ from national data. EMR data can be used in a targeted patient approach to improve naloxone prescribing rates. A pharmacist led program offers advantages in a busy GIM practice. We will present efficacy data on direct pharmacist outreach to patients on high dose opioids who have not yet been prescribed naloxone in increasing the appropriate prescription of naloxone in this at-risk population.

TITLE: Care partner attitudes towards digital tools for medication optimization in persons living with dementia

PRESENTER: Katharina Tabea Jungo
PRESENTER (INSTITUTION ONLY): Brigham and Women's Hospital, Harvard Medical School, Center for Healthcare Delivery Sciences (C4HDS), Department of Medicine, Brigham and Women's Hospital and Harvard Medical School

ABSTRACT BODY:

Background: Care partners are critical to making treatment decisions, including medication management, in persons living with dementia (PLWD). Efforts to promote stopping or reducing high-risk medications have typically had insufficient care partner involvement. Little is known about the perspectives of care partners about using digital health tools (e.g. portals, applications, and other online support tools) for enhancing care partner involvement in making medication-related decisions for PLWD.

Methods: In this survey study, we identified 261 care partners of PLWD ≥65 years of age using ≥1 high-risk medication (benzodiazepine, sedative hypnotic, or antipsychotic) in the electronic health records (EHR) of a large healthcare system. The survey was delivered and collected through REDCap in Fall 2023 and contained 26 questions about sociodemographic characteristics of care partners and PLWD, the use of digital health tools to support medication management, and care partners' willingness to deprescribe medications. Survey questions were based on previously-validated questionnaires and most used a 5-point Likert scale for non-free text responses. Care partners were contacted by patient portal if there were a designated proxy for the patient, mail, and then phone for survey completion. Non-proxy care partners were contacted by mail and then phone. Those completing the survey received compensation. The data were analyzed using descriptive statistics.

Results: In total, 22%(57) care partners (mean age 72±12 years and 61%(35) women) completed the survey within 3 weeks of delivery. Of these, 75%(43) were the spouse or life partner and 25%(14) were the child of the PWLD. PLWD had a mean age of 80±11 years and 46%(26) were female, with the following cognitive conditions reported by care partners: 22%(13) Alzheimer's disease, 24%(14) unspecified dementia, and 56%(32) other types of cognitive impairment or thinking problems. Among the respondents, 65%(37) reported being the primary decision maker, 86%(47) reported being very or extremely confident being involved in the medication management of the PLWD, 69%(38) were very or extremely confident making changes to their medication regimen, 82%(47) reported being satisfied with their care recipients' medications but still said that they would be willing to deprescribe one of the medications if their physician said this was possible. 57%(32) were very or extremely interested in using digital tools to assist with treatment decisions while 7%(4) of care partners were not at all interested. 54%(31) were very or extremely interested in using digital tools to manage the medication use of their care recipient whereas 12%(7) were not at all interested.

Conclusions: We found a high confidence in responding care partners of PLWD to be involved in medication management and making medication-related treatment decisions. Over half of the respondents showed a great interest in using digital health tools for making treatment decisions and managing medication use.

TITLE: Reducing polypharmacy in hospitalized older Veterans through deprescribing: a randomized clinical trial

PRESENTER: Amanda Salanitro Mixon
PRESENTER (INSTITUTION ONLY): Vanderbilt University Medical Center, VA Tennessee Valley Healthcare System ABSTRACT BODY:

Background: Polypharmacy is associated with poor health outcomes and is prevalent in older Veterans. Deprescribing, reducing or stopping medications, can mitigate polypharmacy and potentially improve health outcomes. We hypothesized that a hospital-based deprescribing intervention would safely reduce the total number of medications for older Veterans.

Methods: VA Drug Reduction in Older Patients was a randomized clinical trial of a patient-centered deprescribing intervention. Hospitalized Veterans aged ≥ 50 years, prescribed at least 5 medications prior to admission, and recommended for post-acute care (PAC) were eligible. Participants were randomized to receive the intervention (pharmacist or nurse practitioner-led medication review, patient-approved deprescribing recommendations, and changes to medication orders at hospital discharge) or usual care (control arm). The primary outcome was total number of medications at hospital discharge, PAC discharge, and 90 days after PAC discharge. Intervention effects were assessed using mixed effects regression methods, adjusted for baseline medication number.

Results: A total of 260 Veterans, predominately male (91%) and White (77%) with a median age of 72 years, were randomized. The median number of preadmission medications was 17. There was a statistically significant decrease in total medications for the intervention group at hospital discharge, with a mean of 9% fewer medications (mean ratio 0.91, confidence interval 0.84-0.97, P=0.006). There was no statistically significant decrease in total medications at PAC discharge or 90 days thereafter (mean ratio 0.93, CI 0.85-1.02, P=0.11; mean ratio 0.92, CI 0.85-1.00, P=0.06, respectively), although the total number of medications remained lower in the intervention group at each time point.

