CGS 37th Annual Scientific Meeting: Integrating Care, Making an Impact

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1. Comparative Efficacy of the Montreal Cognitive Assessment (MoCA) and the Rowland Universal Dementia Assessment Scale (RUDAS) as Brief Screening Tools for Cognitive Impairment and Dementia

Cody Sider, Ben Lee, Karishma Taneja, Jason Morgenstern, Alison Evans, Raza Naqvi, Chris Brymer

Objectives: To compare the sensitivity and specificity of the 10-minute Montreal Cognitive Assessment (MoCA) and the 4-minute Rowland Universal Dementia Assessment Scale (RUDAS) in screening for cognitive impairment and dementia.

Setting/Participants: 208 consecutive patients seen in an outpatient memory clinic in London, Ontario, Canada (63 with diagnosis of mild dementia, 86 with diagnosis of mild cognitive impairment, 59 with normal cognition) for whom both a MoCA and RUDAS could be completed. Measurements: The MoCA and the RUDAS were administered to all participants, sensitivity and specificity of both measures were assessed for detection of cognitive impairment and dementia.

The published cutoffs were assessed for detection of dementia; MoCA (26) (Sensitivity: 98% Specificity: 24%) and RUDAS (23) (Sensitivity: 85% Specificity 66%) and for detection of any cognitive impairment; MoCA (26) (Sensitivity: 95% Specificity: 54%), RUDAS(23) (Sensitivity: 63% Specificity: 93%.) Other possible cutoffs for both tests may be more optimal. For detection of dementia a MoCA cutoff of 20 was optimal (Sensitivity: 84%, Specificity: 70%) while for the RUDAS, the previously established cutoff of 23 was optimal (Sensitivity: 85%, Specificity: 66%). For detection of any cognitive impairment, the optimal MoCA cutoff was 24 (Sensitivity: 93%, Specificity: 78%), and 26 for the RUDAS (Sensitivity: 88%, Specificity: 80%).

The RUDAS score variation with educational attainment was significantly smaller than MoCA score variation ($p<.01$).

The RUDAS is significantly briefer than the MoCA as a cognitive screening tool, and demonstrated similar sensitivity for dementia, with much better specificity for dementia and cognitive impairment, when compared to the MoCA in an outpatient memory clinic. Additionally, the optimal cutoffs for detection of cognitive impairment or dementia appear to be different than the originally published cutoffs.

2. Futile or Fertile? Lessons Learned from a Novel Geriatric Rehabilitation Curriculum

Andrew Perrella, Vicky Chau

Older adults with functional impairment are cared for by physiatrists in rehabilitation, but their training in geriatric-related competencies remains sub-optimal. To develop a geriatric rehabilitation curriculum, a needs assessment of stakeholders was conducted to understand resident comfort levels and learning needs.

We used a mixed-methods design for the geriatric medicine (GM) needs assessment. Physical medicine and rehabilitation (PMR) residents, physiatrists and key informants completed a questionnaire (n=16; n=38; n=6) and participated in semi-structured interviews (n=9; n=4; n=6) to explore: the experiences of trainees in GM, enablers and barriers to learning GM, and educational needs. Data were analyzed using constructivist grounded theory.

The questionnaire revealed education gaps in drug metabolism, delirium assessment, malnutrition and medication management. Interviews highlighted 5 critical GM topics—gait assessment, cognitive impairment, falls, polypharmacy and frailty—and discussions on disposition planning, driving assessment, frailty, and end-of-life care as areas needing further curriculum support. "Geriatric rehabilitation" was understood as a targeted, triaged, continuity of care to optimize the function of older adults. Overall, comfort levels in GM increased with exposure, but a high service:education ratio and ageist mindsets remain prominent barriers.

At a systems level, there is a need for increased involvement of PMR residents in the acute care of geriatric patients. The current rehabilitation curriculum exposes PMR residents to inpatient medicine, but gaps exist in the education of "geriatric giants" and outpatient/home care. Overall, participants identified numerous amenable barriers that impede learning and practice.

Overall, physiatrists are uniquely positioned to assume leadership roles within multidisciplinary teams. Our

targeted needs assessment identified learners' needs – in the form of knowledge, skills, attitudes and interests—to ensure the applicability of a planned curriculum.

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3. A Mobile Dementia Observation System (DObs): Development and Pilot Usability Testing

Ari Cuperfain, Cecelia Marshall, Mario Tsokas, Karen Chiu, Qiannan Zhao. Dade Sheng, Andrea Iaboni

Responsive behaviours in dementia, such as agitation and aggression, are common and distressing for caregivers and patients. A basic principle of assessment of behavioural symptoms is to chart the behavioural patterns over 24 hour cycles. A widely-used tool for this assessment is called the dementia observation system (DOS), which is paper-based and onerous.

We have developed a prototype of a mobile application, Dementia Observation (DObs), which integrates information from nursing observations with data from a wearable device on the observed resident with dementia. We conducted usability testing of the DObs mobile application. Both quantitative (system usability scale, perceived usefulness scale, technological self-efficacy scale) and qualitative (cognitive walkthrough, think aloud) methods of assessment were employed. Post-test questions related to improvements and clinical implementation were discussed.

Six assessors completed a scenario-based usability test of the DObs mobile application. On average, users completed 85% of tasks with all components correct. Charting routine patient behaviours, took on average 51±31 seconds to complete the first time this skill was assessed. This time reduced to 42±22 seconds when a similar behaviour was recorded a second time, suggesting rapid learnability. Other clinical considerations were identified through user testing such as: collecting multiple behaviours within a given time interval, clarifying what constitutes an incident, and retroactive charting.

Usability testing showed DObs was both usable and acceptable to clinicians. Areas of improvement with respect to the mobile application were explored. The app will be redesigned, and usability testing will be repeated.

Mobile technology offers an opportunity to improve the assessment and treatment of responsive behaviours in dementia. Future studies will examine feasibility in clinical setting and develop machine learning algorithms to synthesize behavioural, contextual and motion tracking information.

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4. Tailored Exercise for Frail/Pre-Frail Community Dwelling Older Adults: TAPESTRY-TRIAGE

Sarah Radcliffe, Aidan Giangregorio, George Ioannidis, Courtney Kennedy, Larkin Lamarche, Doug Oliver, Lisa Dolovich, Erin Haney, Alexandra Papioann

The purpose of the current study was to physically classify prefrail/frail older adults participating in the TAPESTRY-TRIAGE study using normative data (healthy seniors) from the Senior Fitness Test (SFT).

TAPESTRY-TRIAGE is a 6-month pilot study that examined the feasibility and effectiveness of a multi-faceted frailty prevention program in community dwelling older adults. For the current analysis, we evaluated the physical function of participants using the performance based SFT and included the chair stand test (number of chair stands in 30 seconds), the biceps curl test (number of lifts in 30 seconds), the 2 minute step test (number of full steps completed in 2 minutes), and the 8 foot Up-and Go test (seconds). Participants were classified as either below average, average, or above average using SFT normative standards.

This study included 44 participants (64% women) with a mean (SD) age of 79.7 (7.2) years. The majority of participants were prefrail (77%) or frail (10%) on Frailty Phenotype. The majority of participants scored at least average for the following tests: the chair stand (75%), arm curls (73.68%), and the two-minute step test (60%). Most of the participants scored below average for the 8-foot up and go (78.38%).

Participants were comparative to norms that tested upper-body functioning, but were challenged on the 8-foot up and go test, which required lower-body function.

When developing home exercise plans, it is important to consider each individual's tolerance in each component in order to prescribe a tailored program.

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5. "I Would Hope the People Looking After Me Know About Me": Perspectives of Persons Living with Dementia and Their Caregivers on Person-Centred Care and Quality of Care

Bryan Franco, George Heckman, Sherry Dupuis, Lisa Loiselle, Veronique Boscart, Linda Lee

Person-centred care has become synonymous with high quality dementia care. However, persons living with dementia and their caregivers have traditionally been excluded in quality improvement and assurance efforts. We explored person-centred care within the context of quality of care from the perspectives of persons living with dementia and their caregivers.

We present the preliminary analysis of interviews with thirteen participants: 7 persons living with dementia and 6 caregivers. Interviews were audio recorded and transcribed verbatim. Qualitative descriptive analysis was used to identify themes.

Participants generally defined person-centred care as "care you would expect at home" and all participants agreed that person-centred care is important to high quality care. Three major themes about how person-centred care impacted quality of care were identified: 1) clinicians' ability to solicit what is important to patients, 2) effective and appropriate communication to patients, and 3) patients' ability to navigate health and community resources. A clinician's ability to solicit what is important for a patient was touted as the most important aspect of person-centred care. Some participants emphasized the need to facilitate self-advocacy among persons living with dementia and their caregivers to promote person-centred care.

Persons living with dementia and their caregivers provide valuable insights into relationships between person-centred care and quality of care, which can inform quality improvement and assurance efforts. Person-centred care, as understood from the perspectives of persons living with dementia and their caregivers, is influenced by proximal and distal factors at the point of care and the health system, respectively.

The perspectives of persons living with dementia and their caregivers are vital to clinicians and policymakers' goal of delivering high quality and person-centred care for dementia.

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6. Cognitive and Physical Function: Further Evidence of a Link

Lavan Sivarajah, ASM Borhan, Courtney Kennedy, George Ioannidis, Ahmed Negm, Sharon Marr, Christopher Patterson, Brian Misiaszek, Tricia Woo, Alexandra Papaioannou

This study aimed to determine associations among cognition and upper/lower extremity function, frailty and activities of daily living (ADLs) among older adults.

120 individuals (mean age 80.6 years, SD 6.32, 53% female) attending a geriatric outpatient clinic participated. Cognition was measured using the Mini-Mental State Examination (MMSE) and Montreal Cognitive Assessment (MOCA). Extremity function was assessed using the Short Physical Performance Battery (SPPB), grip strength, and Timed Up and Go (TUG). Frailty was assessed using the Fried Frailty Phenotype. ADLs were assessed using the Katz Index and Lawton Scale. Participant characteristics including age, weight, and height were also recorded. Relationships were examined using Spearman correlations. Two-tailed p-values of <0.05 were considered statistically significant.

A significant correlation was found between the SPPB and MOCA (r=0.19, p=.048) indicating that enhanced lower extremity function was associated with greater cognitive function. Of SPPB sub-tests, chair stands significantly correlated with the MOCA (r=0.21, p=.04), gait speed approached significance (r=0.19, p=.06), and balance was not significant (r=0.07, p=.48). SPPB was not significantly correlated with the MMSE (r=0.13, p=.18). Greater frailty phenotype scores significantly correlated with lower MOCA scores (r=-0.23, p=.02), and approached significance with the MMSE (r=-0.18, p=.07). Poorer ADL scores (Lawton Scale, Katz Index) were significantly associated with poorer performance on the MOCA (r=0.48, p<.001; r=0.21, p=.03), and MMSE (r=0.44, p<.001; r=0.18, p=.06). Age, weight, height, grip strength, and TUG were not significantly correlated with the MOCA or MMSE.

Both the MOCA and MMSE were associated with frailty, lower extremity function, and ADLs, with stronger associations for the MOCA.

Although the study's cross-sectional design does not allow for inferences of causation, the findings further support an association among cognition and physical function, frailty, and ADLs.

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7. Health Outcomes Related to Receiving Care on a Dedicated Acute Care for Elders (ACE) Unit Versus Through an Acute Care for Elders (ACE) Orderset

Richard Norman, Samir Sinha

The Acute Care for Elders (ACE) model aims to reduce common complications of hospitalization in older adults including deconditioning, falls, and delirium. It incorporates a series of interventions, including early involvement of allied health, changes to the ward environment, specially-trained staff, elder-friendly care protocols, and proactive discharge planning.

Our hospital established a dedicated ACE Unit in 2011. Because of limited capacity on this ward, however, some patients admitted under an ACE orderset may receive care on other wards. These 'bedspaced' ACE patients as a result may not receive the same degree of focused interventions available on the ACE Unit. Because of these disparities, we sought to compare the health outcomes of ACE-designated patients admitted to the ACE Unit versus bedspaced peers.

3308 ACE-designated patient admissions were analyzed (1557 ACE Unit and 1751 bedspaced). The primary outcomes were discharge disposition and in-hospital mortality. Clinical complexity was characterized using CIHI administrative data. Univariate and multivariate comparisons were performed; logistic regression was used to calculate odds ratios of the outcome measures.

In the univariate analysis, ACE Unit patients were older. Complexity was similar between the two groups. Transfers from another institution were more likely to be bedspaced. In adjusted models, ACE Unit patients were more likely to be discharged home (OR 1.28 (1.08-1.50), p=.003) and less likely to die in hospital (OR 0.70 (0.51-0.95), p=.020) when compared to bedspaced ACE-designated patients.

After correction for identifiable differences between the two groups, including age, clinical complexity, and other factors, disparities in clinical outcomes exist between patients admitted to a dedicated ACE Unit versus those admitted and cared for under only an ACE orderset.

Care of older adults delivered on a dedicated ACE Unit is superior to care delivered with an ACE orderset alone.

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8. Precipitating Factors for Delirium Among Nursing Home Residents

Evelyn Cheung, Andrew Costa

Older nursing home residents are prone to delirium. Most studies in the literature have focused on the in-patient population. This study aims to examine resident characteristics that are associated with delirium in nursing homes and the use of medications in this population.

This is a retrospective study on 1571 residents admitted to nursing homes in Ontario, Canada between February 2010 and December 2015 over the age of 55 with no baseline delirium. Residents with moderate or worse dementia were excluded. Characteristics of residents were collected from the Resident Assessment Information of the Minimal Data Set 2.0. Multivariate logistic regression models were used to identify variables associated with delirium.

Dementia ($p < .001$), the presence of acute pain ($p < .001$), and the use of antipsychotics ($p < .001$) were significantly associated with delirium at follow-up. There was a significant increase in the use of analgesics ($p < .001$) and antidepressants ($p < .001$) from baseline to follow-up (~32 months apart) among those with delirium, compared to those without delirium.

This study suggested pain be more closely monitored and treated in nursing homes as it may contribute to delirium. Further studies are also needed to examine the prescription patterns in nursing homes to better serve the nursing home population.

The presence of acute pain and the use of antipsychotics were associated with delirium in nursing homes. Pain monitoring and treatment may be important factors to decrease delirium prevalence in nursing homes. In addition, future studies are necessary to examine the prescription patterns in nursing homes concerning the use of analgesics and antidepressants.

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9. Access to Comprehensive Geriatric Assessment (CGA) in Lift Assist Emergency Medical Services (EMS) Call Patients

Alyson Osborne, Sheri-Lynn Kane

When an individual requires assistance with mobilization EMS may be called. If they do not receive treatment and are not transferred to hospital, these are termed "Lift Assist" (LA) calls. LA calls are associated with short-term morbidity, mortality, and increased use of health care resources. These high risk individuals may benefit from a CGA. The purpose of this study was to determine the percentage of older adults who access EMS for lift assistance that have had a CGA in the 3 months before or after the EMS call.

A retrospective chart review was conducted using EMS call records and hospital database in the Middlesex-London area to identify the number of older adults who called EMS for a LA in a 3 month time period (April 1-June 30, 2016) and to determine whether these individuals had a CGA in the 3 months before or after the LA call.

227 LA calls were made by 183 individuals 65 years and older (mean age 81). Twelve individuals (6.5%) had a CGA in the 3 months before their call and 16 (8.7%) in the 3 months after the call. Fifteen (8.1%) individuals had their charts review by a Geriatric Emergency Management (GEM) nurse in the 3 months prior to the call and 22 (12%) after the call.

Only a minority of older adults who made LA calls received a CGA in the preceding 3 months or the 3 months following their call. There is a gap in service for these high risk individuals who could benefit from a CGA but are not referred.

Strategies are required to link this vulnerable LA population with specialized geriatric services.

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10. Geriatrics in the Undergraduate Medical Education Curriculum at the Schulich School of Medicine & Dentistry: Medical Student Knowledge, Confidence and Perceptions of Geriatric Teaching

Alishya Burrell, Saad Chahine, Laura Diachun

The purpose of this study was to examine mastery of geriatric core competencies (GCCs) by clinical clerks at the Schulich School of Medicine & Dentistry (SSMD).

Medical students, at the end of clinical clerkship, completed a test of knowledge on the CGS GCCs. An unpaired t-test was used to compare score results between students with and without geriatric electives. The questionnaire also included questions on self-reported practices and perceptions and confidence with geriatric topics on a 7-point Likert scale. These results were presented using descriptive statistics.

Questionnaires were completed by 92 of 160 (57.5%) students from the Class of 2017 at SSMD. The average mark on the knowledge test was 86.5% (SD=10%). There was a trend toward higher marks in the group that had completed an elective in geriatrics (M=89.7±7.2%) versus those who did

not (M=85.4±10.7%), which was not statistically significant (p=0.068). Confidence in managing older patients with depression was reported by 74% of students, while only 53% and 40% felt confident with delirium and dementia respectively. When asked if geriatrics was underemphasized in the UME curriculum at SSMD, 64% of students agreed. Only 37% of students felt adequately prepared to care for older adults in their future residency.

Students scored well on the geriatric knowledge test regardless of their exposure to geriatric electives, demonstrating a basic understanding of core geriatric topics. Key knowledge was therefore covered in pre-clerkship, or in clinical settings. The majority of students felt confident with depression and delirium, but still felt unprepared to care for older adults.

Core geriatric topics are covered in the UME at SSMD, however there continues to be room for improvement in preparing students to care for older adults.

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11. Nutritional Risk and Post-Operative Outcomes in Elderly Patients Seeking Elective Surgery

Kady Goldlist, April Ehrlich, Hannah Stocker Cioltan, Christopher Wendel, Rui Wen Pang, Kevin Evans, Jane Mohler, Mindy Fain, Robert Bastron

The American College of Surgeons in collaboration with the American Geriatrics Society have defined best practice guidelines for the preoperative assessment of geriatric surgical patients in their 2012 ACS NSQIP/AGS Best Practice Guidelines. They classify severe nutritional risk patients as either having a BMI <18.5 kg/m2, serum albumin <3.0 g/dL and/or unintentional weight loss >10%-15% within 6 months. In elderly patients undergoing elective surgery, malnutrition rates could be as high as 38.7%. This pre- and post- operative assessment studies the relationship between nutritional risk and surgical outcomes.

ACS NSQIP/AGS nutritional risk was assessed in 137 patients (≥60 years old) undergoing elective surgery. Subject characteristics and outcomes in severe versus non-severe nutritional risk groups were compared with *t*-tests, chi-square or Fisher's exact tests, and for length of stay truncated negative binomial regression.

The cohort had 25 patients with severe and 112 patients with non-severe nutritional risk. Both groups had similar mean age (77.1) and sex ratio (56% vs. 60.7% male). Compared to non-severe risk group, patients with severe risk had increased length of hospital stay (median 5 days vs. 3 days, p=.015), increased surgical complications (28% vs. 11.6%, p=.04) and were less likely to be discharged from hospital to home (56% vs. 79.3%, p=.04).

Among all subjects, length of stay was estimated almost 2-fold higher in those at severe nutritional risk. We also found that patients with severe nutritional risk undergoing elective surgery were less likely to be discharged to home.

Nutritionally deficient elders are at high risk of poor outcomes and early identification and intervention of older adult patients at nutritional risk prior to surgical intervention is warranted.

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12. Information in a Flipped Classroom Model: a Study on Retrieval Practice and Performance

Mark Stanton, Krista Reich, Andrew Tang, Michael Paget, Kevin McLaughlin, Emily Kwan

The 'flipped classroom' is a teaching methodology that provides learners with resources for independent review prior to the scheduled classroom lecture. Geriatrics case-based multiple-choice scenarios focusing on diagnosis, investigation, and management were developed. These scenarios, termed 'Cards', were then used as resources in our flipped classroom model. Previous studies by our group have shown that access to Card scenarios directly correlated to improved student performance. However, it is unknown whether the number of Card scenarios available for a topic would also impact exam performance. We hypothesized that the number of Cards reviewed by learners prior to assessment would directly correlate to improved exam performance.

Second year medical students (n=89) were given access to the Cards prior to scheduled assessments. Seven Geriatric-based topics were used and a randomized number of one, three, six, or nine Card scenarios were made available for each topic. Questions representative of these topics were then tested on a Geriatrics course evaluation and exam performance was analyzed.

Early data analyses have shown that students scored higher on exam questions that had more Card scenarios available for review. Exam questions represented by one, three, six, or nine Card scenarios showed average scores of 13, 50, 67, and 71% respectively.

A clear trend between increased Card scenarios and better exam performance was seen. Further analyses of student performance are needed to determine whether a saturation effect becomes apparent.

In our flipped classroom model, access to a greater number of Card scenarios correlated to better performance on exam questions.

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13. Decreased Risk of Falls in Patients Attending Live Music Listening Sessions on a Geriatric Assessment Unit: Results from a Non-Randomized Open-Label Trial

Julia Chabot, Oliver Beauchet, Shek Fung, Isabelle Peretz

Music is known to improve patient's health, communication and quality of life. Very few studies took place on short-stay geriatric units and no previous study has examined the effect of music and the risk of falls. Our objective was to compare the risk of falls by measuring the Morse Fall Scale (MFS) score in patients from a Geriatric Assessment Unit (GAU) who attended live music listening sessions versus controls (no intervention).

A non-randomized open-label trial nested in a retrospective cohort study (mean follow-up 14.8 ±7.5 days) was done on a GAU (Saint-Mary's Hospital, McGill University). 152 participants (mean age 85.7 ± 6.4 years, 88.2 % female) separated in 61 patients in the intervention group and 91 patients in the control group matched for age, sex, cause and season of admission, and place of living were included.

Musicians provided music sessions 3-4 times per week. The MFS score upon admission, discharge and its variation (before and after intervention) were used as outcomes. Age, sex, place of living, cause and season of admission, Mini-Mental Status Examination score, length of stay, therapeutic classes daily taken, and use of psychoactive drugs upon admission were used as covariates.

