ORAL PRESENTATIONS

OR01

TYPE 2 DIABETES, RETINAL SMALL VESSEL DISEASE AND BRAIN ATROPHY

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Aims

It is uncertain whether small vessel disease underlies the relationship between Type 2 Diabetes Mellitus (T2DM) and brain atrophy. We aimed to study whether retinal vascular architecture, as
a proxy for cerebral small vessel disease, may modify or mediate the associations of T2DM with brain atrophy.

**Methods**

Cross-sectional study using Magnetic Resonance Imaging (MRI) scans and retinal photographs in 451 people with and without T2DM. We measured brain volumes, geometric measures of retinal vascular architecture, clinical retinopathy, and MRI cerebrovascular lesions. Linear or logistic regression was used to study relationships between T2DM, brain MRI and retinal measures.

**Results**

There were 270 people with (mean age 67.3 years; Hb\textsubscript{A1c} 7.1 %) and 181 without T2DM (mean age 72.9 years). T2DM was associated with lower grey matter volume (ml) (β = -3.60, p=0.008). In univariable regression, T2DM was associated with greater arteriolar diameter (β = 0.48, p=0.03) and optimality ratio (β = 0.01, p=0.04), but these associations were attenuated by adjustments for age and sex. Only optimality ratio was associated with lower grey matter volume (ml) (β = -22.5, p=0.026). The inclusion of retinal measures in regression models did not attenuate the association of T2DM with grey matter volume.

**Conclusions**

In this sample, the association of T2DM with lower grey matter volume was independent of retinal vascular architecture and clinical retinopathy. Retinal vascular measures or retinopathy may not be sufficiently sensitive to confirm a microvascular basis for T2DM-related brain atrophy. Longitudinal study is required to confirm the lack of relationships.

**OR2**

**CEREBROVASCULAR DISEASE, ALZHEIMER’S DISEASE BIOMARKERS AND LONGITUDINAL COGNITIVE DECLINE**

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Background. Cerebrovascular disease commonly co-exists with Alzheimer’s disease. Recent studies suggest that each may mediate distinct, additive insults on cognitive performance.

Aims. To determine the contribution of subclinical CVD (sCVD) and Aβ burden at baseline to risk for incident dementia over six years.

Methods. 219 non-demented participants from the AIBL Study (169 normal cognition, 50 mild cognitive impairment) with 3-Tesla MRI and 11C-PiB PET at baseline and neuropsychological assessments over 18-monthly intervals over six years. Participants were classified as Aβ+ if PiB Neocortical SUVR≥1.5 and sCVD+ if MRI evidence of stroke or significant sCVD. Incident cognitive decline and dementia were determined from clinical panel consensus following each assessment (blind to imaging). Cox proportional hazard regression was performed including Aβ and sCVD, age, APOE ε4, gender and education as covariates, and cognitive decline, or dementia, as outcome variables.
Results. 25% of participants demonstrated cognitive decline and 16% progressed to dementia. While both sCVD and Aβ were associated with incident dementia in univariate analyses, only the association with Aβ remained significant after adjustment for all covariates (Hazard ratio [for decline] 3.8, p<0.001; [for dementia] HR=7.4, p<0.001). In participants with normal cognition at baseline, risk for incident dementia at six years was only significant in those with Aβ and sCVD at baseline (HR=25.9, p=0.004).

Conclusion. In this non-demented cohort, Aβ more strongly predicts incident cognitive decline and dementia than sCVD. Subclinical CVD lowered the threshold for incident dementia in those with Aβ, although sCVD alone was not sufficient to predict future dementia.

OR3
SEX DIFFERENCES IN PSYCHOTROPIC MEDICATION USE IN OLDER PEOPLE WITH ALZHEIMER’S DISEASE: A STORY OF TWO COUNTRIES
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Aims The objective of our study was to investigate sex differences in psychotropic medication use in older adults with Alzheimer’s Disease (AD) living in the US and Finland.
**Methods** We used data collected between 2005 and 2011 as part of the National Alzheimer’s Coordinating Center (NACC) in the US and Medication use and Alzheimer’s disease (MEDALZ) cohorts in Finland. We evaluated psychotropic medication use (antidepressant, antipsychotic, or anxiolytic, sedative or hypnotic) in cohort enrollees 65 years or older and investigated whether sex was a significant predictor of use. We employed multivariable logistic regression adjusted for demographics, comorbidities, and other medications to estimate the magnitude of the association (adjusted odds ratio [aOR] with 95% confidence intervals [CI]).