Conclusions: The patient-centered deprescribing intervention significantly reduced the total number of medications in hospitalized Veterans discharged to PAC. Although the intervention's effects were not statistically significant past hospital discharge, there was a trend for intervention participants to maintain fewer medications at these timepoints. Future studies will examine the effect of the intervention on geriatric syndromes and the incidence of adverse drug events associated with deprescribing.

TITLE: Gaps in Care for Older Adults Discharged from the Hospital with Changes to Cardiometabolic Medications
PRESENTER: Timothy Anderson
PRESENTER (INSTITUTION ONLY): University of Pittsburgh

ABSTRACT BODY:
Background: Older adults are commonly discharged from the hospital with changes to their chronic cardiometabolic medications. Adverse drug events and medication discontinuations are common after hospitalization, but little is known about communication of medication changes or discharge planning for older adults being discharged home**.**

Methods: Prospective cohort study of older adults discharged home from the internal medicine or cardiology service at an academic medical center in Massachusetts with changes to home cardiometabolic (antihypertensives or hypoglycemic) medications. Patients were recruited within one week of hospital discharge to complete a telephone surveys on medication understanding and communication. Discharging clinicians of enrolled patients were recruited to complete surveys on clinical reasoning and intended follow up of medication changes. In addition, electronic health record discharge summaries and patient instructions were reviewed.

Results: The cohort included 151 older adults (42% age >=75 years, 46% female, 17% Black, 82% White; 41% frail) who received 318 total medication changes. Participants were taking a mean (SD) of 3.0 (1.8) cardiometabolic medications on admission and were discharged with a mean (SD) of 2.1 (1.3) changes. Of the 318 medication changes, 54% were deintensifications (23% temporary holds, 21% medication stops, and 10% dose reductions) and 45% intensifications (34% new starts, 11% dose increases) with most patients recieving a mixture of changes. These changes resulted in a net increase in total cardiometabolic medications for 43% of patients, a reduction for 30%, and no change in total number for 27%. At discharge, PCP follow up was recommended for 91% of patients, specialist follow up for 53%, and home blood pressure or blood glucose monitoring was recommended to only 22%. While 93%of patients reported clearly understanding how to take their discharge medications, 28% did not know why their medications were changed. Ninety-six discharging clinicians completed linked surveys (response rate 63.5%). Inpatient clinicians reported having outpatient medication and health record data available for 96% of patients but only 24% reported contacting patient's outpatient clinicians when prescribing medication changes. Clinicians reported 66%of changes were intended to be long term, 15% intended to be holds until outpatient follow up and 19% short term medications. At 30 days following discharge, recommended specialist follow up was completed for 66% of patients and PCP follow up for 63%.

Conclusions: Though prior research has focused primarily on medication initiations, the majority of cardiometabolic changes prescribed at hospital discharge in this cohort study were deintensifications. Substantial gaps in care transitions exist for older adults discharged from the hospitalization with changes to cardiometabolic medications.

TITLE: Older Adults' and Clinicians' Perspectives on Using, Prescribing, and Deprescribing Opioids for Chronic Pain: A Qualitative Analysis

PRESENTER: Brianna Wang
PRESENTER (INSTITUTION ONLY): Beth Israel Deaconess Medical Center

ABSTRACT BODY:

Background: There is increasing attention to the risks of opioids in light of the opioid overdose epidemic. Guidelines recommend deprescribing opioids in older adults due to risk of adverse effects; yet little is known about patient-clinician deprescibing conversations. The objective of this study is to understand older adults' and primary care practitioners (PCPs) experiences with using opioids for chronic pain and discussing opioid deprescribing.

Methods: We conducted semi-structured individual qualitative interviews with PCPs and adults >65 years prescribed opioids for chronic pain. PCPs were asked about their experiences prescribing and deprescribing opioids to older adults. Patients were asked about their experiences using opioid medications and discussing medications with PCPs. Thematic analysis was conducted to identify shared and conflicting themes between patients and clinicians regarding perceptions of opioid prescribing and barriers to deprescribing.

Results: Eighteen PCPs (10 [56%] women, 17 [94%] internal medicine) and 29 older adult patients (19 [66%] female; 10 [34%] Black, 19 [66%] White) participated. All participants conveyed that conversations between PCPs and patients on opioid use for chronic pain were typically challenging and that conversations regarding opioid risks and deprescribing were uncommon. Three common themes related to experiences with opioids for chronic pain emerged: opioids are used as a last resort, opioids are used to improve function and quality of life, and opioids need to be prescribed in the setting of a trusting clinician-patient relationship. Patients and PCPs expressed conflicting views on risks of opioids, with patients focusing on addiction and clinicians focusing on adverse drug events. Both groups felt deprescribing conversation were often unsuccessful but had conflicting views on the barriers that prevent successful conversations. Patients felt deprescribing was often unnecessary unless an adverse event occurred and many had prior negative experiences tapering. PCPs described gaps in knowledge on how to taper, a lack of clinical access and time to monitor patients during tapering, and concerns over patient resistance.