A significant decrease in the MFS score variation in the intervention group compared to the control group was found (p=.025). The multiple linear regression model showed an association between the decrease in the MFS score variation and participation to music sessions adjusted on patients' characteristics (B=-19.0 with p= .026).

Possible explanations of our findings include the rhythmic component of music and a higher motivation to ambulate.

Participation to music sessions was associated with a decrease in the MFS score (lower risk of fall) in GAU patients.

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14. Efficacy of Ondansetron in the Prevention and Treatment of Post-Operative Delirium—a Systematic Review

Nihal Haque, Raza Naqvi, Monidipa Dasgupta

Post-operative delirium (POD) affects up to 50% of surgeries. It is associated with higher rates of functional decline and death. Serotonin may play a role in POD. Ondansetron is a serotonin antagonist with a favourable safety profile, and could represent a therapeutic and preventive option in POD.

We performed a systematic review of MedLine, EMBASE, CENTRAL and PsychINFO from inception to December 2015. Initial screening identified 622 abstracts and three randomized controlled trials (RCTs) met inclusion criteria.

Two RCTs examined ondansetron for the treatment of POD. One study administered haloperidol 5mg or ondansetron 8mg intravenously (IV) as a single dose to 80 delirious patients post cardiac surgery (mean age 71). Both had similar reductions in their average delirium score and patients with persistent delirium. Another study administered ondansetron 4mg or haloperidol 5mg IV twice daily to 96 postoperative delirious patients for three consecutive days (mean age 31). Both groups had similar delirium rates after administration. However the ondansetron group received a higher total dose of rescue haloperidol. Finally, one RCT examined prophylactic ondansetron versus placebo to prevent POD in 106 orthopedic patients (mean age 71). They administered 8 mg of ondansetron or placebo IV once daily for five days postoperatively. There were significantly less delirious patients in the ondansetron group starting on day 3 and persisting to day 5.

The studies' results could not be meta-analyzed due to significant heterogeneity.

Ondansetron appears to be an efficacious agent for the prevention and treatment of POD. Further large RCTs of high quality are needed to confirm these results.

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15. Goodbye PPI: a Quality Improvement Intervention for Proton Pump Inhibitor Deprescription in Outpatient Geriatric Medicine Clinics

Maia von Maltzahn, Jillian Alston, Nathan Stall, Yaser Habeeb, Dov Gandell, Mireille Norris, Barbara Liu

Proton Pump Inhibitors (PPIs) are a class of medication identified by Choosing Wisely Canada where inappropriate prescribing may occur, particularly when used long-term without an attempt to discontinue or reduce the medication. Older adults may be particularly at risk of medication-related adverse events, including enteric infections, pneumonia, acute interstitial nephritis, and nutrient deficiencies. As part of a quality improvement curriculum, an initiative to reduce potentially inappropriate PPI use was proposed, with a goal to reduce inappropriate prescribing by 50% in outpatient geriatric medicine clinics.

We performed a gap analysis between November-December 2016 examining PPI use among older adults attending three academic geriatric medicine clinics in Toronto, Ontario. A subsequent root cause analysis and stakeholder consultation was held to determine factors contributing to inappropriate PPI use. We next designed a quality improvement initiative that enhances and standardizes communication with the patient about PPI deprescription, as well as facilitates recommendations to the family physician about how to reduce or deprescribe PPIs; we used a previously validated handout and deprescribing algorithm. The estimated sample size is twenty-three patients, and the first PDSA cycle will be completed at the end of February, 2017.

Gap analysis findings indicate 53% of older adults across the three clinic sites may have potentially inappropriate PPI use, in keeping with the literature.

Impressions from the root cause analysis and stakeholder meetings identified omission of the issue by the geriatrician and suboptimal consultant communication as factors contributing to the care gap identified.

A local care gap in potentially inappropriate PPI use is apparent, highlighting the need for ongoing quality improvement initiatives in the deprescription of PPIs among older adults, who remain most vulnerable to the adverse effects of inappropriate prescribing.

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16. Frailty and Cognition in the Intensive Care Unit: Preliminary Results

Samuel Searle, Alison Rodger, Steve Walsh, Leah Nemiroff, Babar Haroon, Kenneth Rockwood

Frailty and cognitive impairment have important implication on the care of those in the intensive care unit (ICU) as well as in understanding health trajectories following ICU stay. Despite this, limited research on these two conditions' impact on patients in the intensive care unit has been done.

Single center prospective cohort study of individuals >64 years old; expected to be in ICU for 24 hours. Planned baseline and 1-year post enrolment assessments for frailty and cognitive impairment performed using the clinical frailty scale (CFS), care giver comprehensive geriatric assessment, and IQCODE. Descriptive statistics were performed characterizing the population. In hospital mortality and length of stay and their associations with frailty and cognitive impairment were performed using SPSS. Reported here are preliminary results from the baseline cohort.

Fifty-four participants (33.3% female; mean age 72.8) were enrolled. Prevalence of frailty and cognitive impairment were 38.9% and 25.9%, respectively. Both were present together in 22% of participants. A frailty index, FI (mean 0.34) was correlated with IQCODE (p=.006) and CFS (<.001). IQCODE and FI were not correlated to APACHE II. Regression analysis showed frailty and IQCODE did not predict hospital mortality (18 died) and hospital length of stay while APACHEII significantly predicted both of these outcomes.

Cognitive impairment and frailty were both present in this ICU population and are described in similar prevalence to previously reported studies. The associations reported provide evidence to the validity of the pilot study population. This study is underpowered for outcomes and also presents preliminary results.

Both Cognitive impairment and frailty are highly prevalent in the ICU and co-exist in the same individuals. They will be helpful in better understanding health trajectories.

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17. Potentially Inappropriate Medications (PIMS). Hiding in Plain Sight? A Survey of Learners and Internists on a Clinical Teaching Unit

Amandeep Kiddy Klair, Taleen Haddad, Allen Huang

Despite the established presence of potentially inappropriate meds (PIMs) lists such as the Beers criteria, the in-hospital use of such meds continues. A trial to reduce the prescribing of these meds is in its pilot phase. We investigated the current knowledge of learners and staff internists on Internal Medicine clinical teaching units concerning PIMs.

Learners (clinical clerks and residents) and staff Internists at The Ottawa Hospital were invited to complete an anonymous web-based 12-question survey containing 5 knowledge and 7 opinion statements. The study ran August 23-November 15, 2016.

17/24 (70.8%) staff Internists and 66/119 (55.5%) unique learners completed the survey. Learners included: senior residents 9/17 (53%), juniors 42/60 (70%), and clinical clerks 15/42 (37%). Staff predictably did better than learners with knowledge. The correct response rates comparing staff and learners for 3 explicit drug questions were: 68% vs. 36%; 83% vs. 57%; and 77% vs. 39%. Staff were more familiar with the abbreviations PIM (29% vs 21%) & ADE (59% vs 33%). Responses to opinions showed that 94% staff vs. 82% learners felt that less than 15min was spent doing a meds review on admission, while 77% staff vs. 56% learners felt that there was teaching around adjusting meds for frail older patients.

The difference in opinions about teaching may reflect reporting biases and provide a discussion point for future modifications to the medicine teaching plan.

This study confirmed the presence of a knowledge gap between Beers criteria, and staff and learners concerning PIMs. The results are reassuring that the effects of the future implementation of a trial to reduce the use of PIMs will not be weakened by strong knowledge.

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18. Evaluating The Clinical Frailty Score in the Intensive Care Unit (ICU)

Surenthar Tharmalingam, Alyson Takaoka, Melissa Shears, Tina Millen, Amanda Holding, France Clarke, Bagshaw Sean, Guowei Li, Kenneth Rockwood, Deborah Cook

Frailty is a state of decreased physiologic resilience causing a loss of functional reserve. It is a common premorbid condition in patients admitted to the Intensive Care Unit (ICU), and its presence is associated with an increased risk of adverse outcomes. The Clinical Frailty Scale (CFS) quantifies patient frailty between 1 (very fit) and 8 (very severely frail) or 9 (terminal) using clinician judgement.

The CFS has been utilized in many clinical settings and is familiar to geriatricians, but it is just beginning to be used in the ICU. Furthermore, the validity of CFS scores generated by chart reviews of ICU patients, where descriptions of baseline function may be sparse, remains an open question.

From one ICU in Hamilton, Canada, 100 consecutively admitted patients ≥18 years of age were enrolled in the study. CFS scores were generated from chart review by 3 raters: a research Coordinator (RC), an occupational therapist (OT), and a geriatric medicine resident (GR). The RC chart review involved examining hospital and ICU admission notes from the index hospitalization. The OT chart review sources were the same with the addition of information from prior hospitalizations and physician outpatient consultations. Reflecting the more comprehensive sources typically reviewed by geriatricians to make frailty assessments, the GR chart review sources included the foregoing, in addition to hospital records elsewhere and home visit notes. Additionally, the RC-generated a global CFS score using data from patient and/or family interviews. Of 100 enrolled patients, 100 were assessed by the OT, and 35 by the GR. Comparison of CFS scores between different raters was calculated as a mean difference (MD) using paired *t*-tests.

Of 126 patients screened, 100 patients were enrolled from August 2nd to October 17th, 2016. Their mean age was 64.3 years (SD=15.6, 3% females) with a mean APACHE II score of 21.6 (SD=7.6). The CFS generated by the RC chart review was similar to that by the OT chart review (MD=0.19, 95% CI: -0.05 to 0.43, p=.12; n=100) and to the GR chart review (MD=0.29, 95% CI: -0.47 to 1.04, p=.45; n=35). When compared to the RC global score, the agreement with the chart reviews are as follows: RC chart review (MD=-0.23, 95% CI: -0.47 to 0.08, p=.06; n=78), OT chart review (MD=-0.29, 95% CI: -0.56 to -0.02, p=.04; n=100), and GR chart review (MD=-0.29, 95% CI: -0.90 to 0.32, p=.35; n=35).

We found no statistically significant difference in the chart review-derived CFS scores of the different raters (geriatrics resident, occupational therapist and research coordinator), suggesting inter-rater reliability of this tool in the ICU setting. The CFS values were also similar to the global CFS scores which incorporate patient and/or family interviews. Overall, these chart review-derived CFS values tended to be lower than the global CFS scores. However future research would be helpful to understand whether the observed differences of less than 1 on this 9 point scale are clinically important and prognostically relevant.

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19. Depression Increases the Risk of Injurious Falls in Older Adults with Mild Cognitive Impairment. Results From the Gait and Brain Study

Frederico Pieruccini-Faria, Susan Muir-Hunter,

Older adults with Mild Cognitive Impairment (MCI) are a vulnerable population at risk not only of dementia but also of falls. Older individuals with depression are also at risk of falls, particularly injurious falls. However, it is currently unknown whether the presence of depression in MCI individuals may exacerbate their risk of falls. We hypothesized that MCI individuals with depression will prospectively suffer more falls, and these individuals will present greater gait disturbances at baseline.

Ninety seven participants from the Gait and Brain Cohort Study were included in our project. Participants reported falls and their consequences (e.g. injuries) twice a year for three years using falls calendars and face-to-face interviews. Gait during single and dual-task conditions were assessed at baseline. Groups were stratified by: cognitively preserved (Controls; n=25); MCI without depression (MCI; n=50) and MCI with depression (MCI_D; n=22). Cox-Regression analyses were performed to evaluate the risk of falls as hazard ratios (HR) adjusted for age, sex, cognitive status, executive functions, anti-depressants, number of medications, physical activity level and previous falls. ANCOVAs were used to compare gait performance at baseline among groups.

Older adults with MCI and depression had increased risk to suffer injurious falls compared to MCI (HR: 4.45; 95%-CI 1.74 – 15.39, p=.017); MCI_D group walked slower compared to MCI and Controls (98 cm/s, 106 cm/s, 122 cm/s, respectively; p<.001). Other gait parameters remained unaffected by depression even when individuals performed a dual-task while walking.

Depression in MCI increases the risk of injurious falls specifically. Gait disturbances may contribute to injurious falls in this population.

Strategies to overcome depression in older individuals with MCI may be crucial to prevent physical disability, early institutionalization and death.

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20. Burdensome Interventions and Antimicrobial Use Among End-of-Life Ontario Nursing Home Residents with Advanced Dementia

Nathan Stall, Hadas Fischer, Kinwah Fung, Susan Bronskill, Peter Austin, Jeremy Matlow, Kieran Quinn, Susan Mitchell, Chaim Bell, Paula Rochon

Older nursing home residents with advanced dementia have limited life expectancies. These individuals often receive intensive medical care towards the end-of-life thereby incurring burdensome interventions and antimicrobials of questionable benefit. We sought to describe the frequency, nature, and predictors of burdensome interventions and antimicrobials received by Ontario nursing home residents with advanced dementia during the last 30 days of life.

Population-based retrospective cohort study using linked administrative records. Logistic regression was used to determine the patient and facility characteristics associated with receipt of burdensome interventions.

We included 27,243 Ontario nursing home residents with advanced dementia who died between June 1, 2010 and March 31, 2015. The majority (71.1%) were women and the average age of death was 87.1 ± 7.2 years. Nearly half (46.8%) were dependent for their basic activities of daily living with 8.1% being totally bedbound. In the last 30 days of life, 21.8% were hospitalized, 8.9% visited an emergency department, and 9.8% received medical resuscitation. More than 1 in 3 (36.2%) were dispensed an antibiotic, and 28.9% of residents received a physical restraint. Male sex, fewer days in nursing home prior to death, and lower income were all independently associated with transfer to acute care and medical resuscitation, while palliative care consultation, bedbound status, and older age were negative predictors.

Many older Ontario nursing home residents with advanced dementia receive burdensome interventions and antimicrobial agents at the end-of-life.

The provision of care for these patients must align with their life expectancies and goals of care.

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21. Is Language Important to Deprescribing From the Perspective of Canadian Seniors?

Justin Turner, Cara Tannenbaum

The extent to which "deprescribing" has infiltrated popular vernacular among community-dwelling older adults and how it triggers patients' propensity to initiate deprescribing conversations remains unknown.

A population-based telephone survey was conducted from a sampling frame of all listed household numbers in Canada, called at random. Eligible respondents were men or women aged ≥65 years. Survey questions included; awareness that some medications can be harmful in seniors, initiation of a conversation with a physician to stop medications, awareness of the term deprescribing, and number and type of medications. Data were analysed using descriptive statistics with 95% confidence intervals (CI) and associations determined with logistic regression.

Between August and October 2016, 64,043 households were attempted, 24,884 answered, and 10,984 were eligible. 25% (n=2665) completed the survey (mean age 74, range 65-100). 17% (95%CI 16-19%) had consumed sedative-hypnotics in the preceding 12 months. 64% (95%CI 62-65) were aware that medications may be harmful. 41% (95%CI 39-43%) reported initiating a conversation with a physician to stop medications. Only 7% (95%CI 6-8%) recalled hearing the word deprescribing.

Responding in a language other than English was associated with increased odds of consuming sedative-hypnotics (OR 1.36 [95%CI 1.09-1.70]) and reduced odds of knowing about harmful medications (OR 0.28 [95%CI 0.23-0.33]) or having heard of deprescribing (OR 0.64 [95%CI 0.43-0.95]). Knowledge of the word deprescribing was associated with initiating a conversation with a doctor about stopping medications (OR 1.50 [95%CI 1.10-2.04]).

Although many older adults have initiated conversations about stopping medications, very few are familiar with the term deprescribing. Prevalence and awareness of medication harms varied with languages, suggesting different approaches may be required across Canada to promote deprescribing and safe medication management.

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22. Cultural Factors that Influence Osteoarthritis Care in Asian Communities: a Review of the Evidence

Thrmiga Sathiyamoorthy, Amanda Ali, Marita Kloseck

With the growing prevalence of osteoarthritis (OA) internationally, there is a need to study its impact in culturally distinct populations. Individuals of Asian descent, both living abroad and in the continent of Asia, make up more than 60% of the world population, yet comprehensive information on the cultural factors that impact OA care is not available. The purpose of this scoping review is to gather evidence surrounding the cultural factors that impact OA care in Asian communities.

Using established scoping review methodology, a comprehensive search strategy was developed to capture published literature across six databases. Of the 799 systematically screened abstracts, 75 articles were included and coded using deductive content analysis. Codes were grouped within a categorization matrix which spanned six Clinical Practice Guidelines plus three additional areas (identified to develop a comprehensive bio-psycho-social categorization matrix).

Results reveal three major themes: (1) the importance of family assistance with activities of daily living, (2) the importance of culturally specific activities, and (3) distrust in Western medicine. While Asians are more susceptible to knee and hand OA because of cultural lifestyle factors (squatting for chores, hygiene and religious activities) and traditional beliefs, many do not present themselves for conventional treatments (surgery or pharmacologic interventions) until all traditional treatments are exhausted.

Our findings indicate that cultural factors impact the uptake of OA management practices among Asians. Greater awareness of these cultural factors may improve diagnosis, treatment and management of OA among Asian patients.

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23. Contribution of Medications to High Cost Healthcare User Status in Seniors

Justin Lee, Sergei Muratov, Jean-Eric Tarride, Michael Paterson, Tara Gomes, Lawrence Mbuagbaw, Kednapa Thavorn, Wayne Khuu, Anne Holbrook

High cost users (HCUs) are patients who use disproportionate healthcare resources. In 2011, 5% of Ontarians used 65% ($19.8 billion) of total public healthcare expenditures. We sought to determine the contribution of drug expenditures to HCU status to inform future interventions.

We conducted a retrospective population-based matched cohort analysis of incident senior HCUs defined as Ontarians age ≥66 years in the top 5% of total healthcare costs in fiscal year 2013 (FY2013). Healthcare and drug utilization data for the index year and year prior to HCU status were obtained from Ontario's linked health administrative databases. Primary outcomes were the drug-to-total healthcare expenditure ratio and annual total drug expenditures.

In FY2013, senior HCUs (n=176,604) accounted for $4.9 billion in total healthcare expenditures and $433 million in medication costs. Compared to non-HCUs (n=529,812) on a per patient basis, HCUs incurred higher mean annual medication costs ($2453 vs. $842). Polypharmacy (>10 medications) was more prevalent (55.1% vs. 14.5%, $p<.0001$). Although drug expenditures increased 1.7-fold among HCUs relative to the preceding year, the ratio of drug-to-total health expenditures decreased from 40.2% to 8.9% during their HCU year due to increased hospitalizations. HCU use of higher-cost medications increased dramatically. For example, compared to their pre-HCU year, prescription claims for ranibizumab, biologic response-modifying agents and monoclonal antibodies increased 9-fold, 60-fold, and 120-fold, respectively (all $p<.0001$).

Medications are important contributors to HCU expenditures, but their magnitude of contribution is underestimated due to incomplete capture of costs associated with outpatient chemotherapy and drugs dispensed in hospital. In a subgroup of HCUs, use of a higher-cost drug itself may trigger HCU status.

Further investigation of medication appropriateness and cost-effectiveness in HCUs is warranted to improve outcomes and/or contain healthcare expenditures.

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24. Multimorbidity in Older Adults: Understanding the Patterns and Progression of Multiple Chronic Diseases Using a Pan-Canadian Electronic Medical Record Database

Kathryn Nicholson, Amanda Terry, Martin Fortin, Tyler Williamson, Amardeep Thind

Multimorbidity, the coexistence of multiple chronic diseases, is a significant burden for older patients and primary health care (PHC) providers alike. The research objectives were to determine the patterns and progression of multimorbidity over time.

Data were derived from the Canadian Primary Care Sentinel Surveillance Network (CPCSSN) electronic medical record (EMR) database of longitudinal, de-identified information from PHC practices across Canada. The ICD-9 system identified chronic disease diagnoses and a list of 20 chronic disease categories identified multimorbidity. The most frequently occurring combinations (unordered clusters) and permutations (ordered clusters) were computed using JAVA programming, and a multilevel time-to-event analysis was conducted using Stata 14.1 software.

Among patients aged ≥ 65 years, 77.4% were living with ≥ 2 chronic diseases and 58.6% were living with ≥ 3 chronic diseases. A total of 5,569 combinations and 9,551 permutations were detected among older females, while 4,021 combinations and 6,782 permutations were detected among older males. The most commonly occurring clusters were: 1) Hypertension and Obesity; 2) Dementia and Hypertension; 3) Cardiovascular Disease and Hypertension; 4) Cancer and Hypertension; and 5) Diabetes and Obesity. These patients experienced fastest chronic disease accumulation between the first and second diagnosis, while slowest accumulation occurred between the fifth and sixth diagnosis.

The majority of older PHC patients in Canada were found to be living with multimorbidity. More specifically, the clusters of multimorbidity were increasingly unique patterns and the rate of chronic disease accumulation indicated periods of quick progression.

This research explores the clinical profiles of older PHC patients with multimorbidity using a national database. This information can be strategically used to inform more effective clinical care and health policy decisions for older adults living with multimorbidity in Canada.

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25. Prevalence of Geriatric Syndromes in Hospitalized Older Adults From January 2014 to December 2016

Marcos Barrera De Jesus

To determine the prevalence of geriatric syndromes in geriatrics service and to compare it with: a) the one found in another hospital and b) the one reported in geriatric bibliography.

This was a descriptive and transversal study performed in patients from the geriatrics service whom received an integral geriatric assessment.

A sample N = 1,666 patients was considered, of whom 68% (n1 = 1,133) were women and 32% (n2 = 533) were men; the average age was 82.7 years. The most prevalent

geriatric syndromes were frailty syndrome with 61.8% and loss of autonomy with a 46.3% prevalence. In contrast, the less frequent syndromes were faecal incontinence with 0% and with 0.06%. Dental abnormalities had the same reported prevalence in the other hospital and in literature.