**Results** We included 1099 NACC enrollees (502 men, 597 women), and 67,049 individuals from MEDALZ (22,961 men, 44,088 women). Women were more likely than men to use psychotropic medications: US: 46.2% vs 33.1%, p<0.001, Finland- 45.3% vs 36.1%, p<0.001; aOR was 2.06 (95% CI: 1.58–2.70) in the US and 1.38 (95% CI: 1.33-1.43) in Finland. Similarly, women were more likely to use antidepressants (aOR- US: 2.16 [1.44–3.25], Finland: 1.52 [1.45-1.58]) or anxiolytics (aOR- US: 2.16 [1.83–3.96], Finland: 1.17 [1.13-1.23]) compared to men.

**Conclusions** As older women with AD are more likely to use psychotropic medications than older men, regardless of study population and country, prescribers should be aware of potential bias when treating older adults with AD.

**OR4**

**PREDICTORS OF DEMENTIA AND MORTALITY IN INDIGENOUS AUSTRALIANS**

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**Aims:** We have previously demonstrated that Indigenous Australians have a very high prevalence rate of dementia, 5 times that of non-Indigenous Australians. We followed our original cohort to determine predictors of mortality in this population.

**Methods:** Between 2004 and 2006, 363 Aboriginal people over the age of 45 years, living in remote Western Australia (WA) completed a comprehensive questionnaire and culturally appropriate diagnostic assessment for dementia. All participants were invited for reassessment between 2011 to 2013. We obtained mortality records for the cohort from the WA Data Linkage System and compared them to data for the general population. We used Cox proportional hazards regression to identify predictors of mortality over a 9-year follow-up period.

**Results:** The leading causes of mortality were diabetes, renal failure, and ischaemic heart disease. Of 40 participants with dementia at baseline, 31 (77%) had died. For the cohort as a whole diabetes and renal failure accounted for 28% of all deaths. This differed from both the Australian population as a whole, and the general Indigenous Australian population. The presence of chronic disease did not predict mortality, nor did behaviours such as smoking. Multivariate predictors of mortality included age (Hazard ratio (95% CI)), 1.03 (1.01, 1.05), male sex, 2.17 (1.39, 3.39), poor mobility, 2.11 (1.34, 3.30) and cognitive impairment 2.19 (1.31, 3.65).

**Conclusions:** Cognitive impairment and dementia are major predictors of mortality in remote Indigenous Australians.

**OR5**

**DEMENTIA IN THE TORRES STRAIT: RISKS, RATES AND FUTURE DIRECTIONS**

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Aims
Recent research in both remote and urban Aboriginal communities has demonstrated higher rates of dementia, although the rates & risks factors for dementia in Torres Strait Islander communities within Australia remain unknown. This study aims to assess the prevalence of dementia within the Torres Strait, as well as determining potential risk factors and the prevalence of other diseases of ageing.

Methods
In a rolling prevalence study, 111 Torres Strait residents aged 41 to 91 years (M=64.1, SD11.4) were recruited, with 94% residing in the community. Participants underwent a full health assessment using the KICA Healthy Adults Survey, as well as a separate Geriatrician assessment.

Results
Dementia prevalence was 11.7%, significantly higher than in the general Australian population. All but one were diagnosed with Alzheimer's disease (AD), vascular dementia (VaD) or mixed AD/VaD. Overall, cognitive impairment was found in 31% of the sample. Vascular risk was high, with 91% of those with cognitive impairment & 76% of those with normal cognition having at least one risk.

Conclusions
The results highlight the high levels of vascular risk and the potential impact of cognitive impairment and dementia in the Torres Strait. The need for a culturally appropriate model of care is also crucial to effectively address this problem and there is a role for all health professionals to actively promote healthy lifestyles across the lifespan to reduce dementia risk.

OR6
CLINICAL PRACTICE GUIDELINES AND PRINCIPLES OF CARE FOR PEOPLE WITH DEMENTIA: IMPLICATIONS FOR POLICY AND PRACTICE

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Aims: The first national guidelines on the management of dementia were released in March 2016 after approval by the National Health and Medical Research Council (NHMRC). The objectives of this presentation are to (1) highlight key recommendations within these recently released Clinical Practice Guidelines and Principles of Care for People with Dementia, and (2) discuss implications for practice and policy.

Methods: Guideline development utilised ADAPTE methodology (adapting the 2006 UK NICE Guidelines), adhered to the NHMRC standards and involved 17 systematic reviews. Evidence from the reviews was considered by 23 clinical experts, end users and carers who formed a Guideline Adaptation Committee. Recommendations were classified as Evidence Based Recommendations (EBR), Consensus Based Recommendations (CBR), and Practice Points (PP).