Conclusions: PCPs and older adults on chronic opioid therapy view opioids as a beneficial last resort for treating chronic pain but express dissonant views on the risks of opioids and the importance of deprescribing, making these conversations challenging. These findings demonstrate the need to develop tailored resources to support older adults and PCPs in having successful conversations on the risks and benefits of continued opioid use.

TITLE: Utilization and Reimbursement of Glucagon Products for Severe Hypoglycemia in Medicaid: 2012-2022

PRESENTER: Noah Feder
PRESENTER (INSTITUTION ONLY): University of Pittsburgh School of Medicine

ABSTRACT BODY:

Background: Severe hypoglycemia results in more than 240,000 emergency department visits annually. Glucagon is a rescue medication for severe hypoglycemia that can be administered outside of healthcare settings. Professional guidelines recommend that patients at risk of hypoglycemia have access to glucagon. Despite these recommendations, glucagon remains underutilized. Many experts cite the difficulty of using emergency glucagon kits as a barrier to widespread utilization. Since 2019, however, newer glucagon products have been introduced into the market, all of which are equally or more efficacious than reconstituted, injectable glucagon. The purpose of this study is to examine trends in utilization and reimbursement for all glucagon products before and after the introduction of these newer products.

Methods: We used the Drugs@FDA Directory to obtain a list of National Drug Codes (NDCs) for all FDA-approved glucagon products. NDCs from glucagon products that were not designated solely for the treatment of severe hypoglycemia were excluded from our analysis. Each product was sorted into one of five categories based on its formulation and route of administration. We obtained data on total reimbursement and number of prescriptions by quarter for each NDC from the Medicaid State Drug Utilization Database. Data was aggregated to form yearly totals. Reimbursement totals were adjusted for inflation to 2023 values using the Federal Reserve Bank of Minneapolis inflation calculator.

Results: Between 2012 and 2018, the number of glucagon prescriptions decreased by 28% while annual total reimbursement increased by 33%. During the same period, unmixed syringes made up 100% of all glucagon prescriptions. Following the introduction of newer glucagon products, glucagon prescriptions increased by 29%between 2019 and 2022 while the annual amount reimbursed increased by 21%. During the same period, nasal spray formulations increased from 4% to 42% of glucagon prescriptions while glucagon autoinjectors increased from 0% to 10% and unmixed syringes decreased from 96% to 47%. Premixed syringes and dasiglucagon autoinjectors made up <1% of prescriptions.

Conclusions: From 2012-2018, annual total reimbursement for glucagon increased even though the number of prescriptions decreased. During this period, only unmixed syringes of injectable, reconstituted glucagon were available. The introduction of newer glucagon products for hypoglycemia in 2019 was aligned with an increase in the volume of glucagon prescriptions. Newer products did not significantly increase reimbursement costs relative to the volume of prescriptions, which may be a result of increased competition in the market for glucagon. Newer glucagon products now make up most glucagon prescriptions in Medicaid. Future studies are needed to examine the impact of these newer products on hospitalizations for severe hypoglycemia, the out-of-pocket costs faced by patients, as well as structural barriers that continue to impede utilization.

TITLE: Interventions to Optimize Medication Management in Patients with Language and Health Literacy Barriers: Developing a Conceptual Model from a Scoping Review
PRESENTER: Meera Bhagat
PRESENTER (INSTITUTION ONLY): University of California Los Angeles

ABSTRACT BODY:
Background: Medication management is a critical aspect of healthcare that requires effective communication between healthcare providers and patients. However, the intersection of language, literacy, and health literacy barriers can pose significant challenges to effective communication. We aimed to identify patient-facing interventions beyond the use of medical interpreters targeted toward assisting patients with language and health literacy barriers in optimizing the management of their medications.

Methods: We searched PubMed using the PICO (population, intervention, control, outcome) framework from the beginning of the database to January 2023. Two reviewers independently performed citation screening and data abstraction.

Results: 17 publications met our final eligibility criteria. Interventions included community health worker-based initiatives, pictograms and simplified medication instructions, and the development of mobile apps, all of which were tailored to the primary languages of their respective target populations. Studies examined a variety of outcomes such as medication adherence, patient satisfaction, knowledge about medications, and clinical outcomes (i.e. hemoglobin A1c, blood pressure, etc.). The studies reviewed reported mixed effectiveness for improving medication management. Most studies were in the early stages, but some interventions demonstrated effectiveness in a clinical setting while others reported insignificant results regarding changes in medication adherence. We developed a conceptual model from the scoping review.

Conclusions: Our findings suggest that effective interventions for medication management within diverse populations must simultaneously address language, literacy, and health literacy barriers.