The prevalence of geriatric syndromes in this study's patients were determined by: a) socioeconomic and cultural status and b) homeostenosis, contributing these factors to make patients more vulnerable to suffer them.

The knowledge about geriatric syndromes prevalence in middle socioeconomic status population allows to develop educational programs, health promotion, opportune detection, physical activity and individual and group interventions which improve the older adults' quality of life, as well as rationalization and optimization of sanitary resources in different geriatric attention areas.

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26. Are Frailty and Successful Aging Two Sides of the Same Coin?

Ashley Bhullar, Robert Tate, Philip St. John

Successful aging and frailty have long been important topics within geriatrics. It has recently been proposed that they are opposite sides of the same coin. The perspective of older adults themselves has not been explored. The purpose was to determine if an individual's definition of successful aging was a mirror image, or opposite side of the coin, from their definition of frailty.

A qualitative analysis of individuals' self-definition of successful aging compared to their self-definition of frailty. We used data from the Manitoba Follow-up Study (MFUS). This is a prospective cohort study of aging men who trained as aircrew in the Royal Canadian Air Force, and have been followed routinely since 1948. In 1996, an item was added to the questionnaire: "what is YOUR definition of successful aging?" and in 2015, an item was added: "What is YOUR definition of frailty?" These definitions (from the 2015 questionnaire) were coded based on keywords from each definition, and individual responses were compared and categorized for successful aging; then compared toself-definitions of frailty.

There was a moderate negative correlation between the successful aging and frailty definitions. However, the concept of successful aging was more broad than simply the absence of illness, functional impairment and frailty. In particular, definitions of social relationships, leisure activities, productivity, and spirituality were important in successful aging.

There is some overlap of the notions of frailty and successful aging. Yet, many individuals do not define successful as simply the absence of frailty. Their responses show that successful aging and frailty are not opposite sides of the same coin. Additionally, their definitions of successful aging do not fall into the traditional definitions proposed by many previous researchers

Successful aging is not simply the absence of frailty.

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27. Association Between Multimorbidity and Education, Individual Income, and Household Income Among Canadian Adults

Lindsay Torbiak, Suzanne Tyas, Verena Menec, Robert Tate, Lauren Griffith, Phillip St. John

A lower social position is associated with adverse health outcomes. There is less Canadian evidence for association between social position and multimorbidity (MM). We aim to determine if education; individual income; or household income is associated with MM.

Secondary analysis of the Canadian Longitudinal Study on Aging, a population-based study of community living individuals aged 45 to 85. We used data from the tracking cohort, which is intended to be as representative of the Canadian population as possible, who had complete data for all diseases (31 morbidities) and for measures of social position (n= 18 871). We defined MM as two or more chronic conditions from self-reporting of diseases, excluding mental health conditions and acute conditions. We constructed logistic regression models for the outcome of MM, adjusted for age and sex.

Education was associated with MM: The adjusted Odds Ratio (OR) [95% confidence interval (CI)] was 1.38 (1.21, 1.59) for those who did not complete high school; 1.03 (0.94, 1.14) for those who completed high school; and 1.18 (1.04, 1.36) for those with some post graduate education; with the reference group being those with post graduate education. Individual income was also associated with MM: the OR (95%CI) for those with income <$20,000/year was 1.88 (1.64, 2.15); 1.37 (1.22, 1.53) for those with an income of $20-50,000; 1.22 (1.09, 1.37) for those with an income of $50-100,000; with the reference group being those with income of >100,000. Household income showed similar results.

Addressing inequality may have effects on population health.

Lower income is associated with MM, and there is a gradient in this effect. The association with education is more complicated, but not completing high school is associated with MM.

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28. Location of Vertebral Fractures Is Associated with Bone Mineral Density and History of Traumatic Injury

Jennifer Watt, Richard Crilly

The upper and lower thoracolumbar spine have been associated with different biomechanical outcomes. This concept, as it applies to osteoporotic fracture risk, has not been extensively studied.

This was a case-control study of 120 patients seen in an osteoporosis clinic. Vertebral fractures were identified from lateral radiographs using Genant's semi-quantitative assessment method. Associations between bone mineral density (BMD) T-scores and vertebral fracture location were assessed. In an additional analysis, the association between a history of any traumatic injury and possible predictor variables was also explored.

The median age of patients was 75 (interquartile range 67-80) and 84.2% of patients were female. A vertebral fracture in the lower thoracolumbar spine (T11-L4) was associated with significantly higher femoral neck (p<.001), lumbar (p=.005), trochanteric (p=.002), intertrochanteric (p<.001), and total hip (p<.001) BMD T-scores. The odds of having a femoral neck (odds ratio (OR) 0.24, 95% confidence interval (CI) 0.07-0.75, p=.01) or total hip (OR 0.19, 95% CI 0.06-0.65, p=.008) T-score < -2.5 was also lower among patients with vertebral fractures in the lower thoracolumbar spine. A fracture in the upper thoracolumbar spine (T4-T10) decreased the odds of having a history of traumatic injury (OR 0.32, 95% CI 0.14-0.76, p=.01), while a non-vertebral fracture increased the odds of such an injury (OR 2.41, 95% CI 1.10-5.32, p=.03).

Prevalent vertebral fractures in the lower thoracolumbar spine were associated with higher BMD T-scores. Consistent with this finding, the biomechanical literature has shown that the upper thoracolumbar spine cannot withstand the same loading forces as the lower thoracolumbar spine.

More research is needed to characterize potential differences between the upper and lower thoracolumbar spine and how this influences fracture risk.

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29. Comparing the Perspectives of Those Providing Care to Persons with Dementia and Their Healthcare Professionals

Matthew Wong-Pack, Thom Ringer, Patricia Miller, Christopher Patterson, Sharon Marr, Brian Misiaszek, Tricia Woo, Richard Sztramko, Peter Vastis, Alexandra Papaioannou

Health and social care systems depend on informal (unpaid) caregivers of persons with dementia (CGs). CGs experience significant psychosocial burden. Healthcare professionals (HCPs) help mitigate this stress by educating, supporting, and connecting CGs with resources. Our qualitative, interview-based study compared the experiences of accessing information and support by CGs patients with dementia with the perceptions of HCPs.

Thematic analysis of semi-structured telephone interviews with CGs (n=18) of persons with dementia attending a geriatric specialty clinic that refers patients to the Alzheimer Society's First Link Program, and clinic HCPs (n=7) was conducted.

14 female (78%) and four male CGs (mean age 71, range 46-85 years) participated. 83% of CGs lived with their care recipient. HCPs included nurses, case managers, and geriatricians.

Comparisons emerged in four domains: 1) Internet: CGs consulted diverse sources. HCPs felt CGs needed significant help interpreting often low-quality information. 2) Primary Care: Some CGs depended on their family physician for care. HCPs identified the importance of effective coordination between the clinic and FPs. 3) Community Supports: CGs face systemic and individual barriers to access. HCPs report feeling constrained in providing additional support by poor resource availability and structure of services. 4) Clinic: CGs value and trust the clinic's services and staff. They report feeling overwhelmed on first hearing the diagnosis of dementia, and rarely recall information shared initially. They appreciate opportunities to review information. Between clinic visits, HCPs also provide instruction on managing medications and challenging behaviours.

HCPs' perceptions of barriers and challenges largely aligned with those of CGs. Both emphasized the need for reliable dementia education resources, more accessible and available community services, and continual HCP support, including after hours.

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30. The Effect of Patient-Centered Care and Shared Decision Making on Geriatric Patient Health Outcomes

Nadine Abu-Ghazaleh

Patient-centered care (PCC) and shared decision making (SDM) are two approaches to care that have been praised by health care providers and medical institutions. The effect that these styles of care have on patient health outcomes is still debated however. In a context where the population is continuing to live longer, finding approaches to care that may help improve patient outcomes and provide older patients strategies to self-manage their chronic conditions is imperative.

Purpose:
The objective of this review is to determine what features of PCC and SDM are associated with positive patient health outcomes.

A literature search was conducted using three databases (MEDLINE, CINALH, PyschINFO) and search terms relevant to the research objective. The search yielded 456 articles, 11 of which were selected for the scoping review.

Search Terms: Patient-centeredness, shared-decisions, patient-provider relationship, health outcomes, chronic-disease management

According to this review, PCC and SDM have four features in common associated with positive health outcomes: information sharing, elicitation of patient preferences, negotiation and consensus decision-making.

Implications: The integration of these styles of care into clinical practice may help patients better self-manage their chronic conditions, improve their quality of life, and in turn pose less of a burden on the health care system.

Key Messages:

- PCC and SDM are two approaches of caring for older adults that are highly recommended by medical experts, despite mixed evidence in the literature.
- In addition to the improvements of quality of life for patients, the implementation of these approaches may help reduce the financial strain on the health care system.
- PCC and SDM styles of care share major themes that have been attributed to positive health outcomes in older adults.

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31. Community Study on the Elderly in the Middle East Using the InterRAI -CHA Instrument

Abdulrazak Abyad

Middle eastern countries have certain cultural, social and economic characteristics in common with similar aspiration. The percentage of elderly in the Middle East is expected to increase with improvement of the health care delivery in the area. The region, like other developing countries, needs to define the policies and programs that will reduce the burden of aging populations on the society and its economy. There is a need to ensure the availability of health and social services for older persons and promote their continuing participation in a socially and economically productive life. The morbidity burden of the geriatric population can quickly overwhelm fragile and under financed health infrastructures which are unable to meet fully the prevention and treatment needs of a younger population with relatively low-cost, easy-to-prevent, easy-to-treat illness

There is scarcity of research and publications in the field regarding the ageing population in the Middle East region. Abyad Medical Center & Middle East Network on Research on Ageing-MENAR that are closely linked to the Middle East Academy for Medicine of Ageing MEAMA decided to do a community study on the elderly in Lebanon. We selected the InterRai Community Health Assessment CHA instrument for this study.

The main reason for selecting this instrument is the fact that it is easy to apply in the community and it is a good introduction to the various instruments of InterRA

The study was done in two places Lebanon and UAE. Comparative data will be presented.

The goals of the study include among others collecting data on the elderly living in the community in the Middle East, in addition by using this instrument to be able to compare various elderly community in the region and comparing the region to the rest of the World.

The study will be able among others to identify prevalence of dementia disorder in the community. In addition to the possibility of comparing the health status of elderly population in different countries

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32. Challenges of Geriatrics and Gerontology Education in the Eastern Mediterranean Region: Current Initiative in Lebanon and Personal Experience

Abdulrazak Abyad

As we enter the 21st century, and increasing number of older adults will reside, either temporarily or permanently, in a nursing home. Assuming the majority of medical care for this population will be provided by primary care practitioners. For this reason , training in nursing home care must become an integral part of the curriculum for internal and family medicine residency programs. The changing demographics of the population in the region have created imperative for medical schools to increase their emphasis on the education and training of medical students and residents in the care of the elderly.

As the number of older people is growing and they frequently have health-related problems with a mixture of physical, mental, social and behavioural aspects. In the past, these problems were seen only in a few older people and the families were able to take care of their parents or old relatives. However, societies are changing as a result of the demographic and cultural developments and they face the increasing possibilities of modern medicine.

In attempt to answer the above problem and challenges The Middle-East Academy of Medicine of Aging was started . The organisers of the Middle-East Academy for Medicine of Ageing organise this course with support of the European Academy for Medicine of Ageing, the European Union of Geriatric Medicine, the Geriatric Medicine Section of the European Union of Medical Specialists and the International Association of Gerontology. The aim of the Middle-East Academy for Medicine of Ageing:

1. To improve knowledge and skills of professionals, physicians, nurses and health care officers, in health

related problems in older people, starting with a special interest in community care in the Middle-East area.
2. To harmonise the attitudes and goals of future opinion leaders in approaching the health related problems of older people in the Middle-East area.
3. To establish a network among physicians, nurses and health care officers, responsible for the health care of older people and those responsible for medical and nurse students instruction, as well as general physicians caring for aged people.
4. To stimulate scientific interest in the health related problems in older people.

Abyad Medical Center and Middle East Longevity Institute were instrumental in organizing the first course of the MEAMA. Over the previous years, several reputable official governmental, regional and international organisations helped in the development of the academy including The Health Ministers' Council for the Cooperation Council States, Ministry of Health in Bahrain, The European Academy for Medicine of Ageing, The European Union of Geriatric Medicine Society, the Geriatric Medicine Section of the European Union of Medical Specialists, the International Association of Gerontology and Geriatrics, medi+WORLD International, Multimedia Medical University, Al Jinan University, Azm & Saade Association, Hamad Medical Coporation, National Guard National Guard Health Affairs -King Saud Bin Abdulaziz University for Health Sciences and others.

A rising geriatric population, with increasingly unmet health care needs, strongly suggests the necessity for a better educational preparation of those health professions actually or potentially serving them. The absence of sufficient numbers of trained geriatricians and gerontologists, among health professionals, seriously undermines the ability of the country's health care system to adequately assess, treat, and rehabilitate the growing ageing population. This shortage leads to inappropriate care, higher costs, and poorer patient outcomes. Education is key to more informed health care services, without which, fertile soil exists for the emergence of negative attitudes and stereotypes toward ageing and older people. This may lead to avoidance and neglect of the elderly and their problems. The Middle-East Academy for Medicine of Ageing may help in preparing health professional sensitivity to the issue of aging, thus help in improving the quality of life of the elderly in the region.

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33. Evaluating the First 18 Months of a Geriatric Oncology Clinic

Shabbir M. H. Alibhai, Allison Loucks, Rana Jin, Martine Puts

Older adults with cancer are complex and often over-treated or under-treated. Studies examining the impact of comprehensive geriatric assessment (CGA) in older adults with cancer found a median of 39% of treatment plans were revised after the CGA. These findings support the need for CGA in older adults with cancer. In July 2015 a Geriatric Oncology (GO) clinic was established at the Princess Margaret Cancer Centre in Toronto, Canada. We evaluated patient referrals, impact on treatment, and patient and referring oncologist satisfaction with our clinic.

Data on consecutive referred older adults (age 65 or older) with any malignancy were captured in an electronic database. Treatment plans pre- and post GO clinic were obtained from the electronic patient record. Satisfaction surveys were distributed to a convenience sample of patients at first (n=50) and second (n=30) visits as well as referring oncologists (n=15). Descriptive statistics were calculated for all outcomes.

One hundred fifty new patients were seen in GO clinic over the 18-month period. An additional 10% declined to be seen. 45 patients were seen in the pre-treatment setting. Of those, the GO clinic agreed with the proposed treatment in 24 patients, recommended more intensive therapy in 2, recommended less intensive therapy in 14, recommended best supportive care in 1, and other modifications in 4. The final treatment followed GO advice in over 90% of patients. The GO clinic enhanced the supportive care plan in 96% of cases. Patients, caregivers, and referring oncologists were almost universally highly satisfied with the GO clinic.

The GO Clinic has been well-received by patients and oncologists.

The GO clinic has resulted in reducing over-treatment and under-treatment in one-third of patients referred pre-treatment.

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34. Intervening to Reduce & Manage Frailty: What Are the Most Effective Strategies?

Saad Mohammad Alsaad, Ahmed Negm, Courtney Kennedy, Romina Brignardello-Petersen, Lehana Thabane, Areti-Angeliki Veroniki, Aidan Giangregorio, Rick Adachi, Julie Richardson, Ian Cameron, Alexandra Papaioannou

There has been a recent increase in frailty intervention studies including both singular and multi-modal approaches. To consider their comparative benefits, we are undertaking a network meta-analysis which allows simultaneous consideration of treatment alternatives.

Objective: To describe the frailty interventions retained in our systematic search and consider estimates of comparative effectiveness.

Method: A systematic search of frailty intervention studies that utilized randomized controlled trial (RCT) methodology was conducted using CINAHL, EMBASE, MEDLINE, AMED, HealthSTAR, DARE, PsychINFO, PEDro, SCOPUS, Scielo and the Cochrane Central Registry of Controlled Trials (CENTRAL), from the inception of each database. Intervention key terms included: multi-faceted/multimodal/complex, exercise, protein, nutrition, vitamin D, psychosocial. To assess impact on frailty change, only studies that measured frailty/related outcome longitudinally were included. Primary outcomes of interest were: 1) frailty measured with any reliable, validated method; 2) short performance physical battery; or 3) a walking speed test. Secondary outcomes were: 1) cognitive outcome measures; 2) any physical performance measure; 3) grip strength; 4) treatment cost; 5) Quality of Life; and 6) adverse outcome. The full review protocol is available at: PROSPERO 2016:CRD42016037465.

Overall, 6303 unique articles were retrieved from our search strategy. Of these, 4% were retained for full-text screening. In this presentation, a description of the final types of interventions will be provided and an estimate of effect of the different interventions on frailty change.

Discussion and Conclusion: To date, this is the first systematic review and network meta-analysis considering the direct and indirect effect of interventions targeting frailty prevention or treatment. Synthesizing the current evidence of frailty interventions will help clinicians, researchers and policy makers to determine the comparative effectiveness of various approaches to prevent and manage frailty.

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35. Off-Label Use of Antipsychotics and Health Related Quality of Life in Community Living Older Adults: a 3 Years Prospective Study

Hamzah Bakouni, Helen-Maria Vasiliadis

To determine the effect of off-label use of antipsychotics (AP) on the health related quality of life (HR-QOL) of community living older adult.

We used socio-demographically weighted data from older adults living in the community and participating in the «Étude sur la santé des ainés¬ (ESA)-Services» follow-up study (n = 1020) and covered under a public drug insurance plan. Off-label use of AP was identified via administrative databases using ICD-9/10 codes and defined by the presence of an AP drug during the year preceding baseline interview, and the absence, during the 3-year period preceding baseline, of a diagnosis of schizophrenia, bipolar disorder and major depression. The absence of self-reported past year mania, major depression and schizophrenia were also included in this definition. Multinomial logistic regression was used to assess the association between AP use (off-label vs on-label) and HR-QOL and its change between baseline and follow-up interview, using an adapted version of the EQ-5D-scale and the analogue scale, while adjusting for confounding factors.

Baseline HR-QOL was negatively associated with on-label use of AP compared to off-label use as measured with the EQ-5D-scale [OR:-0.32] and analogue scale [OR = -32.39]. The change in HR-QOL over the 3-year period was positively associated with on-label use of AP compared to off-label use with the EQ-5D-scale [OR=0.16] and analogue scale [OR=13.26].

As compared to on-label AP users, off-label users reported a better quality of life at baseline, but a worse improvement in HR-QOL over the 3-year period. This may be in part explained by a lesser degree of AP efficacy and tolerability for off-label indications.

AP off-label use compared to on-label confers a worse longitudinal improvement in HR-QOL.

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36. Canadian Geriatrician & Care of the Elderly Physician Human Resource Update: 2016-17

Monisha Basu, Michael Borrie, Jose Morais, David Hogan, Frank Molnar, Karen Fruetel, The Division Chairs Working Group

At the 2016 Canadian Geriatric Society meeting an update to the 2011–2012 human resources report was proposed for 2016-2017.

The goals were to update by province the:

1. Number and FTEs of internist specialist geriatricians, their practice setting (academic health science centre or community) and their job activity description (JAD) by categories (clinical, teaching, research, administration, leadership, other).
2. Number of internist geriatricians possibly retiring within the next 10 years.
3. Number of Care of the Elderly (COE) physicians working primarily as consultants or within specialized geriatric services (SGS).

The list of geriatricians and year of MD graduation was updated and compared to the 2011-2012 list.

Each provincial list of geriatricians has been distributed to Division chairs and lead community-based geriatricians to complete the:

1. FTE status of geriatricians.
2. JAD for geriatricians in their division or community group.
3. Number of full time/part time COE MDs working as consultants or within their region's SGS. Community-based geriatricians will be contacted by email/phone.

The overall number of internist specialist geriatricians in Canada has increased by 38 to 324, a 13% increase over 5 years. However the population 65+ grew by 16.9%.

There are 25 active geriatricians in Canada 40 years past their graduation. In the next 10 years, an additional 76 will reach this mark. Combined, they represent 31% of the current geriatrician workforce.

The number of internist geriatricians has increased in Canada over the last 5 years

To meet the potential retirement of 101 geriatricians in the next 10 years, either 101+ geriatricians will need to be trained in and/or recruited to Canada or opportunities for part-time work become available for older geriatricians.

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37. Subjective Memory Impairment and Gait Variability in Cognitively Healthy Individuals: Results From a Cross-Sectional Pilot Study

Olivier Beauchet, Cyrille Launay, Julia Chabot, Gilles Allali

Increased stride time variability, have been associated with memory impairment in mild cognitive impairment. Subjective memory impairment (SMI) is considered the earliest clinical stage of Alzheimer disease (AD). The association between increased stride time variability and SMI has not been reported.

This study aims to examine the association of stride time variability while performing single and dual tasking with SMI in cognitively healthy individuals (CHI).

A total of 126 CHI (15 without SMI, 69 with SMI expressed by participants, 10 with SMI expressed by participant's relative and 32 with SMI expressed by both participants and their relatives) were included in this cross-sectional study. The coefficient of variation (CoV) of stride time and walking speed were recorded under usual condition and while counting backwards. Age, gender, body mass index, number of drugs taken daily, use of psychoactive drugs, fear of falling, history of previous falls, and walking speed were used as covariates.

Results of multiple linear regressions showing the association between CoV of stride time and types of SMI adjusted on participants' characteristics were reported in Table 2. Only participants with relatives who reported SMI was significantly associated with greater CoV of stride time while backward counting (p=.038). When all participants with SMI were polled together in the multiple linear regression, no significant association was reported (Coefficient of regression beta=0.48 with 95% confidence interval [-1.38;2.34] and p=.607).

Dual tasking is used to measure the involvement of cognitive function in gait control. It represents a more sensitive walking condition compared to usual walking, as this condition is associated with the very early onset of an abnormal involvement of cognitive function in gait control. Thus, our results confirm the assumption that there is an association between dual task walking conditions and SMI, suggesting that the very early stage of cognitive decline like SMI is related to increased gait variability.