Results: The Committee formed 109 recommendations, and these have been endorsed by a number of organisations including the ANZSGM. Consumer engagement in the process of guideline development was strong and resulted in the inclusion of the ten principles of dignity in care, a stronger emphasis on restorative care and more content around communicating the diagnosis.

Conclusions: There is strong evidence that the use of Clinical Practice Guidelines improves the quality and consistency of care for a number of conditions. Policy makers should address recommendations regarding care coordination and memory assessment services. Clinicians should be aware of the sound evidence for nonpharmacological interventions to delay functional decline and reduce the impact of changed behaviours.
Instrumented assessment of physical activity and its association with muscle mass, handgrip strength and gait speed in a general population

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Background: Physical activity is an important factor in human health and well-being affecting muscle mass, muscle strength and physical performance. In older adults, these measures were found to be inversely associated with self-reported physical activity. As this information is likely biased, objective measures of physical activity are needed.

Objective: To assess the association between instrumented physical activity (I-PA) and muscle mass, handgrip strength and gait speed in a community dwelling population of middle-aged and older adults.

Methods: A total of 256 community dwelling participants attending a lecture series on “Grey Power” in November 2014 at the VU university medical center, Amsterdam were included. Questionnaires were used to assess e.g. age, sex, current occupation, playing sports and subjective achievement of the Dutch physical activity guideline, defined as 30 minutes of moderate physical activity for at least 5 days. Physical activity was measured using 7-day accelerometry and was expressed as active and sedentary duration, number of periods, mean duration of periods and number of steps. Muscle-related parameters included absolute and
relative muscle mass, handgrip strength and gait speed. Data analysis was stratified by age.

**Results:** 192 (80.9%) participants reported to meet the recommended Dutch physical activity guideline whereas this was actually the case in 50 (21.2%) participants. The association of I-PA with muscle mass, handgrip strength and gait speed was age dependent. In middle aged adults, I-PA was not associated with muscle mass, handgrip strength or gait speed. In older adults, I-PA was significantly associated with handgrip strength and gait speed, but not with muscle mass.

**Conclusion:** Physical activity should be measured objectively. The complex interrelation between physical activity, muscle measures and physical performance is highly dependent on age.

**OR8**

**THE ROLE OF AGE IN MODERATING THE ASSOCIATION BETWEEN MUSCLE MASS, STRENGTH AND PHYSICAL ACTIVITY**

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**Introduction:** Sarcopenia is an increasingly recognised condition in the elderly that is associated with decreased physical function, hospitalization and mortality. The aim of this study was to describe the relationship between accelerometer-determined physical activity (PA), muscle mass and lower-limb strength in community-dwelling older adults.

**Methods:** 636 community-dwelling older adults (66±7 years) were studied. Muscle mass was measured using dual-energy x-ray absorptiometry whilst lower-limb strength was measured via
dynamometry. We measured minutes/day spent in sedentary, light, moderate and vigorous intensity activity using Actigraph GT1M accelerometers.

Results: PA intensity was positively associated with both lean mass percentage and lower-limb strength in a dose-response fashion. Sedentary activity was negatively associated with lean mass percentage but not lower-limb strength. There was an significant interaction between age and activity; as age increased the magnitude of the association of PA with lean mass percentage and leg strength decreased. This interactions remained significant when we analysed the raw accelerometer counts. Those who adhered to the Australian Department of Health PA guidelines (moderate/vigorous PA >/=150min/week) had greater lean mass percentage, ALM and lower-limb strength.

Conclusion: The amount and intensity of accelerometer-determined PA had an independent, dose-response relationship with lean mass percentage and lower-limb strength. Time spent in sedentary activity was negatively associated with lean mass percentage but was not associated with lower limb strength. The magnitude of the association between PA and lean mass percentage decreased with age suggesting that PA programmes may need to be modified with increasing age.

OR9
Physical activities level of older persons admitted to Transitional Care Program: accelerometer based study
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OBJECTIVES: To determine the level of physical activities of older person admitted to Transitional Care Program (TCP) using tri axial accelerometer (ActivPAL).

DESIGN: Prospective cohort study.
PARTICIPANTS: Forty one subjects recruited from two metropolitan TCPs in Brisbane.

METHODS: On admission, consecutive mobile clients were recruited within 10 days of hospital discharge. They were requested to wear accelerometers 24 hours taped to anterior thigh for up to seven days at entry and before discharge from TCP.