This study found a specific association between SMI expressed by a participant's relative and a greater CoV of stride time (i.e. worse performance) while dual tasking, suggesting that the association between gait variability and memory may be present in the earliest stages of memory impairment. Thus, gait variability under dual-task in individuals with SMI expressed by their relatives can be a potential biomarker of AD.

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38. Association Between Falls and Brain Subvolumes: Results from a Cross-Sectional Analysis in Healthy Older Adults

Olivier Beauchet, Cyrille Launay, Gilles Allali

Falls are a consequence of gait instability. Cortical and subcortical abnormalities have been associated with gait instability but not yet with falls. This study aims to compare the global and regional brain subvolumes between healthy fallers and non-fallers.

A total of 77 healthy older individuals (23 fallers and 54 non-fallers, 69.8±3.5years; 45.5% female) were included in this study using a cross-sectional design. Based on an a priori hypothesis, the following brain subvolumes were quantified from three-dimensional T1-weighted MRI using FreeSurfer software: total white matter abnormalities, total white matter, total cortical and subcortical gray matter, hippocampus, motor cortex, somatosensory cortex, premotor cortex, prefrontal cortex and parietal cortex volumes. Gait performances were also recorded. Age, sex, body mass index, comorbidities, use of psychoactive drugs, far-distance visual acuity, lower-limb proprioception, depressive symptoms and cognitive scores (Mini-Mental State Examination, Frontal Assessment Battery) were used as covariates.

Fallers have more frequently depressive symptoms (p=.048), a lower far distance visual acuity (p=.026) and a higher coefficient of variation of stride time (p=.008) compared to non-fallers. There was a trend to greater subvolumes for the somatosensory cortex (p=.093) and the hippocampus (p=.060) in the falls group. Multiple logistic regressions showed that subvolumes of the somatosensory cortex (p<.042) and the hippocampus (p<.042) were increased in fallers compared to non-fallers, even after adjustment for clinical and brain characteristics.

Regarding the a priori hypothesis, the finding in our study of fall-related greater somatosensory and hippocampal subvolumes was not expected. In fact, we hypothesized that

smaller brain volumes would be found in fallers since it has been reported that gait instability (leading to falls) may be caused by brain morphological abnormalities such as white matter and/or subcortical gray matter ischemic lesions as well as smaller cortical subvolume. One explanation for this counterintuitive result could be based on the inclusion criteria that included a healthy sample with intact cognition and no gait instability detectable through a physical examination. Thus, greater subvolumes in key brain regions could represent compensatory brain changes in the context of onset of gait instability. The fact that fallers had greater gait variability compared to non-fallers is consistent with this interpretation of greater brain volumes.

This study found that older fallers free of brain diseases and peripheral gait disorders had greater subvolumes of somatosensory cortex and hippocampus compared to older non-fallers. These findings suggest a possible compensatory mechanism based on the enhancement of specific brain regions, specifically those involved in spatial navigation and integration of sensory information. These brain correlates of falls should be assessed in interventional studies that focus on fall prevention in aging.

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39. What Factors Influence Medical Student Interest in Geriatric Medicine?

Szu-Yu Tina Chen, Janet Kushner-Kow, Sung-Hsun Yu

The lack of medical student interest in geriatrics medicine is an area of concern, particularly with the increasing need for physicians specialized in geriatrics care. Many factors influence the choice to work with a specific patient population, some of which include medical student demographics, previous experiences with the geriatrics population, attitudes towards the patients, and knowledge about the elderly.

Our study analyzed these factors that influence specialty choice through a 10-minute online questionnaire filled out by medical students from all years at the University of British Columbia. The relationship between these factors was explored with two specific interest in entering geriatrics medicine as a specialty and interest in working with the geriatric population.

The study results demonstrated no relationship between demographics or prior experiences with interest. Comfort with the population was associated with both interest in geriatrics medicine and working with the elderly population. Geriatric knowledge correlated with interest in a geriatrics medicine specialty, whereas attitude towards geriatrics correlated with interest in working with the elderly population.

Curriculum changes to increase medical student interest in geriatrics are underway in most schools.

Our study suggests that a curriculum targeting increased knowledge about the elderly, positive attitudes, and comfort with the population would, together, increase medical student interest in working with the geriatrics population and in choosing geriatrics medicine as a specialty.

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40. Solving the Mystery of Syncope

Karen Chu, Colette Seifer

Syncope is a common complaint in the ER. The incidence increases exponentially with age. Our purpose is to describe a case and literature review of an elderly female with numerous episodes of syncope of diagnostic uncertainty. A diagnosis and management plan was achieved through the use of an implantable loop recorder (ILR).

A 66-year-old female presents with 3 episodes of syncope over the past 6 months. Two episodes occurred upon change in posture. The first, when she stood up following a haircut and, the second, when she was getting up to the bathroom at night. The third event occurred while she was driving and resulted in an accident. Physical exam was significant only for an asymptomatic decrease in systolic blood pressure of 30 mmHg.

She was diagnosed with vasovagal syncope although had atypical features such as minimal premonitory symptoms and an absence of pallor.

Antihypertensive medications were discontinued following her first episode.

Baseline electrocardiogram (ECG), 24 hour Holter and echocardiogram were normal. Tilt table test was nondiagnostic. An ILR was inserted, and during a typical episode, documented intermittent complete heart block with 13 seconds of ventricular standstill. She received a permanent pacemaker with no further episodes of syncope.

Syncope and falls are common complaints in older patients. They are at higher risk of both cardiac and non-cardiac related syncope. A detailed history is helpful to risk stratify which patients may benefit from additional cardiac testing. ECG, 24h Holter and tilt table testing are safe but frequently non-diagnostic.

The ILR can be a useful diagnostic tool to assist with diagnosis, especially in older patients with atypical symptoms.

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41. Frequency and Quality of Delirium Documentation in Discharge Summaries

Victoria Chuen, Rashmi Prashad, Vicky Chau

Delirium is characterized by an acute and fluctuating disturbance in attention and awareness, accompanied by

cognitive impairment. While considered transient in most patient populations, delirium in older adults is often chronic and results in poorer prognoses. Considering that delirium often persists long after a patient's hospital discharge, its documentation in the discharge summary is crucial for ensuring adequate follow-up care. However, previous studies have demonstrated that only 3-14% of delirious patients have their diagnosis documented in their discharge summary. Further, studies have been limited in their scope.

We sought to determine the frequency and quality of delirium documentation in discharge summaries.

A multi-centered retrospective chart review was conducted across 3 major academic hospitals in Toronto, Ontario, of patients 65 years and older who were admitted to a medical or surgical service. Medical records were abstracted for those identified with delirium during their hospitalization using a validated chart-based instrument. Our primary outcome was the frequency of delirium documentation in discharge summaries. To assess the quality of delirium documentation, we developed quality criteria unique to delirium utilizing the Joint Commission: Accreditation, Health Care, Certification (JCAHO) framework for quality discharge summaries. These criteria underwent review by a multidisciplinary expert panel of geriatric health professionals. Demographics, quality indicators of delirium care, and clinical and system variables were also recorded.

Results are currently pending with data collection underway. Initial results and data analyses will be presented.

We hope to provide a novel perspective on current practices of delirium documentation. We will also explore associations between measured variables and documentation, and comment on its impact on patient outcomes.

This will be the first study characterizing both the frequency and quality of delirium documentation in discharge summaries.

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42. A Novel Approach to Manage Challenging Behaviours in Confused, Hospitalized Seniors

Monidipa Dasgupta, Lyndsay Beker, Kimberly Schlegel, Corinne Coulter

Disorders causing confusion occur in more than 40% of hospitalized seniors and are associated with increased length of stay, cost, institutionalization and death. Challenging behaviors include agitation or calling out, and occur in 27-54% of seniors with illnesses causing confusion. Drugs are often used to manage these behaviors in acute care, even though they are not recommended and associated with significant side effects. Some of these behaviors may reflect unmet needs the individual has. Understanding who the confused individual is personally (his/her interests, abilities/disabilities, self-perception, likes/dislikes, habits) can help to understand what the individual needs.

In this pilot study, a structured interview (tool) validated previously in the community setting, will be administered to 20 patients over one year. The tool's purpose will be to identify individualized non pharmacologic interventions that can be applied in an acute care setting. The innovation involves approaching the management of challenging behaviors in a novel manner, from what is usually done in acute care. In so doing, it may decrease the use of neuroleptic drugs or restraints.

Preliminary results of the pilot study will be presented.

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43. Inter-Rater Reliability of the Retrospectively Assigned Clinical Frailty Scale Score in a Geriatric Outreach Population

Jasmine Davies, Jennifer Whitlock, Iris Gutmanis, Sheri-Lynn Kane

Frailty, a common clinical syndrome in older adults associated with increased risk of poor health outcomes, has been retrospectively calculated in previous publications. However the reliability of such retrospectively assigned frailty scores has not been determined. The aim of this study was to determine if the Clinical Frailty Scale (CFS) could be reliably assigned retrospectively, based on information in client charts.

Patients undergoing an initial consultation with a nurse clinician from the Southwestern Ontario Regional Geriatric Program from August 15, 2013 onward were invited to participate in this study. As per standard practice, a CFS score (CFS-I) was assigned during the initial consultation. After patient consent was obtained, a medical student researcher, blinded to the initial score, assigned a CFS score (CFS-C) based on the initial consultation note. The inter-rater reliability of the CFS-I and CFS-C was then determined.

Of the 41 patients consented, 39 had both a CFS-I and CFS-C score. The median CFS score was six, indicating patients were moderately frail and required assistance for some basic activities of daily living. Cohen's kappa coefficient was 0.64, indicating substantial agreement.

This study demonstrates that retrospectively assigned CFS scores show similar accuracy to CFS scores assigned immediately following a clinical assessment as evidenced by the Cohen's kappa coefficient of 0.64.

CFS scores can be reliably assigned retrospectively thereby strengthening the utility of this measure.

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44. Frailty Prevention in "At Risk" Older Adults in the Primary Care and Community Setting

Grace Park, Antonina (Annette) Garm, Xiaowei Song

Research demonstrates it is possible to prevent and/or delay frailty. Comprehensive geriatric assessment (CGA), patient directed chronic disease management planning and health coaching have been identified as effective frailty prevention interventions for older adults. The CARES (Community Action and Resources Empowering Seniors) Project combines all three interventions in a collaborative inter-disciplinary model that introduces the CGA and FI calculation capacity into primary care physicians' electronic medical record (EMR)

Seniors aged 65 to 85 with an estimated clinical frailty score between 3 and 5 receive personalized health coaching for up to six months from Self-Management BC at no charge. Before and post coaching, primary care physicians conduct a CGA, which is embedded in the electronic health record and able to calculate a Frailty Index (FI). The effect of the combined intervention on frailty is evaluated by comparing the baseline and follow-up FI-CGA scores and quality of life assessments.

Pilot studies CGA-FI scores of the participants were statistically significantly (0.032) decreased post intervention, which is equivalent to 2 less health problems at follow up. Meanwhile, 59% of participants reported an increase in their health attitude and 67% reported an increase in exercise frequency.

CARES involves physicians, health coaches and patients in the prevention of frailty. The electronic CGA, FI and coaching provide both a measurement and management strategy to address frailty in the primary care setting.

Results suggest CARES is effective in delaying frailty. CARES empowers seniors to engage in self-management of their health in partnership with their physician. Together they are able to track and address frailty development through the use of the electronic CGA and FI results. Fraser Health has adopted CARES as part of a senior care strategy. More research is pending.

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45. Prescribing After Beers. How Well Are We Doing?

Taleen Haddad, Allen Huang

Despite the established presence of Beers and STOPP/START lists as examples of explicit criteria for appropriate prescribing, the use of potentially inappropriate medications (PIMs) in the elderly is an ongoing problem across clinical care settings. We investigate the scope of interventions focused on deprescribing practices in this population.

A comprehensive literature review from 1991 (the year of publication of the original Beers criteria) to January 2017 was done using the electronic bibliographic databases OvidMedline and Embase. Some of the MeSH terms used were: "deprescriptions," "geriatrics", "frail elderly" and "physicians." The raw results from the initial search were then screened to include publications from the past 10 years, which reported specific interventions or questioned physician knowledge of polypharmacy and deprescribing practices in the elderly.

16 articles were reviewed in detail from a total set of 211. These studies took place in the U.S., Europe, Australia and New Zealand, in primary care, acute hospitalizations or long term care settings. 6 of these interventions reviewed were in tertiary care.

Family physicians consistently reported that they had insufficient training on PIMs and deprescribing. Barriers to deprescribing included: patient expectations, time constraints and the challenge of managing multiple prescribers. In the primary care setting educational interventions in addition to pharmacist access and a decision support system was effective in changing prescribing habits. Reported mortality benefits were found only in non-randomized trials.

There was no single successful strategy. Interventions involving both the prescriber and system of care are believed to be more successful, thus a standardized guideline and decision-making tool for health care providers would be beneficial.

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46. Pulse Pressure in the Elderly: a Population-Based Study

Sonia Hammami, Said Hajem, Mohamed Hammami

The sixth Joint National Committee (JNC-VI) classification system of blood pressure emphasizes both systolic blood pressure (SBP) and diastolic blood pressure (DBP) for cardiovascular disease risk assessment. Pulse pressure (PP)= [SBP–DBP], may also be a valuable risk assessment tool.

Objectives: In this study, We evaluate PP in older population, we examined the association of cardiovascular events and diabetes

A Population based survey supported by WHO and FNUAP. This study was carried out in a representative sample of elderly aged more than 65 years. Standardized techniques were used for blood pressure (BP). Hypertension was defined as BP more than 140/90 mmHg. Diabetes was defined as known diabetics. Regression analyses were used to examine the relationships among pulse pressure age, diabetes and cardiovascular events (myocardial infarction, arteritis and stroke) This project was approved by the

research Ethics Committee, CHU F Bourguiba, university of Monastir

The study included 598 participants (396 women and 202 men) who were aged ≥ 65 years.

The prevalence of hypertension and diabetes was respectively 52 % (n=311) and 27,4 % (n= 164). Pulse pressure was more than 65 mmHg for 132 subjects (22%), only 43 subjects without a history of hypertension.

The mean of PP is significantly high in hypertensive elderly (52.3 vs. 58.4 mmHg), with cardiovascular events (55 vs. 58 mmHg), diabetic subjects (53 vs. 58 mmHg), with comorbidity (54 vs. 58 mmHg) and polymedication (52 vs. 57 mmHg). Using pulse pressure (high PP ≥ 65 mmHg) as dependent variable, the multiple regression analysis reveals the independent influence of diabetes and cardiovascular events on PP.

This study has confirmed that subjects with the widest PP have the greatest risk of cardiovascular events

Elderly diabetic patients have a higher PP than non diabetic elderly. These hemodynamic changes may contribute to the increase risk of cardiovascular disease associated with diabetes,

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47. Late-Onset Systemic Lupus Erythematosus

Sonia Hammami, Amine Yaich, Malek Kechida, Rym Klii, Ines Kochtali, Mohamed Hammami

Late-onset systemic lupus erythematosus (SLE) in the elderly occurs after the age of 50. According to several studies, late-onset SLE has particular clinical and biological manifestations, and needs specific and proper therapeutic strategy.

This retrospective study (2006-2015) included 83 patients treated for SLE in Fattouma Bourguiba Hospital in Monastir. We studied the clinical and laboratory manifestations as well as the treatement features and ouctomes of the twelve patients in the late-onset group (group1) then compared them to the young patients (group2).

The incidence of late-onset SLE was 14.4%. The mean age at diagnosis was 58.8 years. The cutaneous and articular manifestations were the most frequent in our study (75%). One patient had a lupus nephritis. Five patients (41.6%) had pericarditis and 3 patients (25%) pleurisy. Four patients presented thrombosis and one patient a pulmonary embolism. One case of vasculitis with aneurysm was diagnosed. The blood numeration showed 3 cases (25%) of leucopenia, 8 cases (66.6%) of lymphopenia and no cases of hemolytic anemia. The antibodies screening, found Anti-nuclear antibodies among all patients, anti-DNA among 9 patients (75%), anti-SSA and anti-SSB respectively within 5 patients (41.6%) and 4 patients (33.3%), anti-Sm in 2 cases (16.6%) and anti cardiolipin antibodies among 4 patients. We have treated 3 patients (25%) with immunosupressives and 10 patients (83.3%) with glucocorticoids. The mean SLEDAI score was 8.18. Three patients (25%) died. The comparison of the two groups showed significantly lower frequency of photosensitivity, malar rash and leucopenia in late-onset SLE. Nephritis was also less frequent in the first group. The antibodies screening results were similar among the two groups. We have treated more young patients with high doses of glucocorticoids. The mean SLEDAI score was also higher in the second group. Osteoporosis and death were significantly more frequent in late-onset SLE.

Late onset SLE is frequent and has some particular clinical and biological manifestations comparing to adult SLE.

It needs a careful and adapted therapeutic strategy. Iatrogenic complications, comorbidities and senescence may influence the prognosis of SLE in the elderly.

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48. Business Planning for the Geriatrician —What is Involved?

Nihal Haque, Alexandrea Peel, Michael Borrie

The University of Western Ontario Geriatric Medicine Program has developed a dynamic transition to practice curriculum. Fellows are offered four academic half days dedicated to business planning and career mentorship, a mandatory four-week administrative project rotation, and a project management course. These opportunities are used to develop their career planning skills so that they can integrate into existing and develop novel specialized geriatric services upon graduation.

A descriptive synthesis of material learned by the fellows was compiled. Each fellow expressed their career aspirations. Relevant mentors (including a representative from HealthForce Ontario) were invited to speak at academic half-days. Fellows received sample business plans from other Specialized Geriatric Services in Ontario and were required to make a practice case. They also completed clinical electives in the locations in which they were interested. The administrative block was then used to understand the current landscape of the Local Health Integrated Networks.

Fellows started business planning in their first year of fellowship. This included having an organized approach through the project management course, identifying champions in their area of interest, delineating the demographics and priorities in the area, developing an environment assessment and ensuring adequate funding sources to have a sustainable practice.

The geriatric fellows were able to explore and learn from real world examples of new geriatricians entering practice. Valuable lessons included best practices, problems to be anticipated and mistakes to be avoided.

The Business Planning requirement of the Geriatric Medicine program at the University of Western Ontario has provided its fellows with valuable advice and support in transitioning them to graduation. This is a model that could be replicated at geriatric fellowship programs throughout the country.

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49. Implantable Defibrillators and Goals of Care—a Patient Guide for ICD Deactivation

Karen Harkness, Elizabeth Berry, Stuart Smith, Heather Ross

Implantable Cardioverter Defibrillators (ICDs) have been utilized for the prevention of sudden cardiac death. The ICD continuously monitors the heart rhythm and when certain arrhythmias are detected, a 'shock' may be delivered to stop the arrhythmia and restore the heart back to its normal rhythm. Although the ICD may help prevent sudden cardiac death, patients often report significant pain and discomfort from receiving a shock.

Approximately 30% of patients receive shock therapy in the last 24 hrs prior to death. From a cohort of patients with a 'Do Not Resuscitate' (DNR) order (n=65), 65% had shock therapy programmed 'on' at 24 hours prior to death, and 51% still had shock therapy active one hour before death.

Evidence suggests that patients near end-of-life may no longer want life-saving shock therapy from their ICD device and in these situations, shock therapy can be disabled ('ICD deactivation'). Many patients are not aware that the choice of ICD deactivation is available to them. The purpose of this presentation is to highlight key messages from an education booklet that was developed to help patients with an ICD/family members understand options for ICD deactivation.

Methods: In 2016, the Cardiac Care Network (Ontario) convened a working group in collaboration with multiple stakeholders and patients/family members to develop educational resources regarding ICD deactivation.

An information booklet for patients/family members regarding ICD deactivation. and companion guide for health care professionals (HCPs) were developed and will be presented.

Discussion/Conclusion: Many patients are not aware of the option for ICD deactivation and receiving unwanted painful shocks near end-of-life.

Much needed tools are now available to help patients with and ICD, their family members, and HCPs understand the options for ICD deactivation that support a patient-centred approach to care.

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50. Understanding Process to Improve Outcomes in Elderly Hip Fracture Patients

Lynn Haslam-Larmer, Catherine Convery, Lindsay Crawford, Gerry Hubble, Ellen Valleau

Falls are a leading cause of injury in older adults. There are approximately 30,000 hip fractures in Canada per year, up to 70% are women. Falls have found to be the direct cause of 95% of all hip fractures, leading to hospitalization, surgery, and a potentially long recovery.

In 2008, our institution has developed a specific care pathway to improve the processes following hip fracture repair in the elderly. Prior to updating documentation in 2015, a quality improvement audit was performed to obtain data on process measures and better understand barriers to a timely discharge (goal of day 7 post operatively).

Retrospective chart audit. Twenty-five charts were audited between June and August 2015.

The patients were grouped by length of stay (LOS); those discharged by day 7 and those who had a longer LOS.

In those patients whom were discharge by day 7; the average LOS was 6 days; the average age was 77 years. In those patients who were discharged after 7 days – average LOS was 12 days; average age was 87 years. Interestingly, on average, patients discharged by day 7 had a catheter in situ for less time than patients discharged after day 7.

This poster will review several pre operative, intra operative, catheterization and mobilization processes following a hip fracture admission.

A greater understanding of the processes during hospitalization can help us to identify areas for future improvement to obtain better outcomes.

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51. Fear of Falling in Older Adults with Diabetes Mellitus: a Scoping Review

Patricia Hewston, Nandini Deshpande

Fear of falling (FoF) is reported in both fallers and non-fallers and can potentially be more debilitating than a fall itself. Several determinants of FoF overlap with the consequences/complications of diabetes mellitus (DM) which may contribute to higher FoF prevelence and severity in this population. We explored the current research evidence of FoF prevalence, severity and determinants in older adults (age ≥65) with DM.

The search strategy involved a two-step process: (1) a primary search of CINAHL, EMBASE, PubMed and Google Scholar electronic databases, and (2) secondary search of article reference lists and citation tracking. The search included MeSH terms and key terms of: 'diabet*' AND 'fear' OR 'falls AND self-efficacy' OR 'balance confidence'.

Based on the criteria above, a total of 11 research articles were identified. Seven articles quantified FoF prevelence (range:5-69%) with a single dichotomous question. Low prevalence of FoF was reported when participants were asked, "Do you have FoF?" (5%) when compared to "Are you afraid of falling" (69%). FoF prevelence was higher in those with DM-related complications of diabetic peripheral neuropathy and/or pain. Four articles quantified FoF severity with the Falls-Efficacy Scale International (FES-I) and moderate-to-high FoF severity was reported in up to 82% of older adults with DM. FoF was primarily attributed to physical determinants, particularly, mobility and balance impairments.

Emerging evidence indicates FoF is more prevalent and of moderate-to-high severity in older adults with DM. However, no studies investigated whether FoF is more severe in older adults with DM when compared to those without DM, and if FoF determinants beyond the physical domain contribute to higher FoF severity.

Additional research is warranted to develop falls-prevention screening and intervention recommendations for older adults with DM.

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52. Identification of Anticoagulant And Antiplatelet Use Among Older Hip Fracture Patients: a Preliminary Comparison of Medication Histories

Joanne Ho, Kallirroi Laiya Carayannopoulos, Rida Bukhari, Colleen Cameron, Jeff Nagge

Hip fractures among seniors increase morbidity, mortality, function decline and admission to long term care. The use of antiplatelets and anticoagulants may impact hip fracture surgery timing, perioperative management and clinical outcomes. We sought to characterize the number of older hip fracture patients on these drugs using medication histories obtained by different methods.

We conducted a retrospective chart review of older adults (>65 years of age) admitted with a hip fracture to Grand River Hospital, Kitchener, Ontario in 2016. We independently reviewed and abstracted data from consecutive records in duplicate. We used medication histories obtained through the patient chart, the pharmacist-obtained Best Possible Medication History (BPMH), and the Drug Profile Viewer (Ontario Drug Benefit Program) to identify the use of anticoagulants and antiplatelets, and the number of medications prior to admission.

In 2016, 179 older hip fracture patients were admitted to Grand River Hospital. The majority were female, with a median age 85 years (interquartile range 81 to 89 years). A quarter of these patients had premorbid dementia. Of the 18% on anticoagulation, more than half were on direct oral anticoagulants (56%) compared to warfarin (44%). Prior to admission, 26.4% and 8.4% of this cohort received antiplatelets and nonsteroidal anti-inflammatory drugs, respectively. The median number of medications identified through the patient chart, BPMH, and the Ontario Drug Benefit program was 4(IQR 1-8), 5(IQR 4-8) and 8(IQR 4-12), respectively.

Nearly half of older hip fracture patients received anticoagulation or antiplatelet therapy at baseline. The BPMH was most likely to identify these medications and the total number of medications at baseline.

Anticoagulation and antiplatelet therapy is common among hip fracture patients. Routine use of the BPMH may decrease medication error.

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53. The Development of Our Hip Fracture Prediction Outcome Scale for Frail Long Term Care (LTC) Residents

George Ioannidis, Micaela Jantzi, John Hirdes, Lora Giangregorio, Laura Pickard, Jonathan D. Adachi, Alexandra Papaioannou

To develop and validate our outcome scale that predicts hip fracture in LTC residents over a one year time period.

Using the Resident Assessment Instrument – Minimum Data Set 2.0 (RAIMDS) all residents with a LTC admission assessment from Ontario, Canada from April 2006 to March 2010 were eligible for study inclusion (N=47,556). Residents were excluded from the analysis if they had a high likelihood of not surviving the one year follow-up period. All potential risk factors for tool development were extracted from the RAI-MDS. The RAI-MDS data were then linked to the Discharge Abstract Database and National Ambulatory Care Reporting System to collect additional data on the residents' new hip fracture status. The participants (N=29,848) were divided into a derivation (N=22,386) and validation (N=7,462) dataset. Decision tree analysis was conducted to develop our scale. The c-statistic was calculated for both the derivation and validation datasets to determine the decision tree's performance.

Of the 29,848 residents, 45% of LTC residents were 85 years and older, 2/3 were women, 1/3 had a prior fall within the past 180 days, and 3% had a prior hip fracture within the past 180 days. A total of 959 (3.2%) residents developed a new hip fracture. Our scale has 8 risk levels of absolute hip fracture risk, which ranged from 0.6 to 12.6%. A c-statistic of 0.67 and 0.69 was calculated for the derivation and validation datasets, respectively.

The tool may be beneficial as a Clinical Assessment Protocol for standardized fracture risk assessment and resident care planning.

Our scale is effective at both predicting and discriminating the frail elderly at risk for a future hip fracture over a 1 year time period.

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54. People of Dementia

Bonnie Dobbs, Lesley Charles, Karenn Chan, Jeffrey Jamieson, Peter Tian

The presence of dementia in our world, and the associated health care costs, is rapidly rising. Coinciding with this is the widespread availability of information sharing and collaboration on the world wide web. This provides a unique opportunity to connect people with content on cognitive impairment and dementia that is moving and inspiring.

Through this project we will tell brief, meaningful narrative stories about those living with a form of cognitive impairment (such as dementia or mild cognitive impairment, referenced from here on as dementia) and the impact of this disease on those persons and their support network. The stories will be found on a website (blog) titled People of Dementia, which will be shared and discovered through various social media domains (Facebook, Twitter, etc). The project will focus on the individual with dementia, highlighting who they were before the disease onset, and how things have changed from a personality and lifestyle perspective. The common thread will be the enduring "person" behind the exterior that is obscured by dementia. By allowing the audience to form a connection with who the individual was prior to the disease, and understanding the changes that have come as a result of dementia to both the individual and their support network, the goal is that the readers will have a greater appreciation of those affected by dementia.

We will objectively analyze the impact of the project by using Google Analytics to track web traffic and social media data, and by obtaining feedback from viewers in the form of an online survey.

TBD: Target for production story #1 = Feb 1, 2017. We have received ethics approval from the University of Alberta.

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55. Falls on Inpatient Geriatric Units: Which Tools Predict Falls Best?

Jeremy Slayter, Chris McGibbon, Alexander McCollum, Linda Yetman, Heather Oakley, Sharron Gionet, Rose McCloskey, Pamela Jarrett

Falls in hospitalized patients are common and often lead to adverse outcomes. There are multiple tools used in hospitals to help identify those at risk of falls. This study evaluated the characteristics of patients that fell compared to those that did not fall using common tools to predict fall risk.

Retrospective analysis of all admissions to a 104 bed hospital with only geriatric units l from January 1, 2013 until December 31, 2015. Hospital units include: Geriatric Evaluation and Management, Restorative Care , Transitional Care and Cognitive Assessment and Management Units. Databases containing patient characteristics, standardized tools and patient specific information related to falls were analysed.

Of 946 patients (age: 81.9±7.6 years; length of stay: 71±63 days) 301 (31.8%) had a total of 869 falls. The overall falls rate was 8.48 falls/1000 occupied bed days. Logistic regression showed that several measures at admission were associated with falls (odds ratio, OR[95%CI]): Clinical Frailty Scale (CFS)(OR=2.44[1.92-3.11]), Mini-Mental State Exam (MMSE) (OR=0.93[0.91-0.96]), Morse Fall Scale (MFS) (OR=1.01[1.01-1.02]), Timed Up and Go (TUG)(OR=1.03[1.00-1.05]), and Berg Balance Scale (BBS)(OR=0.97[0.96-0.98]). However, Receiver Operator Characteristic (ROC) analysis showed that none of these tools individually were good predictors of falls (Area Under Curve, AUC<.7). The best performing measure was the CFS, with a true positive rate of 45%, but also false positive rate of 18% (AUC=.686).

Common tools used for fall risk assessment (MFS, TUG and BBS) were not able to predict those at risk of falling in this setting.

The CFS provided the best estimate of fall risk, but still was unable to identify more than half of those who fell on inpatient Geriatric Units.

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56. Falls on Geriatric Hospital Units: What Information Can We Learn from Reports

Linda Yetman, Chris McGibbon, Sharron Gionet, Heather Oakley, Jeremy Slayter, Alexander McCollum, Rose McCloskey, Pamela Jarrett

Falls are common during hospital stays for elderly patients. There is great interest in effective Falls Prevention Strategies to decrease falls and injuries. In 2013, a Falls Prevention Strategy was implemented in Horizon Health Network. As part of this strategy, post-fall reporting by nurses was implemented. This study focuses on the post fall reports by nurses.

Retrospective analysis of post-fall reports from January 1, 2013 – December, 31, 2015 on inpatient Geriatric Units. Data included time of day, location, patient activity, environmental and medication related factors. Patient data regarding balance (Berg Balance Scale (BGS), mobility (Timed Up and Go [TUG]) and

cognition (Mini-Mental Status Exam [MMSE]) were linked to the patients that fell.

The overall falls rate was 8.5 falls/1000 occupied bed days (obd), (Range 5.6 to 11.5 falls/1000 obd per unit). Most falls occurred while walking (26%) or transferring (32%). The majority occurred in patients' rooms (56%). Patients who fell in their room/ bathroom had more impaired balance and mobility ($p<.001$). Patients that fell in the hallway or other common areas had lower MMSE scores ($p<.001$). Environment and medications were not reported as related factors.

The falls rate is consistent with previously published falls rates but vary between units. The location of falls varied depending on mobility/balance and cognition. Commonly cited factors such as environment risks and/or medications were not found to be factors.

Fall rates differ between Geriatric Units and patients with poor mobility/balance fall in different locations compared to those with poor cognition. Strategies that focus on individual patient characteristics may be effective in preventing falls in older patients on Geriatric Units. Further research is required to explore relationships between mobility / balance, cognition and locations of falls.

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57. Health Impacts and Characteristics of Deprescribing Interventions in Older Adults—a Systematic Review

David Mumbere-Bamusemba, José Morais, Marie Claude Breton, Barbara Farrell, Anik Giguère, Danielle Laurin, Michèle Morin, Caroline Sirois, André Tourigny, Martine Marcotte, Edeltraut Kröger

In 2012, 65% of Canadian seniors had at least 5 prescription medications. Changes in physiology, higher comorbidity and medication interactions increase the risk of adverse health outcomes from medication use, a risk further increased by prescribing numerous medications. Not all chronic medications may actually benefit seniors. In recent years, deprescribing has been defined as a process developed to balance the expected benefits from medications against their risks, and leading to discontinuation of chronic medications which are no longer beneficial. Deprescribing trials have been performed, but evidence on the health effects of deprescribing remains inconclusive.

We propose a systematic review to answer the following questions: What are the health outcomes of interventions to deprescribe, i.e. reduce the number or dosage of chronic medications in seniors? What are the characteristics of successful deprescribing interventions or elements thereof, achieving positive or at least neutral outcomes on health or quality of life in seniors?

The review is based on the Cochrane method for systematic reviews of interventions and on the PRISMA statement. The protocol is registered in PROSPERO. The search is conducted for all relevant scientific databases and websites and includes relevant grey literature. Study selection, data extraction, intervention content and quality assessment are conducted independently by 2 reviewers.

Meta-analyses will be performed for groups of eligible studies. A Delphi panel will determine which successful intervention elements are applicable to the Canadian context.

This review will identify which deprescribing interventions or components thereof are successful and have a positive, or at least neutral, impact on seniors' health or quality of life.

Results will be instrumental for the development of better interventions and guidelines to improve policies regarding the challenges of deprescribing among seniors.

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58. Does a Higher Drug Burden Index Contribute to the Level of Functional Autonomy in Seniors, Six Months After an Emergency Consultation for Minor Trauma? Results from the Ceti Cohort

Edeltraut Kröger, Marie-Josée Sirois, Pierre-Hugues Carmichael, Caroline Sirois, Emily Reeve, Lisa Kouladjian, Nathalie Veillette, Marcel Émond

The Canadian Emergency Team Initiative (CETI) cohorts showed that minor injuries like sprained ankles or minor fractures trigger a downward spiral of functional decline in 16% of independent seniors up to 6 months post-injury. Seniors frequently receive medications with sedative or anticholinergic properties, as summarized by the Drug Burden Index (DBI), which has been associated with decreased physical and cognitive functioning before. We aimed at assessing its contribution to functional decline in the CETI cohort.

CETI participants were assessed physically and cognitively at baseline and 6 months later, including medication taken at the time of injury. Functional autonomy was measured with the Older Americans Rehabilitation Score (OARS). Medication data were used to calculate baseline DBI. Linear regression models assessed the correlation between baseline DBI and functional autonomy at 6 months, adjusting for age, sex, baseline OARS, frailty level, comorbidity count and mild cognitive impairment.

557 study participants from one CETI site who had medication data at baseline and complete follow-up data at 6 months were included in this study. In adjusted analyses, a higher DBI at the time of injury contributed to a lower level of functional autonomy, as measured by the OARS, at 6 months post injury: each additional point in the DBI lead to a loss of 0.2 points in the OARS at 6 months post injury, at $p<.001$.

The observed results are similar to those form other cohorts studied elsewhere. Medication taken during follow-up may be included in further analyses.

Emergency visits are considered as missed opportunities for optimal care interventions in seniors: identifying their DBI may contribute to less functional decline after minor injury.

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59. What is Known About Users of Medical Cannabis Against Chronicmusculoskeletal Pain? A Scoping Review of the Literature

Edeltraut Kröger, Clermont Dionne, Michèle Aubin, Richard Bélanger, Guillaume Foldes-Busque, Laurence Guillaumie, Martine Marcotte, Pierre Pluye, Mark Ware

Chronic musculoskeletal pain (CMSP) is a major cause of functional limitations and restriction in social participation. Despite a large pharmaceutical arsenal, effective therapeutic options for the relief of CMSP are limited and often suboptimal. "Medical cannabis" (MC) designates cannabis products intended for therapeutic purposes. In Canada, 65% of the 32,000 individuals who were given access to MC in 2013 had referred to "severe arthritis" to justify their claim. So far, the stigma surrounding cannabis and methodological problems such as small sample sizes have limited the development of knowledge on the effectiveness of cannabis in the management of CMSP.

We performed a scoping review that examined the literature on MC users dealing with chronic pain. The search in databases such as Medline was conducted during the second half of 2016 and was restricted to publications in English, French, or German, without time limit.

The search identified 37 studies that met the inclusion criteria. They were published between 1999 and 2017; more than half had been published since 2014. Most studies were conducted in the US (n=19) and Canada (7), data were retrieved by retrospective chart review (3) or relied on MC users' self-report through questionnaire (26) or interview (7). Sample size varied between 15 and 5,540, with an average age of 28 to 55 years, and a range from 14 to 93 years. Only 2 studies were dealing specifically with patients experiencing CMSP: 1 on fibromyalgia and 1 on rheumatology. All studies had a cross-sectional design.

Knowledge on users of MC for CMSP is scarce.

More research on current users of MC against CMSP could provide important new information on the usefulness of MC to alleviate pain.

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60. One Measure Does Not Fit All. Is the ADAS-Cog Responsive to Important Changes in Pre-Dementia Studies?

Jacqueline K. Kueper, Manuel Montero-Odasso, Mark Speechley

The Alzheimer's Disease Assessment Scale–Cognitive Subscale (ADAS-Cog) is considered the 'gold standard' outcome measure of treatment efficacy for Alzheimer's Disease. As treatment efforts have shifted to focus earlier in the natural history, such as in Mild Cognitive Impairment, concerns have been raised about the responsiveness of the ADAS-Cog. If the ADAS-Cog cannot detect clinically important changes in these less severely impaired populations, studies may falsely conclude that interventions do not work.

Objectives: 1) assess the responsiveness of the ADAS-Cog to cognitive changes in pre-dementia populations, 2) review all modifications made to the ADAS-Cog to improve its measurement performance in dementia or pre-dementia populations.

Bibliographic searches were performed in electronic databases to locate all studies using the ADAS-Cog with pre-dementia samples, or reporting ADAS-Cog modifications. Subject headings and key words related to ADAS-Cog and dementia, pre-dementia, or cognition were used. Citations from relevant articles were hand-checked.

Nine of the 11 ADAS-Cog items exhibit ceiling effects, and the ADAS-Cog detects only slight changes over time in pre-dementia samples. Statistically significant, but often small, associations between the ADAS-Cog and several exposures expected to be related to cognition in pre-dementia samples were found. The ADAS-Cog detected treatment effects in 11 of 19 pre-dementia clinical trials, and demonstrated comparably low statistical power towards treatment effects in 5 studies performing clinical trial simulations.

Thirty-four ADAS-Cog modifications have been evaluated. Eleven improved responsiveness to disease progression over time, and 12 improved responsiveness to treatment effects in dementia or pre-dementia samples.

While the ADAS-Cog can detect changes in cognitive performance, modifications to scoring or item content improves responsiveness in both dementia and pre-dementia populations.

The original ADAS-Cog may not be the best cognitive measure for pre-dementia studies.

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61. The Driving and Dementia Conversation: a Self Learning Module for Health Professional Communication

Derek Lanoue, Anna Byszewski, Robert Parsons, Frank Molnar

The development of a self learning module on communication techniques surrounding driving with dementia provides a much needed resource to health professionals as no such tool exists. As of 2011, 747,000 Canadians were living with dementia and it is predicted that number will rise to

1.4 million by 2031, nearly 100,000 of which being drivers. Although initial diagnosis does not warrant immediate removal of a patient's license, as the disease progresses it impairs one's driving abilities, requiring frequent patient follow-up and reassessment. The fear of ruining the physician-patient relationship and dealing with emotional response that often ensues along with the uncertainty of available driving assessment tools leaves many physicians unequipped to undertake these difficult conversations.

This online SLM (1.5 hrs) contains background material on issues specific to dementia and driving, communication strategies, links to resources and representative video clips (the ideal and less ideal). The module demonstrates essential skills in assessing driving safety in the context of cognitive decline and teaches the learner essential skills in communication using an adapted Calgary Cambridge Communication guide with an interactive self-assessment format.

Preliminary evaluation of the module components demonstrated increased willingness, comfort and confidence for participants.

This multimedia module seeks to change clinical practice surrounding challenging conversations about driving and dementia in the long term.

This model of SLM can be used as a framework to develop other SLM's on difficult conversations such as disclosing diagnosis, terminal illness and end of life care.

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62. Is There an Optimal Cut-Off Moca Score That Can Be Used as an Indicator of Dementia? A Scoping Review

Jennifer Lee, Andrea Chen, Jason Locklin, Linda Lee, Tejal Patel

The Montreal Cognitive Assessment (MoCA) is a screening tool that is widely used as an in-office test for detecting both Mild Cognitive Impairment (MCI) and dementia. Cognitive decline sufficient enough to interfere with independent functioning is required for a diagnosis of dementia and differentiates dementia from MCI; however ascertaining functional impairment from patient history can sometimes be challenging. A threshold score on the MoCA, below which functional impairment is typically associated, could help clinicians better triage those with cognitive impairment who require more resource intensive in-depth assessment of functional impairment. The aim of this scoping review was to determine the empirical support for using a particular score on the MoCA as an indicator of dementia.

The databases Embase, CINAHL, Medline, Pubmed, and PsycINFO were searched using the search strategy "(MoCA OR Montreal-Cognitive-Assessment) AND (dementia) AND (diagnos*)" as well as associated reference lists. Studies were included if they presented results from English-language MoCA screening of patients with a diagnosis of dementia or diagnostic criteria, and excluded if they examined impairment due to other conditions.

We identified 20 relevant studies that met the inclusion criteria. Of these, 17 presented optimal cut-off scores for dementia, ranging from 17 to 26, with a median score of 20.5 (mode=17 SD=4.8). Participants were recruited from specialist clinic settings (both for subjective cognitive impairment and unrelated geriatric issues), and population-derived samples.

Researchers have examined optimal cut-off MoCA scores as a screen for dementia, yet these scores and the methodology vary widely. Further, no data are currently available from primary care settings.

The research suggests a basis for applying the MoCA in this way, but there is a need for further research.

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63. Needs Assessment for Advance Care Planning in Primary Care Collaborative Memory Clinics

Linda Lee, Jennifer Lee, Karen Slonim, Loretta M. Hillier, Lindsay Donaldson

Primary Care Collaborative Memory Clinics (PCCMC) are in an ideal position to support advance care planning (ACP). This study aimed to identify ACP learning needs among PCCMC health care professionals.

At an annual education event, PCCMC members completed a questionnaire in which they rated their knowledge of ACP (5-point scale: not at all – extremely knowledgeable) and They rated their interest in learning (5-point scale: not at all – very much so) various ACP related topics (timing, documentation, communication, supportive resources for patients and families, social and cultural factors) and were asked to identify additional topics of interest.

Surveys were completed by 58 physicians (MDs), 59 registered nurses/registered practical nurses (RN/RPNs), 25 nurse practitioners (NPs), 37 social workers (SWs), 9 occupational therapists (OTs), 17 pharmacists, 32 Alzheimer Society staff members (AS), and 20 of other disciplines; N=257. Mean knowledge ratings were moderate (M=3.0; 85% provided ratings of 2 - 4).Mean ratings of interest in the ACP topics were all high, ranging from 3.6 for appropriate timing to initiate ACP to 4.1 for educational resources to support patients and families on ACP; ratings varied significantly by discipline for some topics, though there were no specific patterns to these differences. Additional topic areas were generated related to capacity assessment, health and financial power of attorney, public guardians and trustees and other legal considerations.

Health care professionals reported moderate levels of knowledge about ACP and they desired greater knowledge in all areas (clinical and legal) related to ACP.

Ongoing professional education should focus on all aspects of ACP.

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64. Advance Care Planning in Primary Care Collaborative Memory Clinics: Attitudes and Barriers to Engagement Among Health Care Professionals

Linda Linda, Jennifer Lee, Karen Slonim, Loretta Hillier, Lindsay Donaldson

Advance Care Planning (ACP) allows persons with dementia (PWD) and their care partners to achieve shared understanding of goals and preferences for future healthcare decisions. The purpose of this study was to assess ACP practices within Primary Care Collaborative Memory Clinics (PCCMC) and attitudes towards ACP.

PCCMC team members completed a questionnaire to assess ACP activities within PCCMCs and regular family practice settings, as well as perceived importance of ACP, attitudes, and barriers to ACP. Questions were rated on a 5-point Likert-type scale, with open-ended answers for identification of barriers.

257 surveys were completed by physicians (N=58), nurses (N=59), nurse practitioners (N=25), social workers (N=37), occupational therapists (N=9), pharmacists (N=17), Alzheimer Society representatives (N=32), and other disciplines (N=20). Despite the perception that ACP is very important for PWD (M=4.9), the majority of respondents estimated that 40% or fewer PWD have had ACP (N=141 and 133 for regular practice and memory clinics, respectively). Ratings of willingness to conduct ACP (M=3.7, 76% 2-4), and comfort level (M=3.4, 80% 2-4) were moderate; however, these significantly exceeded ratings of ability (M=2.9, 86% 2-4), and confidence (M=2.8, 85% 2-4), $\chi^2(3)=72$, $p<.001$. Mean ratings reflected perceptions that the PCCMCs have a high degree of responsibility for fostering ACP conversations (M=3.7, with 85% 3-5). Barriers included lack of time and knowledge.

PCCMCs members view ACP as an important and PCCMCs as a potential location to support this discussion. However, their self-reported ratings of knowledge and ability and level of comfort, confidence, and willingness to conduct ACP were moderate.

To optimize ACP delivery, there is need to improve health care practitioners' knowledge, skills, confidence and comfort with this aspect of care.

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65. Recruitment for Dementia-Related Research in Primary Care: Barriers and Facilitators

Miranda McDermott, Tejal Patel, Linda Lee, Karen Slonim

Recruitment from primary care has been identified as a way to increase enrollment into dementia-related research studies. The objective of this scoping review was to identify literature that examined common facilitators and barriers for recruitment in dementia-related research in primary care settings.

A search was performed for English articles from the past 10 years in the PubMed database using keywords and MESH terms such as "dementia" or "mild cognitive impairment"; "primary care" or "general practice"; and "recruit*" or "patient selection", which yielded 154 articles. Articles were excluded (n=145) if recruitment methods or dementia-related research was not studied, if the setting was not primary care, or if it was an opinion paper. The final sample included eight studies and one guideline.

Five studies looked at engaging physicians in dementia-related research; common barriers included physicians' lack of time to participate and potential risks to patients participating in research, and common facilitators included reducing the time burden of participation, online methods of study participation, and improving knowledge about dementia and its diagnosis. The guideline focused on research assistants' approach to recruitment of dementia patients. No common barriers of facilitators could be ascertained in studies addressing recruitment of patients with dementia (2/8) or their caregivers (1/8) in primary care. No study reported ethical dilemmas of recruitment of patients with dementia.

Study participants, aims and methodology, and aims of the research projects recruiting patients with dementia varied widely.

Some literature exists on the recruitment of primary care physicians to participate into dementia-related research studies; however, gaps in the literature remain with regards to the recruitment of patients with dementia or their care partners. Further research is needed.

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66. Educational and Organizational Approaches for Preventing and Reducing Harm From Falls: Two Systematic Reviews to Inform a Best Practice Guideline

Laura Legere, Susan McNeill, Julie Blain, Robert Lam, Michelle Rey

Falls among older adults commonly occur and have devastating impacts. Prevention is complex and requires clinical excellence and concerted efforts in health-care organizations. We conducted two systematic reviews as part of an initiative to develop a best practice guideline on fall prevention. The reviews addressed 1) educational approaches needed to educate health-care providers on fall prevention/injury reduction, and 2) organizational supports needed to prevent falls/injury from falls.

Two comprehensive searches were developed to examine educational and organizational fall prevention strategies and were conducted in seven and five academic health databases respectively. The search was limited to English language reviews of research published between 2011 and 2016, focusing on prevention of falls in adults. Reviews were independently screened for inclusion by two nurse researchers, with discrepancies tie-broken by a third. Research narrative summaries were generated following data extraction and quality appraisal of included reviews.

18 reviews were included. Eight reviews on educational strategies were identified that examined professional development for health-care staff in acute and long-term care settings. Some evidence suggests incorporating staff education into a multi-factorial prevention approach may reduce falls; however, there exists a lack of strong evidence to indicate how staff education may also be used as an implementation strategy for other fall prevention programs. In ten reviews on organizational approaches, multi-factorial prevention programs implemented by acute care settings showed some effectiveness, although the methodological quality of the reviews was weak.

Few numbers of high-quality reviews examining educational and organizational approaches for preventing falls were identified.

The existing evidence suggests support for multi-factorial approaches implemented at an organizational level that incorporate an element of staff education; however, further high-quality research is needed.

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67. Transition Coach (CTC) to Assist Frail Seniors in Transition from Hospital to the Community

Geneviève Lemay, Sara Leblond, Thérèse Antoun, Louise Carreau, El Moustafa Bouattane, John Joanisse, Linda Lessard, Mélanie Filion

Literature has reported that serious deficiencies in quality exist for patients undergoing transitions across sites of care. As part of a partnership with the Foundation for Health Care improvement and as a Best Practice Spotlight Organization, Hôpital Montfort has piloted a transition of care project using a CTC to improve care for frail seniors upon discharge from hospital to community.

An Advanced Practice Nurse (APN) led committee developed the new CTC role for high risk seniors admitted to medicine. The team used RNAO Best Practice Guidelines to better address chronic disease self-management and transition (from hospital to home) for patients and caregivers through visit(s) during hospitalization and with one to two post discharge phone calls.

Patient/caregiver satisfaction and quality of care transition was assessed using the Care Transitions Measure© (CTM-3) and the NRC picker survey. The compliance of medication reconciliation using the best medication history, re-admission rates to Hôpital Montfort and the number of confirmed family physician appointments post-discharge were tracked.

The APN in a role of Care Transition Coach provides an opportunity to implement best practices while improving care of the older adult during the transition from hospital to home.

As of April 2017, we expect a decrease in re-admission rates of patients followed by the CTC and a increase in patient satisfaction, demonstrating the impact of the APN-based CTC role.

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68. Decision-Making Capacity Assessment Education for Physicians

Charles Lesley, Jasneet Parmar, Suzette Bremault-Phillips, Bonnie Dobbs, Sacry Lori, Slugett Bryan

The objective of this study was to examine the training needs of family physicians (FPs) regarding Decision-Making Capacity Assessments (DMCAs) and ways in which training materials, based on a DMCA Model, might be adapted for use by FPs.

Design: A scoping review of the literature and qualitative research methodology (focus groups and structured interviews).

Setting: FPs practicing in a variety of settings: Primary Care, Day Programs, Home Living, Supportive/Assisted Living, Long-term Care, Restorative Care, Geriatric Clinic, and Geriatric inpatient/rehabilitation units in the Edmonton Zone, Alberta.

Participants: FPs who chose to attend a focus group on DMCAs.

A scoping review of the literature to examine the current status of physician education regarding assessment of decision-making capacity (DMC), and a focus group and interviews with FPs to ascertain the educational needs of FPs in this area.

Based on the scoping review of the literature, four main themes emerged: increasing saliency of DMCAs due to an aging population, sub-optimal DMCA training for physicians, inconsistent approaches to DMCA, and tension between autonomy and protection.

The findings of the focus groups and interviews indicate that, while FPs working as independent practitioners or on inter-professional (IP) teams are motivated to engage in

DMCAs and utilize the DMCA Model for those assessments, several factors impede them from conducting DMCAs. The most notable factors are a lack of education, isolation from IP teams, uneasiness around managing conflict with families, fear of liability, and concerns regarding remuneration.

This research project has helped to inform ways to better train and support FPs conducting DMCAs.

FPs are well-positioned, with proper training, to effectively conduct DMCAs. To engage in the process, however, the barriers should be addressed.

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69. Osteomyelitis and Myocardial Infarction, Severe Complications of Pancytopenia Associated With Leflunomide Toxicity in an Older Adult: a Case Report

Brendan Lew, Denise Keller, Joanne M.W. Ho, Shelley Parker

Pancytopenia is a potential consequence of leflunomide, a disease-modifying antirheumatic drug for autoimmune disorders. Older adults may be vulnerable to this adverse effect due to multimorbidity and polypharmacy, particularly when lower socioeconomic status complicates the drug monitoring process.

A 73-year-old man presented to emergency with weakness, melena, diarrhea, dysphagia and dyspnea. His past medical history included rheumatoid arthritis, hypertension, cholesterolemia, diabetes mellitus and ischemic heart disease. His rheumatoid arthritis was stable since adding leflunomide to methotrexate therapy 6 months ago. His work as a courier prevented him from receiving his routine bloodwork in the preceding months.

On admission, he was febrile, pancytopenic and fulfilled criteria for acute coronary syndrome and osteomyelitis. He received packed red blood cell and platelet transfusions, leucovorin rescue, neupogen and antibiotics. On day 3, the admission methotrexate level returned as negligible and his pancytopenia persisted therefore cholestyramine therapy was initiated to enhance leflunomide excretion. His cell counts rapidly recovered and he was discharged home.

Leflunomide's active metabolite, teriflunomide, has a long half-life of 15-18 days due to enterohepatic recycling, requiring up to 2 months to reach steady state Cholestyramine accelerates drug excretion and is an inexpensive treatment for a life-threatening toxicity, with better tolerability than activated charcoal. An Australian report showed the risk of pancytopenia with leflunomide increased 7-fold when used in combination with methotrexate. Therefore, monitoring for blood dyscrasias should be completed every two months, especially in older adults who may be at increased risk of toxicity.

This case of severe leflunomide toxicity in an older adult with comorbidities illustrates the importance of routine hematologic monitoring and the successful use of cholestyramine to promote excretion.

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70. Senior Friendly Hospital ACTION: Igniting Collaboration Within Organizations and Across the Province

Wendy Zeh, Ken Wong, Ada Tsang, Jesika Contreras, David Ryan, Rhonda Schwartz, Sharon Straus, Barbara A. Liu

A five-domain Senior Friendly Hospital (SFH) Framework guided the Ontario SFH Strategy, launched in 2011 and led by the Regional Geriatric Program of Toronto. This framework has provided the foundation for inquiry and priority-setting leading to the development of a collaborative comprising 87 hospitals working together to improve hospital care with and for older people across the province.

The hospital teams participating in the SFH ACTION (Accelerating Change Together In Ontario) Collaborative are engaged in a complex knowledge-to-practice (KTP) implementation comprising training on SFH principles, interprofessional teamwork, quality improvement methods, and change leadership. Supported by coaching, webinars, evaluation and feedback, the Collaborative shares success strategies, resources and tools while implementing locally identified improvement projects.

Guided by the Kirkpatrick learning outcomes model, evaluation of this KTP process includes subjective ratings of KTP events and collaborative activity; resource sharing metrics; pre-post ratings of self-efficacy, and progress on attaining project outcomes using the Progress Assessment Scale (PAS).

Over 400 health care providers from 87 hospitals participate in the Collaborative. Improvement targets include: delirium (39% of projects), mobilization/preventing functional decline (30%), responsive behaviours (5%), other (26%). Interim results demonstrate high participation in collaboration events; 26 shared tools; improvement in all 11 self-efficacy areas, and significant progress in 54 of 90 (60%) SFH projects. The remaining projects are in the planning (23%) and testing phases (17%). Updated evaluation results will be presented.

This complex knowledge-to-practice process that is focused on senior friendly care improvement projects is unique in Ontario and possible Canada. Valuable learning has taken place to inform sustainability and spread of senior friendly hospitals.

The SFH ACTION Collaborative has demonstrated improved capacity for quality improvement in participating hospitals, as well as significant progress on organizations' improvement goals related to senior friendly care. Importantly, the Collaborative has also made SFH improvement work a shared process across the province.

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71. Senior Friendly Care Framework Development Using a Modified Delphi Process

Jesika Contreras, David Ryan, Ken Wong, Wendy Zeh, Ada Tsang, Rhonda Schwartz, Linda Jackson, Valerie Scarfone, Barbara A. Liu

The healthcare needs of frail seniors involve an interplay of medical, psychological, functional, and social dimensions. Since 2011, the Senior Friendly Hospital framework has successfully guided the Ontario SFH Strategy. However, seniors require services from across the healthcare continuum. Our objective is to evolve the SFH framework into a Senior Friendly Care (sfCare) framework that can be applied across all sectors of the system to improve care for frail seniors.

We conducted a search of MEDLINE, EMBASE, and CINAHL and the "grey" literature for frameworks and models of care for frail seniors in all healthcare sectors. Two independent reviewers coded the content of the identified articles using the original SFH domains as an a priori framework. A third reviewer participated in the thematic analysis, clustering of coded content and derivation of statements to define each domain of the a priori framework. Through a modified Delphi process, an expert panel will rate the importance of the statements and the appropriateness of the assigned domain.

We included 55 full papers and 23 reports from the grey literature. The thematic analysis has led to 5 new statements in each of organizational support, processes of care, emotional and behavioral environment, and 1 in ethics in clinical care and research. We have engaged 23 experts to participate in the Delphi panel. Representation on the panel reflects all health care sectors, urban and rural geographies, health professions, policy makers and older persons and family members.

The SFH framework has been effectively applied as a holistic, organization-wide template for quality improvement and practice change. The literature supports the framework in its current form. Additional themes were identified within each domain that warrant consideration and input from an expert panel.

The successful SFH framework is evolving into a sfCare framework using a qualitative thematic analysis of the published and grey literature and modified Delphi panel. The framework and preliminary consensus statements will be presented.

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72. Aerobic Training and Cerebral Autoregulation in Older Adults at High Cardiometabolic Risk

Kenneth Madden, Darcye Cuff, Graydon Meneilly

Older adults are at high risk for syncope due to orthostatic intolerance, and this risk increases with co-morbid Type 2 diabetes and vasoactive medications. Despite many benefits, the impact of aerobic training on cerebral autoregulation remains unclear. We examined whether aerobic training could improve cerebral autoregulation in older adults with Type 2 diabetes, hypertension and hypercholesterolemia during upright tilting with a short-acting vasoactive agent (nitroglycerin, GTN).

Forty older adults (25 males and 15 females, mean age 71.4±0.7, ranging in age from 65 to 83) were recruited. Subjects were randomized to each of 2 groups: an aerobic group (AT, 3 months vigorous aerobic exercise), and a nonaerobic (NA, no aerobic exercise) group. Exercise sessions were supervised by a certified exercise trainer 3 times per week. After being given 400 micrograms of sublingual nitroglycerin, each subject was placed in a 70 degree head-up tilt for 30 minutes. Middle Cerebral Artery (MCA) Doppler was used to measure cerebral blood flow during augmented tilt.

When the two groups were compared using a truncated regression, tilt table tolerance (TTT) was significantly better in the AT group as compared to the NA group (4.6±0.2 minutes longer in the AT group, $p<.001$). There was no difference in minimum systolic, mean or diastolic MCA velocity between the two groups.

The lack of a training effect on doppler measures of MCA blood flow indicate that the observed improvement in orthostatic tolerance during augmented tilt is due to mechanisms other than changes in cerebral autoregulation.

Our findings indicate that although a relatively short aerobic exercise intervention can successfully improve post-GTN orthostatic tolerance in older adults with Type 2 diabetes, aerobic training has no impact on cerebral autoregulation in older adults at high cardiometabolic risk. Aerobic training should be considered as a potential therapy for orthostatic intolerance in older adults on vasoactive medications.

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73. Evaluation of Geriatric Undergraduate Curriculum at the University of Ottawa and Beyond

Jasmine Mah, Anna Byszewski, Geneviève Lemay, Glara Gaeun Rhee, Jacinta Peel, Adam Rocker, Daniel Weiss, Phillip Tsang

With the rapidly growing elderly population in Canada, there is a critical need for strong geriatric foundations in undergraduate medical education. Currently, the Canadian Geriatrics Society (CGS) "core competencies in the care of older persons" is a framework that guides the development of geriatric curriculum in Canadian medical schools.

The objective of this study is to compare the University of Ottawa's geriatric curriculum with the CGS core competencies, and the ultimate goal is to draft a curriculum change. This study also compares the

University of Ottawa's geriatric pre-clerkship curriculum with the curricula of the other Canadian medical schools, and reviews the undergraduate geriatric activities of these schools using simple descriptive statistics and constant comparative method.

The seventeen Canadian medical schools were contacted, of which two schools did not respond to our requests, one school had no dedicated geriatric curriculum and three others were undergoing a similar evaluation of their geriatric content. Broadly, the core competencies that were most consistently met were cognitive impairment and functional assessment. The least consistently met was adverse events. Geriatric topics that were not covered by the CGS competences included elder abuse, frailty and quality of life.

Our preliminary findings suggest that undergraduate geriatric curricula are very heterogeneous in both focus and execution. The study encountered challenges throughout the data collection process, such as difficulties identifying key informants within the medical schools and standardizing metrics of geriatric curriculum.

This study illustrates which CGS competencies are addressed, and the degree of emphasis placed on them. Ultimately, the study will review the strengths and weaknesses of the University of Ottawa's pre-clerkship geriatrics curriculum with a plan to restructure the curriculum to better address areas of deficiency.

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74. Interprofessional Geriatric Day Hospital Chronic Pain Management Benefits Sustained

Greta Mah, Patrick Chu, Gabriel Chan, Roula Mandas, Timmy Olanubi, Marlene Lum, Renee Heitner, Felina Dellaposta, Mary Ellen McGeachie, Dominic Chu, Feng Chang, Norma McCormack, Susan Woollard

Chronic pain affects function, quality of life and increases falls risk in older adults.

Objective: To assess the impact of interprofessional pain management in the community setting.

Patients admitted to Geriatric Day Hospital (GDH) with chronic pain (visual analogue pain – VAP scale ≥ 4) were included. They attended this half day program twice weekly for 8 to 10 weeks. Interprofessional team utilizes a holistic, patient-centered approach to manage pain. Individualized interventions include: (1) appropriate medication based on pain etiology and comorbidities (2) monitoring treatment adherence, efficacy and side effects (3) education on regular analgesia administration and relaxation or distraction strategies (4) counselling and family support (5) walking aids and exercise routines (6) gentle manual therapies, for example, Bowen therapy and manual lymphatic drainage (7) linking to exercise and social programs.

30% of patients attended GDH from 2014 May to 2016 Aug experienced chronic pain and were included. Average age of these 121 patients was 80 years. 62% were female. 45% suffered pain from back, 17% from knees and10% from shoulder. Most common etiology of pain was osteoarthritis (48%), followed by spinal stenosis or degenerative disc disease (25%), muscular pain (9%), peripheral or diabetic neuropathy (7%), compression fracture (5%) and fibromyalgia (2%). Perception of pain: VAP scale reduced from 6.22/10 (pre) to 2.67/10 (post) and maintained at 2.95/10 (3 mo.). Improvement in quality of life was observed: physical score increased from (pre) 32.84 to (post) 38.57 and 40.00 (3 mo.). Mental score increased from (pre) 45.46 to (post) 50.97 and 51.60 (3 mo.).

Interprofessional approach was found to effectively improve pain control and quality of life in elderly patients in the community.

Benefits were sustained for at least 3 months.

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75. Frailty in Older (>50 Years) Adults Living with Human Immunodeficiency Virus (HIV)

Jacqueline McMillan, David Hogan, John Gill, Hartmut Krentz

An emerging concern for older HIV infected patients is frailty. In the few studies done to date, frailty has been more commonly identified at younger ages in individuals with HIV when compared to non-infected individuals.

The Southern Alberta Clinic (SAC) provides centralized HIV care to all patients in southern Alberta. SAC has introduced annual screening for frailty on all patients >50 years of age. Testing consists of grip strength using a dynamometer, a timed 6-meter walk, two questions about exhaustion, and a 12-item validated questionnaire assessing physical limitations, to determine frailty using an adaptation of the Cardiovascular Heart Study frailty phenotype. Clinicians will also complete the Canadian Study of Health and Aging Clinical Frailty Scale. A third frailty measure will be the calculation of a frailty index (FI) using standard methodology.

This study is in progress. Preliminary data on the first 18 patients, include 12 males and 6 females, with a mean age of 73.3 years (range 50 to 87 years) and mean duration of infection of 17.7 years (range 4 to 31 years). Seven of 18 clients score ≥4 on the Clinical Frailty Scale suggesting the presence of frailty (41%). Eight of 18 clients have grip strength measurements at or below the 5th percentile. Five of 18 clients have slow walking speed and one-third report frequent exhaustion.

These results are preliminary. There are 688 clients who are over the age of 50 years. Early analysis of the data suggests that this is a vulnerable group who are at risk medically, functionally and socially.

Potential long-term implications of this research project range from better care of aging PLWHA to improved planning for future clinic and societal resources that will be needed to care for HIV-infected patients.

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76. Increasing Research Value with Sex-Specific Reporting of Data: the Cholinesterase Inhibitor Example

Nishila Mehta, Craig Rodrigues, Manpreet Lamba, Wei Wu, Susan Bronskill, Nathan Herrmann, Sudeep Gill, An Wen Chan, Robin Mason, Suzanne Day, Paula Rochon

Drug trials routinely collect data on age and sex, yet seldom report results separately by sex, and thus cannot inform our understanding of differences between women and men on the benefits and harms of drug therapy. Consequently, valuable, readily available data are wasted, resulting in a missed opportunity to increase research value. We aimed to quantify this data gap through examining drug trials of cholinesterase inhibitor (ChEI) therapies for dementia, a condition that increases with age and disproportionately affects women.

A systematic review was performed of randomized controlled trials (RCTs) of oral formulations of cholinesterase inhibitors (donepezil, rivastigimine or galantamine) with clinical outcomes, identified from electronic searches of databases. Sex-specific data were extracted from eight sections of each article (i.e. methods. results, etc.). For donepezil trials, the most widely used ChEI, detailed data on adverse events were obtained.

In all, 33 RCTs were evaluated, in which 57% of total participants were women and the weighted average age of participants was 74.1 years. These trials were highly cited and published in high impact journals. In the title, introduction, limitations and conclusion sections, no article mentioned sex. In the abstract section, 3 (9%) articles mentioned sex (all as a demographic characteristic). In the methods section, 6 (18%) articles mentioned sex. For the results section, almost all 32 (97%) trials mentioned sex (all as a demographic characteristic in a table). Among the donepezil trials, no trial provided sex-specific reporting of adverse events.

Through this analysis, we see that there is an almost complete lack of sex-specific reporting of data in clinical trials for dementia drug therapies.

Sex-specific reporting of data should be required in all trials to increase research value.

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77. Impact of Side Effects on Adherence to Antidepressants Among Older Adults Covered by a Public Drug Insurance Plan in Quebec

Raymond Milan, Helen-Maria Vasiliadis, Djamal Berbich

Canada has recently seen an increase in the geriatric population. Similarly, the use of new generation antidepressants, for psychiatric and non-psychiatric indications, in this population followed this same trend. However, between 44% and 52% of patients discontinued their medication after 3 months. The occurrence of side effects is an important factor related to non-adherence to antidepressants. Studies that evaluated the impact of side effects on antidepressant usage included adults aged 18 years and older. No study so far has been carried out in Canada using only patients aged 65 years or older and covered by public drug insurance plan in Quebec.

Data used in this study came from the ESA-Services study, conducted in 2011-2016 using a large sample of older adults (n=1811) aged 65 years or older waiting for medical services in primary health clinics in one of the health regions of Quebec. Side effects associated with antidepressants were self-reported using an adapted questionnaire based on the Patient rated inventory side effect list and the FIBSER scale. Medication adherence was measured using the medication possession ratio over 6 and 12 months. Adherence was also self-reported using the 8-item Morisky Medication Adherence Scale (MMAS-8) over a 6-month period. Multivariate logistic regressions were used to model medication adherence as a function of study variables.

There is a differential association between side effects and adherence to antidepressants depending on gender and psychiatric diagnosis.

First study in Canada to identify side effects that influence adherence to antidepressants among older adults covered by public drug insurance in Quebec.

This study will identify vulnerable people in order to reduce relapse and chronicity of the conditions that an antidepressant was prescribed for.

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78. A Driving Cessation Decision-Making and Coping Framework and Toolkit for People with Dementia

Gary Naglie, Sarah Sanford, Michel Bédard, Holly Tuokko, Barbara Mazer, Michelle Porter, Paige Moorhouse, Jan Polgar, Mark J. Rapoport, on Behalf of the Canadian Consortium on Neurodegeneration in Aging Driving and Dementia Team

Drivers with dementia and their families inevitably face the need to make decisions about driving, and driving retirement marks a major life transition associated with many negative health and social implications. This research aims to address gaps in support for driving cessation for persons with dementia and their caregivers.

We conducted a range of research activities to develop an evidence-informed framework to organize driving cessation interventions. These activities include

systematic reviews on topics related to driving cessation and a qualitative study to explore the perspectives of key informants on strategies to support decision-making and the transition to non-driving. We completed a meta-synthesis of findings to identify the important elements for inclusion in a driving cessation intervention. Existing tools and resources on driving cessation were also collected, reviewed and organized according to the thematic areas.

Based on the results from the meta-synthesis, we have developed a framework to organize interventions according to different content areas (e.g., education and awareness, grief and loss, and community access) that depict the various needs of drivers and former drivers with dementia, and their caregivers, along with corresponding tools to address these. We identified the need to balance practical, problem-based responses with those that address the emotional and meaning-oriented effects of driving cessation in the context of dementia.

The driving cessation framework and toolkit offers an approach that addresses and integrates a range of practical and emotional needs specific to persons with dementia and their caregivers.

The driving cessation and decision-making and coping framework and toolkit will increase the accessibility of available resources, and has the potential to enhance the safety, quality of life and social inclusion of individuals with dementia and their caregivers.

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79. Elder Abuse Interventions in Immigrant Communities—a Systematic Review

Syed Naqvi, Ryhana Dawood, Raza Naqvi

Researchers project that by 2030 a third of the Canadian population will be 60 years old or above. Currently Canadian immigrants make up a significant proportion of the senior population. Given that the median age is higher for immigrants than the native born population, we can expect that first generation and immigrant senior populations will continue to grow. For all seniors, however, regardless of cultural background, elder abuse is a serious issue that is not easily identified in clinical settings. Furthermore, we know little about how to effectively combat elder abuse especially among immigrants as there may be several unique factors such as cultural norms, financial dependency on children, extended family structures, etc. This study will carry out a systematic review regarding interventions that have been used to combat elder abuse in immigrant communities across the world.

A systematic search of MEDLINE, EMBASE, and the Cochrane Library will be conducted. Criteria regarding eligible studies will be established. Two independent reviewers will review the abstracts based on the eligibility criteria. Full-text review will be carried out for relevant studies and data will be extracted in a systematic manner.

The results are pending and will be available for the 2017 ASM.

This study seeks to collate and analyze interventions that target elder abuse in immigrant communities across the world. This may help shed light on whether more research is needed and which interventions work best for specific immigrant communities.

The results of this review will help Canadian healthcare professionals and policy makers understand the interventions targeting elder abuse in immigrants that have been carried out and help guide the development of practices best suited for the diverse Canadian senior immigrant population.

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80. Accelerometry and Godin Leisure-Time Questionnaire Relationship in Men on ADT for Prostate Cancer

Meagan O'Neill, Daniel Santa Mina, Catherine Sabiston, George Tomlinson, Shabbir M. H. Alibhai

Prostate cancer (PC) is the most commonly diagnosed cancer in North American men. Research has shown physical activity (PA) improves multiple side effects which men with PC can experience. However, most men with PC do not meet the recommended PA levels. Accurately assessing PA levels allows for proper reporting and prescription. Accelerometry (AC) and the Godin-Shephard Leisure-Time PA (Godin) Questionnaire evaluate PA and moderate to vigorous PA (MVPA). While AC is considered the gold standard, Godin is a one-page, easy to administer questionnaire. There has been no study assessing the agreement between the two measures.

Godin and AC measures were taken as part of an exercise trial for older men on Androgen Deprivation Therapy for PC. Measures were taken at each assessment, once every 3 months for 1 year and participants completed a Godin questionnaire and wore an AC for one week. Statistical analyses included comparing median MVPA minutes and Spearman's correlation coefficient.

We analyzed a total of 130 time points. Participants' mean age was 70 years old, they were mostly Caucasian (71%), married (69%), and retired (64%). The median amount of time in MVPA from the Godin was 60 minutes, compared to the AC at 106.5 minutes. The number of time points found meeting MVPA criteria were 38 from Godin and 44 from AC. Spearman's correlation between the Godin and AC was poor at 0.133, and the concordance correlation coefficient was also poor at 0.147.

Our preliminary analysis suggests a weak correlation and agreement between the two measures. The Godin appears to underreport PA compared to the AC, which may be due to definitions of MVPA.

Further analysis with a larger sample size and robust endpoints should be completed.

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81. Administration of Intravenous Therapy in Long-Term Care: Caregiver and Key Stakeholder Perspectives

Alexandra Papaioannou, Denis O'Donnell, George Ioannidis, Afeez A. Hazzan, Hrishi Navare, Daphne Broadhurst, Loretta M. Hillier, Diane Simpson, Mark Loeb

In Ontario, intravenous (IV) therapy is typically not available in long-term care (LTC), requiring residents to receive this in hospital. The purpose of this study was to obtain key stakeholder perceptions of the administration of IV therapy for antibiotic treatment of infections and hydration within LTC homes to avoid hospital transfers and facilitate early discharge from hospital.

An IV therapy service was pilot-tested over nine months in four LTC homes in the Hamilton-Niagara region. A number of resources were developed to facilitate implementation including clinical pathways for infections, pharmacist and nurse practitioner-led triage support and nursing services to provide just-in-time training. Interviews were conducted with six caregivers of residents who received IV therapy and ten key stakeholders representing LTC home staff and service partners to assess their perceptions of the service. A chart review was conducted to describe service implementation.

Twelve residents received IV therapy, nine for hydration and three for antibiotic treatment. This service potentially avoided nine emergency department visits and reduced hospital lengths of stay for three residents whose IV therapy was initiated in hospital. There were no adverse events. The service was well received by caregivers and key stakeholders as it was provided in a familiar environment with familiar care providers, was considered less stressful for residents and caregivers and was perceived as better quality care than care in-hospital. All key stakeholders were in favor of widespread implementation.

IV therapy is feasible to implement in LTC homes when there are educational, nursing and pharmacy supports as well as clinical pathways to support decision-making.

This service increases LTC home capacity to provide medical treatment and potentially improves health outcomes and quality of life.

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82. Impact of Comorbidity Among Older Adults Living in North West LHIN Admitted for Medical Issues

Alexandrea Peel, Iris Gutmanis, Trevor Bon

This study assessed the impact of comorbidity on mortality and morbidity among older adults in the North West Local Health Integration Network (NW LHIN), where hospitalization rates for many chronic health issues exceeds that for Ontario.

This retrospective cohort study examined healthcare utilization among community-dwelling older adults (aged 65 or more) who were admitted to a medical service at the Thunder Bay Regional Health Science Centre (TBRHSC) between April 1, 2004 and March 31, 2013. Survival and logistic regression were used to determine the impact of comorbidity, as measured by the Charlson Comorbidity Index, on in-hospital and 1-year mortality as well as 1-year readmission rates in the year following index admission discharge.

During the 10 study years, 12,033 people (47.1% male, aged 65-103 years) were admitted to TBRHSC (97.9% lived in the LHIN; 21.0% were transfers to TBRHSC; 6.5% in-hospital mortality). At index admission, 32.9% had COPD, 20.9% had cancer, and 17.9% had congestive heart failure. Further, 36.4% had no comorbidities while 21.2% had three or more. Odds of in-hospital mortality increased by number of comorbidities (2.5 (0 vs.1 comorbidity) vs. 3.1 (0 vs. 2) vs. 7.1 (0 vs. 3+). The hazard ratio associated with 1-year mortality increased from 1.6 (0 vs. 1) to 5.5 (0 vs. 3+). The hazard ratio associated with 1-year readmission increased from 1.2 (0 vs. 1) to 1.7 (0 vs. 3+).

Older adults with multiple comorbidities have a higher risk of mortality, especially during acute episodes that require hospital admission, perhaps due to care siloed by disease categories.

Older NW LHIN residents, especially those admitted to acute care with three or more comorbidities, require regionally coordinated, comprehensive assessment and care for all concurrent health issues.

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83. Prognostic Significance of a Prolonged International Normalized Ratio in Elderly Patients in an Internal Medicine Ward

Galina Plotnikov, Oleg Gorelic, Lior Bracha, Moshe Tishler, Shimon Izhakian

To investigate clinical characteristics and the prognostic significance of a prolonged international normalized ratio (INR) without obvious cause or anticoagulant treatment, in elderly inpatients.

Demographic, clinical, and laboratory data, in-hospital death and 30 day-mortality were prospectively registered for 100 consecutive patients aged $\geq$ 75 years admitted to an internal medicine ward for a variety of acute medical disorders, and compared according to normal ($\leq$1.15) and prolonged (>1.15) INR on admission. Exclusion criteria were: anticoagulant therapy, disseminated intravascular

coagulopathy, acute bleeding, liver disease, active malignant disorder, and known coagulopathy.

Prolonged INR was found in 52% of patients. Patients with prolonged INR tended more likely to present with dementia and pressure sores than patients with normal INR. Moreover, patients with prolonged INR more often needed assisted feeding and presented lower mean levels of serum albumin on admission. In-hospital (21.2% vs. 6.2%) and 30-day (32.7% vs. 6.2%) mortality rates were significantly higher in patients with prolonged INRs . On stepwise logistic regression analysis, prolonged INR strongly predicted 30-day mortality (p = .004, relative risk 1.67, 95% confidence interval 1.07–2.60).

The main novelty of the present study is the demonstration of clinical significance of prolonged INR without obvious cause or anticoagulant treatment.Increased mortality may be related to a more severe clinical profile and poor nutrition, particularly for nutritional deficiency of vitamin K, resulting in diminished host defense and systemic recovery.

Prolonged INR without obvious cause is common among elderly patients admitted to an internal medicine ward, and is associated with a severe clinical profile. Prolonged INR is a powerful predictor of 30-day mortality. Assessment of INR my improve risk stratification for elderly inpatients.

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84. A Qualitative Systematic Review of the Healthcare Experiences of Persons with Dementia and Their Caregivers in Primary and Secondary Care

Jeanette Prorok, Colleen McMillan, Mark Oremus, Paul Stolee

While research interest in healthcare experiences has grown, to date no measure of experience for persons with dementia and their caregivers has been developed. Phase 1 (qualitative systematic review and thematic synthesis) results of a three-phase study to develop such a measure are presented.

The MEDLINE, Embase, and PsycINFO electronic databases were searched to identify relevant articles. Records were screened in duplicate. Study characteristics, methodologies, and results were abstracted from the included studies. A thematic synthesis was undertaken. A healthcare experiences framework was developed to guide the development of measure domains.

The titles and abstracts of 2911 unique citations were screened in duplicate. 254 records underwent full-text review. 87 articles met inclusion criteria. Agreement was found to be very good between screeners, with Kappas of 0.837 and 0.847 for the title/abstract and full-text screening respectively. An additional four articles were included through hand searching, resulting in a final number of 91 included articles. Thematic synthesis generated 11 descriptive themes which included relationships with healthcare providers, coordination of care, supports and services, role and identity, and communication, among others. The analytical themes derived from these themes formed the basis of the framework.

The next phase of the study will seek input from persons with dementia and caregivers on Phase 1 results, including the framework, measure domains, and aspects of the measure itself such as the items, readability, and other feedback. Psychometric testing of the developed and refined measure will occur in Phase 3.

This review supports development of a multidimensional measure of health care experience for persons with dementia and their caregivers.

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85. Exploring the Geriatric Needs of Oncology Inpatients at an Academic Cancer Centre

Carla Rosario, Martine Puts, Raymond Jang, Andrea Bezjak, Daniel Yokom, Shabbir M.H. Alibhai

Geriatric Assessments (“GAs”) in older adults with cancer have informed treatment decision-making and refined survival prediction. However in geriatric oncology literature little is known about the geriatric needs of older inpatients with cancer. Our Objectives included: (1) to test the feasibility of a bedside GA for older cancer inpatients, and (2) to determine the prevalence of impairments in geriatric domains in older adult inpatients with cancer.

Cross-sectional observational single-centre pilot study. Structured GAs were performed on patients admitted to inpatient wards at Princess Margaret Cancer Centre. Eligible patients were age 65+, cancer diagnosis of any stage, English-speaking, and admitted to a medical or radiation oncology ward. We used a validated questionnaire to examine the needs of older patients by assessing typical domains of the GA. The summary of GA findings was shared with the patient’s most responsible physician.

23 patients have been approached and 21 were enrolled (recruitment rate 91%). Completion of the GA was possible in 95% of patients (20/21). Average time to complete the assessment was 35 mins. The mean number of geriatric domains impaired per patient was 4, with polypharmacy (18/20), mood (15/20) and increased falls risk (15/20) being the most common abnormal domains. Attending physicians responded to our survey for 10 of 20 participants (50% response rate), and 7 of 10 indicated that the results of the GA provided helpful information for the management of their patients.

Abnormal geriatric domains are commonly detected, and bringing those abnormal domains to the attention of the attending physicians may be helpful in the management of older cancer patients.

A structured GA is feasible in older inpatients with cancer and will aid to deliver comprehensive care to Geriatrics Oncology patients.

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86. Validating the Clinical Frailty Scale and Exploring Pre-Frailty in Community-Dwelling Older Adults with Pre-Clinical Disability

Gabriela Rozanski, Ada Tang, Gabriela Rozanski, Julie Gourlay, Kelsey Jack, Christina Nowak

Pre-frailty and pre-clinical disability are both transitional states of declining physical function, but there is a lack of understanding about how measures of these constructs relate. One assessment tool with high potential for practicability, the Clinical Frailty Scale (CFS), has not been fully validated. Thus, the objectives were to 1) determine the frailty status of older adults with pre-clinical disability; and 2) examine the construct validity of the CFS in identifying individuals who are pre-frail.

Thirty-one community-dwelling older adults (age 71.9 ± 8.0 years, 52% male) with pre-clinical disability were assessed using the CFS and the established Fried's Frailty Phenotype (FFP). Physical performance measures (Six-Minute Walk Test, grip strength, knee extensor strength, Four-meter Walk Test for gait speed, Five Times Sit to Stand test) were administered and considered as possible correlates with the CFS and FFP.

Twenty-three (74%) participants were classified as pre-frail according to FFP. There was no difference in CFS scores between individuals identified as robust and pre-frail by FFP (median 2.5 and 3.5, respectively; p=.91) and the CFS did not correlate with any of the physical performance measures (|ρ|=0.02-0.30). FFP scores correlated with gait speed (ρ=-0.51, *p*=.007).

Our findings suggest that pre-clinical disability and pre-frailty are not mutually exclusive constructs. CFS scores did not discriminate between robust and pre-frail participants; rather, based on its correlation with FFP, gait speed may be a useful screening tool for stages of frailty.

The use of the CFS to identify individuals who are pre-frail is not supported by the current study. Further research is warranted to investigate the relationship between pre-clinical disability and pre-frailty as well as to explore clinically-feasible methods of detecting these vulnerable states.

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87. How Do Falls Impact Cancer Treatment in Older Cancer Patients?

Schroder Sattar, Shabbir M. H. Alibhai, Sandra Spoelstra, Martine Puts

Little is known about the circumstances of falls, how falls are assessed in oncology clinics, and the impact of falls on cancer treatment in older cancer patients. The purpose of this study is to address these important gaps in geriatric oncology.

This is an embedded mixed-methods cross-sectional study. We are recruiting 100 community-dwelling older cancer patients at the Princess Margaret Hospital in Toronto, Ontario who have experienced ≥ one fall within the past 12 months. Methods of data collection include self-reported survey supplemented by chart review and oncologist survey.

To date, 35 older cancer patients have participated. The median age is 78 (range 66-92). Thirty (86%) are male. Five participants (14%) live alone. Twenty-three (66%) have ≥ one functional limitation. Nineteen (54%) use a walking aid. Eight (23%) have peripheral neuropathies. The most common cancer diagnoses are prostate and hematological cancers. Eighteen(51%) have experienced more than one fall. The injurious fall rate is 54%. Injuries reported include bruise, abrasion, bleeding, broken nose/ tooth, and rib/ hip fractures. The most common locations of falls are staircase, sidewalk curb, and washroom. So far, no impact on cancer treatment by falls has been identified by either patients or oncologists. Half the participants did not report their falls to their oncologists; of those who did, few were assessed. Nearly half of the participants express high concerns about falling.

Falls are uncommonly reported by older cancer patients to their oncologists, are rarely assessed by oncologists, and do not affect cancer treatment.

More work needs to be done to assess whether cancer treatments are associated with falls risk.

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88. The Canadian Frailty Priority Setting Partnership

Jennifer Bethell, Schroder Sattar, Martine Puts, Melissa Andrew, Ana Patricia Ayala, Jenny Ploeg, Carlo Deangelis, Jacobi Elliott, Chris Frank, Souraya Sidani, Katherine McGilton

Guided by the principles of active engagement of key stakeholders in the process of priority setting, the objective of the Canadian Frailty Priority-setting Partnership (PSP) is to identify the "top ten" frailty research priorities by consensus of Canadians living with frailty, their caregivers, health and social care providers and the public.

The Canadian Frailty PSP follows the James Lind Alliance (JLA – a non-profit initiative of the UK National Institute for Health Research and Medical Research Council) method—which includes setting up a priority—setting partnership, gathering uncertainties, data processing, interim and final prioritizing, disseminating and publishing the "top ten" priorities, taking the priorities

to researcher funders, and follow up. This project is overseen by a Steering Group which includes frail older adults, caregivers, and medical and social care providers in consultation with the JLA.

We developed a questionnaire based on the template of the JLA. The questionnaire has been translated from English to French and is being circulated across Canada in collaboration with the Canadian Frailty Network, health professional and social care organizations, as well as national, provincial and local charities and senior organizations, seeking to engage a broad representation of people who encounter frailty.

Next steps: The research questions generated by this questionnaire will continue to be refined, systematically checked against current research evidence, and then prioritized through a two-stage process, which includes an interim prioritization for short-listing and then a face-to-face meeting in the form of group discussions and plenary sessions to reach the final ten prioritized uncertainties.

This project will develop the top 10 Canadian Frailty research priorities to help improve care and quality of life of those living with frailty.

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89. Improved Constipation Assessment and Interventions in the Elderly

Sheena Schuck, Karen Truter, Kayleen Peters

Constipation is a frequent health concern for elderly persons and their care providers. Constipation is associated with increased incidence of delirium, urinary and fecal incontinence, depression and a decreased overall health quality of life. Few resources however, are available to health care providers to guide them in an evidence-based approach to this common problem. A significant event leading to negative patient outcomes caused by a lack of timely assessment and response was a catalyst to re-evaluate the Geriatric Inpatient Rehabilitation Unit's approach to constipation management.

Objective: Can the use of a constipation management guideline and staff education decrease constipation in the elderly on a Geriatric Inpatient Rehabilitation Unit?

Plan, Do, Study, Act (PDSA) quality improvement methodology was used.

- Nurse practitioners reviewed the literature for evidence based practices regarding constipation assessment and management in the elderly.
- A Constipation Management Guideline was developed.
- A validated assessment tool "The Bristol Stool chart" was introduced.
- Multimodal staff education was provided.
- Chart audits, patient and staff satisfaction surveys evaluated constipation assessment, intervention and patient satisfaction with constipation care.

1. Staff assessment, intervention and documentation of constipation improved.
2. Fewer patients were constipated.
3. Patients felt that their constipation was treated and they "felt better," however, opportunities were identified to better support the patient's "experience" with constipation.
4. 100% of staff surveyed identified that the constipation guidelines were meaningful to their practice.

Nurses' understanding of the adverse outcomes of constipation as well as their values and beliefs towards patients' experience with constipation can affect their perceived value of the constipation guideline and subsequent interventions utilized.

Constipation guidelines can improve staff assessment and intervention for patients' with constipation on a Geriatric Rehabilitation Unit.

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90. Advanced Directives in Medical Aid in Dying: a Survey of Canadian Geriatricians and Care Providers

Emma Scotchmer, Raza Naqvi

Bill C-14 recently passed in Canada, allowing adults who are capable and have a grievous, irremediable condition to have medical aid in dying (MAID). The law stipulates patients must be capable at the time of making the decision and when they receive assisted dying. Therefore, creating an advanced directive for MAID is currently illegal. However, in some European countries, e.g. Netherlands, advanced directives for MAID are permitted for people who will become incapable, such as people with dementia. This survey's purpose was to probe deeper into this ethical topic and obtain perspectives of clinicians who may have to consider these issues in the future.

An online survey was distributed to geriatricians, medical students, and other physician groups. There were 15 quantitative questions, 2 cases and an optional comments section. Results were compiled and reviewed by two independent reviewers.

There were 72 survey respondents; the majority were geriatricians (43.7%), medical learners (35.3%) and internal medicine specialists (12.7%). The survey demonstrated conflicting results between clinicians about whether they would be able to assist someone with dementia with an advanced directive for MAID.

There were many ethical and personal issues that clinicians raised under different circumstances. Of note, several clinicians would want MAID themselves if they had dementia, but were hesitant to provide it for a patient. Another important topic that clinicians presented in this survey was the need for accessible palliative care for patients with dementia.

This survey showed a need for better education for physicians and families on how to discuss end of life care appropriately with the different available choices, the complexities of their decisions in the future and the emotional challenges that will be faced.

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91. Association Between the Motoric Cognitive Risk Syndrome and Cardiovascular Risk Factors in the European Population; Result from a Cross-Sectional Study

Harmehr Sekhon, Cyrille Launay, Gilles Allali, Julia Chabot, Olivier Beauchet

Motoric Cognitive Risk (MCR) syndrome is a new clinical syndrome, which precedes dementia. MCR syndrome is in particular a strong predictor of vascular dementia. Few have examined the association between cardiovascular risk factor and motoric cognitive risk syndrome. Significant associations have been reported in the American and Japanese populations. There is no information in the European population. The objective of this study was to examine the association of the MCR syndrome with cardiovascular risk factors the European population.

A total of 238, individuals were recruited in this cross sectional study. The prevalence of MCR was 16.8 (n=40).

Diabetes, waist hip ratio, cardiovascular diseases, body mass index, waist hip ratio and hypertension were cardiovascular risk factor examined measured. Age, sex and number of therapeutic classes taken daily have been used as covariates.

The MCR syndrome was associated with a number of therapeutic classes taken daily (p=.010), high value of body mass index (p<.001) and waist hip ratio (p<.015), high blood pressure (p=.018) and diabetes (p=.009). Multiple logistic regressions showed that there is a strong association between MCR syndrome and cardiovascular risk factors for high blood pressure (2.85 [1.19;6.81]) and for abnormal waist hip ratio (2.51 [1.13;5.60]).

The findings show that MCR syndrome is associated with multi morbidities and cardiovascular risk factors. Moreover, in the European population MCR syndrome is associated with hypertension and abnormal waist to hip ratio.

The MCR syndrome was associated with cardiovascular risk factors in the European population.

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92. Characteristics of Caregiver Burden in the Canadian Longitudinal Study on Aging

Emily Skrastins, Yoko Ishigami, Susan Kirkland

The Canadian senior population is expected to double over the next two decades, which will result in an increasing need for aging-related caregiving. Informal caregivers can relieve pressure on the formal care system, but high caregiver burden may lead to negative outcomes for both the caregivers and the recipients. Our objective is to describe the existing caregiving burden in Canada by presenting demographics, patterns and associated factors among current caregivers and receivers.

We used baseline Tracking data from the Canadian Longitudinal Study on Aging, which has a representative sample of more than 20,000 participants between the ages of 45 and 85. Descriptive statistics using proportions and means were calculated and stratified according to age and sex.

Informal caregiving is common in Canada. In the CLSA, 46.7% percent of participants providing assistance to another individual and 15.7% receiving care themselves. Caregivers tended to be younger and female. Younger caregivers (45-64 years) were more likely to care for a parent, while older caregivers (65-85 years) were more likely to care for a spouse or friend. The majority of caregivers provided less than 20 hours per week of care, but those who provided more had a higher prevalence of low satisfaction with life (16%), depressive symptoms (18.9%), and low self-rated physical health (15.1%).

These initial results give insight into current caregiving patterns and factors associated with higher burden.

The next steps of this study will include statistical testing and comparison of results between Nova Scotia and Canada to better understand caregiver burden according to social and environmental factors.

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93. Hypertension and Disability in Tunisian's Elderly

Sonia Hammami, Amel Barhoumi, Said Hajem, Mohamed Hammami

Hypertension is another common condition in older subjects, representing the most common morbid condition after osteoarthritis (Psaty *et al*., 2001). Hypertension represents a major risk factor for cardiovascular disease, the major source of morbidity among the over 65 population (ISTAT, 2005). In such a context, the aims of the present study were to investigate whether hypertension was associated independently with physical disability.

A cross-sectional survey was conducted, covering a sample of 598 subjects (202 male , 396 female, mean aged 72,3 years) aged 65 years and over. The study approved by ethics Committee and supported by OMS and FNUAP. Information was gathered by home-based personal interview using a structured questionnaire. We assessed their disability status, sociodemographic informations and health behaviours. Disability was recorded on three levels scale : (intense, moderate and no disability) Statistical analysis was performed with SPSS and the significance was

accepted at the $p < .05$ level. Multiple logistic regression models were used to obtain the independent variables associated with hypertension

The prevalence of hypertension was 52 % (n=311), more frequent for female population (55 % vs. 45 % for male). The prevalence of disability was 34.6 %, only 10 % have intense disability. Those with hypertension had higher Body Mass Index, waist circumference and diabetes. Regarding disability, the individuals who presented the highest prevalence of hypertension were more dependent. Multiple logistic regression revealed that the following were significantly independent factors of hypertension : Disability (OR = 1.6). Diabetes mellitus (OR = 2.36]).and a higher BMI (OR = 2.36).

Hypertension is associated not only to cardiovascular factors (Diabetes obesity) but also with higher functional disability.

Older subjects are exposed at significantly higher likelihood of physical disability. Public health strategies to prevention hypertension in elderly may protect them also against disability.

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94. Multimorbidity in Community-Living Canadians

Philip St. John, Suzanne Tyas, Verena Menec, Tate Robert, Griffith Lauren

Diseases co-occur and this co-occurrence carries a high risk of death and health care utilization. It also complicates clinical care, since it can lead to polypharmacy. There are studies of multimorbidity in clinical settings, and studies using administrative data. However, there are fewer population-based epidemiological studies of multimorbidity.

In the population-based Canadian Longitudinal Study of Aging (n=21 235), diseases were self-reported from a list of conditions. We considered 31 chronic diseases and risk factors which were not mental health conditions or acute in nature. We summed the number of these chronic diseases. We then standardized the mean number of chronic health problems to the Canadian population of 2011.

Multimorbidity was very common, and the mean number of chronic illnesses standardized to the Canadian population was 3.1. Women had a higher number of chronic illnesses than men in most age groups. The number of chronic conditions was strongly associated with age: The mean number of conditions was 2.1 in those age 45 - 54; 2.9 in those 55 - 64; 3.8 in those age 65 - 74 and 4.8 in those age 75+.

Multimorbidity is common in the Canadian population, and strongly age-related.

Since most Canadians would meet the definition of multimorbidity according to the current cut point of 3+ diseases, this definition may need to be reconsidered.

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95. Trends in the Management of Type 2 Diabetes in a Short Term Geriatric Unit in Sherbrooke from 2005 to 2015.

Annette Thébeau, Daniel Tessier, Lise Trottier

Type 2 diabetes is a growing epidemic, and its prevalence increases with age. Older individuals are at greater risk of suffering side effects from the pharmacological treatment. The biggest concern in this population is hypoglycaemia which can have dire consequences, including falls, cognitive or functional decline and even death.

This quality act retrospective transversal study was realized at the short term geriatric unit in Sherbrooke. We looked at the tendency in prescriptions regarding hypoglycemic agents and insulin, glycated haemoglobin values and rate of hypoglycaemia episodes in patients with type 2 diabetes hospitalized in 2005, 2010 and 2015.

We looked at 100, 83 and 94 charts for the years 2005, 2010 and 2015, respectively. The mean hospitalization length was around 25 days. We noticed an increase in prescriptions of metformin and DPP-4 inhibitors over time ($p<.05$), and a decrease in prescriptions of thiazolidinediones and sulfonylureas. The mean glycated haemoglobin value increased from 6.48 in 2005 to 6.72 in 2010 and 7.15 in 2015 ($p<.05$). The rate of hypoglycemic event (glucose value < 4) followed a reverse tendency, falling from 46% in 2005 to 32.5% in 2010 and 13.8% in 2015 ($p<.05$). Severe hypoglycemic events (glucose value < 2) and repeat events were also significantly reduced over this period.

Our study demonstrates a change in drug prescription tendency for type 2 diabetes between 2005 and 2015. We think that this practice, along with higher target glycated haemoglobin, explains the reduction in hypoglycemic events.

These findings are in agreement of the Canadian Diabetes Guidelines, which suggest adapted glycated haemoglobin targets in frail elderly patients and also, choosing drugs with a lower incidence of hypoglycemia.

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96. Improving End-of-Life Management in Long-Term Care (LTC) Homes Through Education Across Canada: the Pallium LEAP Palliative Care (Palcare) Course

Hang Tran, José Pereira, Lori Teeple, Kathryn Downer, Jobin Varughese, Jill Marcella, Henderson David, Kelley Mary-Lou, Benoît Robert, Colleen Drake, Daphna Grossman

Most LTC residents would benefit from a PalCare approach and approximately 20-30% of residents die per year. However, studies show gaps exist in PalCare education of LTC staff. Pallium Canada (www.pallium.ca), a non-profit

organization has developed continuing interprofessional palliative care education since 2001. Its Learning Essential Approaches to Palliative Care (LEAP) LTC course was launched in June 2015.

Pallium Canada's LEAP LTC is a 2-day interprofessional course that provides essential palliative and end-of-life skills to physicians, nurses, personal support workers (PSW), pharmacists, aids and other healthcare staff. The course goals are to a) improve skills related to palliative care; b) promote interprofessional collaboration; c) link LTC homes with local PalCare teams; and d) catalyze Quality Improvement (QI) initiatives in this area. Evaluation of the courses currently consists of a pre- versus post-course evaluation of changes in knowledge, attitudes and comfort levels as well as a post-course commitment to change reflection.

From June 2015 to December 2016, 27 LEAP LTC courses were held in 18 communities across Alberta, Ontario, Nova Scotia and British Columbia, with total of 559 participants: 43 physicians, 283 nurses, 87 PSWs and aids, and 146 other professionals. 56 certified LEAP LTC Facilitators delivered the courses. 96% of participants recommend the course to their colleagues. Changes in knowledge, attitudes, comfort-levels and commitment to change will be presented (they show significant improvement).

Demand for the course is growing across Canada.

Early results show significant improvements in participants' skills and change in care. The next steps are to spread the program further and to leverage it as a QI catalyst.

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97. TELEPROM-G: a Pilot Study Utilizing an Innovative Technological Solution to Enhancing the Care of Community-Based Seniors Experiencing Depressive Symptoms

Akshya Vasudev, Cheryl Forchuk, Amer Burhan, Richard Booth, Jeff Hoch, Wanrudee Isaranuwatchai, Abraham Rudnick, Puneet Seth, Alistair Flint, Soham Rej, Jeffrey Reiss

Current models of healthcare delivery do not adequately meet the needs of the increasing number of older Canadian adults; depression is a particularly pervasive and complex issue. Mobile technology may offer an innovative and effective method of providing timely healthcare support, improving accessibility to care and addressing the complex needs of seniors. However, research on the implementation of this technology is limited.

The primary objectives of this pilot study were to: examine the feasibility of implementing and evaluating a mobile-based health care client health record (CHR) and determine what further modifications to enhance the CHR would be necessary.

30 adults (aged 65 or older) with depressive symptoms and living in the community were issued with chromebook tablets. A one year pilot, completed April 2017, evaluated the use of a secure cloud-based TELEmedicine and Patient-Reported Outcome Measurement (PROM) platform (TELEPROM-G), developed by InputHealth solutions. This platform has the ability for healthcare providers to track patient-reported health outcomes and to video-conference with their clients.

A mixed-methods (quantitative and qualitative) design was used to assess the feasibility of implementing the CHR; i.e. individual interviews and focus groups with clients, focus groups with HCPs.

Findings from interviews and focus groups with participants will be discussed.

Findings from interviews and focus groups with participants will be discussed.

The pilot study assessed the feasibility of using this technology with the senior population, and to identify and correct implementation issues before wider-scale adoption of the technology. This pilot study has provided information to enhance the technology in readiness for larger cohort studies across multiple sites in Canada and the U.K.

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98. When Less May Be More: Discontinuing Docusate from a Standardized Hospital Order Set

Maia Von Maltzahn, Camilla Wong, Rosa Maria Tanzini

Findings from a systematic review conducted by the Canadian Agency for Drugs and Technologies in Health (CADTH) indicate that docusate does not prevent or improve symptoms of constipation in hospital, yet docusate remains available on many hospital admission order sets. Consequences for the health care system and patients are manifold, with potential for increased health care delivery costs, inappropriate prescribing, and delays in the appropriate management of constipation. For elderly patients vulnerable to constipation and the adverse effects of inappropriate prescribing, this is a significant concern.

As part of a quality improvement initiative, on January 1, 2016, St. Michael's Hospital removed docusate from admission order sets for oncology ward inpatients. Unit order sets retained evidence-based alternatives for constipation management and prevention. A one-year pre/post cohort study was designed to determine the impact of this initiative. Primary outcomes include incident constipation, and constipation management strategies.

To date, 169 charts have been reviewed: 142 pre-intervention and 27 post-intervention, up until June 2016. The use of docusate has dropped dramatically, from 69 prescriptions (49% of patients) before intervention, to 2 (7% of patients) after removal from the standardized order set. Lactulose use remained consistent, while sennoside and polyethylene glycol 3350 (PEG) use have both slightly

increased. Among patients aged sixty-five and older, docusate use decreased from 43% to 8% after removal.

Preliminary findings suggest removing docusate from a standardized hospital order set is an effective intervention to reduce use in hospitalized patients, including among older adults.

Future goals include continued advocacy to remove docusate from all standardized order sets throughout our institution, in an effort to promote best practices in the management of constipation and avoid inappropriate prescribing among older adults.

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99. Feasibility of Implementing the G8 Screening Tool in Academic Oncology Clinics

Camilla Wong, Pauline Gulasingam, Susanna Cheng, Rashida Haq

Comprehensive geriatric assessment (CGA) in older oncology patients identifies issues not detected in standard history and physical examination, optimizes non-oncologic issues, detects geriatric variables with prognostic significance, influences chemotherapy decisions and improves chemotherapy tolerance. The G8 is an evidence-based screening tool, developed for older cancer patients to triage which patients should undergo a CGA. The primary objective is to determine the feasibility of administering the G8 screening tool to new patients aged ≥70 years in oncology clinics at St. Michael's Hospital and Sunnybrook Hospital.

New patients aged ≥70 years seen in oncology clinics at St. Michael's Hospital and Sunnybrook Hospital, with a diagnosis of a malignancy in which systemic therapy is being considered, were prospectively recruited. Exclusion criteria were patients who cannot understand English or were unable to provide consent and no substitute decision maker was available. The G8 was administered by staff in the oncology clinics. Feasibility was defined as the proportion of eligible patients with a completed G8 screening tool.

The G8 was completed in 75% (40/53) and 65% (39/60) of eligible patients at St. Michael's Hospital and Sunnybrook Hospital, respectively. Among eligible patients where a G8 was not completed, the reasons were patient not approached in 68%, patient declined in 26%, and the G8 was only partially completed in 6%. Among the 79 completed G8 tools, 70% had an abnormal G8 score.

Next steps include exploring facilitators and barriers to G8 completion in order to develop a suite of strategies to improve G8 uptake. An evaluation of the feasibility of G8 implementation is underway at a community hospital.

There is variability in completion rate of the G8 among academic sites, with suboptimal uptake.

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100. Staff Perceptions of Mandatory Reporting (MDS) and Documentation in Long-Term Care Homes

Veronique Boscart, Samantha Yang, Keia Johnson, Linda Sheiban, Katherine McGilton

This study focused on exploring long-term care (LTC) administrators' perceptions of the minimum data set (MDS) to promote high quality care for residents. This study is part of a larger project to examine facilitators, barriers and opportunities for optimal utilization of regulated nurses in long-term care (LTC) settings and their impact on quality of care and organizational outcomes.

A qualitative design employing case methodology was used. Six administrators, five directors of care, and two assistant directors of care, for a total of 24 participants took part in individual interviews. The aim of these interviews was to explore their perceptions of MDS and its potential use to provide high quality care for residents in LTC. Data was analyzed using cross-case synthesis.

Four themes emerged: (a) optimal use of MDS to promote care in LTC; (b) limitations to utilizing documentation in LTC; (c) the role of regulations in promoting quality of care, and; (d) the value of verbal communication between teams in LTC.

Intriguing dynamics took place between the perception of administrators on regulator aspects and the role MDS could play to increase quality of care. Furthermore, a clearly identified skillset in using MDS data is needed to collect and use the data to improve quality of care.

Perceptions of the use of MDS from an administrator standpoint are interesting; however, this study only covers one part of the story. Further research is necessary to gain a nursing perception of MDS use, as well as a quantitative exploration of the MDS data.

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101. Falls Risk Signs Designed for Fall Prevention, Does It Work? A Qualitative Study of Perspectives from Clinical Assistants

Maggie Yongci Yu, Camilla Wong, Lianne Jeffs

Bedside falls risk signs are a common component of in-hospital, multicomponent, fall prevention programs. There have not been any studies of whether this individual component is beneficial or harmful in falls prevention in hospital. It has been postulated that these signs may deter mobilization efforts. Since clinical assistants (CAs) play a key role in mobilizing patients, the objective of this study is to understand the perception of Falls Risk signs among CAs.

We recruited CAs from the General Internal Medicine Unit at St. Michael Hospital to participate in a 20-minute one-to-one semi-structured interview, consisting of 4-5

open ended questions designed to explore emotional and knowledge factors. Recruitment occurred until saturation of themes was derived from the interviews. The interviews were audio-recorded and transcribed. Each interview was examined systematically, and independently by two study personnel for themes.

Interim
We interviewed 15 CAs and the themes included:

1. CAs interpreted Falls Risk signage as a need for increased vigilance such as performing more frequent check on patients.
2. There was consensus among CAs to continue using the Falls Risk signage.
3. CAs who were more experienced interpreted the Falls Risk signage as a need to encourage more mobilization; in contrast, less experienced CAs interpreted the signage as a need to encourage more mobilization but were hesitant to because of a lack of knowledge and skills.

A strategy should be implemented for CAs to increase the knowledge and skills related to mobilization, to empower their positive attitudes towards mobilization.

Fall Risk signage is perceived as useful by CAs and should continue to be used.

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102. Factors Influencing the Scope of Practice of Care of the Elderly Physicians

Donald Yung, Vivian Ewa, Nathan Turley

Care of the elderly (CoE) physicians are family physicians with enhanced skills in geriatrics and often have a diverse scope of practice. This study identifies the factors which influence CoE physician scope of practice.

Semi-structured, one-to-one telephone interviews were conducted with eleven CoE physicians practicing in Alberta. One interview was not transcribed due to poor audio quality. Ten transcripts were coded for themes until saturation.

Factors for providing specialist services were addressing an unmet need in their community, primary interest in geriatrics, family, and financial reasons. In contrast, factors for providing primary care services were continuity of care and enjoyment of being a primary care provider. Participants described their careers evolving over time. Factors for participating in medical education were enjoyment of teaching, professional responsibility, positive experiences with preceptors, previous teaching experience, and maintenance of medical knowledge. Factors for doing research were background in research, a perception of research's benefit to society, research funding, mentorship, and culture of one's academic department. Finally, factors for involvement in administration and leadership activities were opportunity and mentorship, and culture of the academic's department. Factors for abstaining from research, administrative work, and leadership activities were lack of interest, time, or experience.

We identified multiple factors influencing CoE physician scope of practice. Two of the factors, addressing an unmet need in their community and primary interest in geriatrics, appear to be new. Others were similar to those discussed in the literature.

Future research could compare the identified themes with the experiences of CoE physicians across Canada. Results may be relevant for stakeholders who influence CoE physician scope of practice to meet the needs of patients and healthcare system.