RESULTS: The mean age of participant was 80± 8 and 74% were female. The average length of hospital episode was 30 (4-41) days while average length of TCP stay was 56 (27-93) days. Admission Roland Universal Dementia Assessment Scale (RUDAS) was 25.5±4, Charlson co-morbidity index 1.5±2 and gait speed was 1.9±1 m/sec. The participants wore the accelerometer 24 hours on admission for 7±1 days and on discharge 6.7±0.5 days. On admission, participants spent 1201±137 minutes sitting or lying, 191±97 minutes standing and 40±24 minutes stepping a day while on discharge 1169±126 minutes spent lying or sitting, 217±111 minutes standing and 53±31 minutes stepping a day. The mean difference between admission and discharge were significant for lying or standing -32 minutes [Standard Error of the Mean (SEM) 15.8, \( P = 0.045 \)] standing 36 minutes [SEM 12.4 \( P = 0.036 \)] and stepping time 13.5 minutes [SEM 3.3 \( P = 0.0001 \)].

CONCLUSION: The improvement of physical activities level achieved at the end of the program is minimal. The implementation of strategies to reduce sedentary time and changing clients’ behaviour should be considered through promoting physical activities for TCP clients.

OR10
Malnutrition is associated with low muscle mass in older hospitalized patients – a prospective cohort study

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Background: Both malnutrition and low muscle mass are highly prevalent in older hospitalized patients. Low muscle mass is associated with adverse outcomes and malnutrition may be a risk factor for developing low muscle mass. We aimed to investigate the association between malnutrition and 1) muscle strength and -mass at admission and 2) the change of muscle strength and -mass during hospitalization in older patients.

Design: Prospective inception cohort study.

Setting: VU university medical center Amsterdam, the Netherlands.

Participants: 378 patients aged 70 years or older who were admitted to the hospital from April 2015 to December 2015 were included in the EMPOWER study.

Measurements: Patients were grouped into non-malnourished and malnourished based on the Short Nutritional Assessment Questionnaire (SNAQ) score and assessed for hand grip strength and muscle mass using hand held dynamometry respectively bioelectrical impedance analysis (BIA) within 48 hours after admission and seven days later, or earlier at the day of discharge. Muscle mass was expressed as skeletal muscle mass, appendicular lean mass, fat free mass and the skeletal muscle index.

Results: 374 patients (mean age 79.7 years SD 6.39) were included. At admission, malnutrition was significantly associated with lower muscle mass. Muscle strength and muscle mass did not change significantly during hospitalization both for malnourished and non-malnourished patients, except for appendicular lean mass. No associations were found between malnutrition and change of both muscle strength and mass.

Conclusion: In older hospitalized patients, malnutrition as assessed with the SNAQ is associated with lower muscle mass at admission, but not with muscle strength or the change of muscle strength and muscle mass during hospitalization.
COMORBID ANXIETY AND DEPRESSION HAVE AN ADVERSE IMPACT ON CARDIOVASCULAR DISEASE IN OLDER PATIENTS WITH TYPE 2 DIABETES

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Aims: To determine whether anxious depression, defined by latent class analysis (LCA), predicts cardiovascular outcomes in type 2 diabetes and to compare the predictive power of anxious depression with Diagnostic & Statistical Manual (DSM-IV/5) categories of depression and generalised anxiety disorder (GAD).

Methods: Prospective observational study of 1337 type 2 participants (mean age 64.9±14.4 years). Baseline assessment with the 9-item Patient Health Questionnaire and the Generalised Anxiety Disorder Scale; LCA-defined groups with minor or major anxious depression based on anxiety and depression symptoms. Cox modelling used to compare the impact of: i) LCA anxious depression, ii) DSM-IV/5 depression, iii) GAD on 4-year incident cardiovascular events/mortality.

Results: LCA minor and major anxious depression were present in 21.9% and 7.8% of participants respectively, DSM-IV/5 minor and major depression in 6.2% and 6.1% respectively and GAD in 4.8%. There were 110 deaths, 31 cardiovascular deaths and 199 participants had incident cardiovascular events. In adjusted models, minor anxious depression (HR (95% CI): 1.70 (1.15-2.50)) and major anxious depression (1.90 (1.11-3.25)) predicted incident cardiovascular events and major anxious depression predicted cardiovascular mortality (4.32 (1.35-13.86)). In models with a common reference group, DSM-IV/5 major depression predicted incident cardiovascular events and cardiovascular mortality (2.10 (1.22-3.62) and 3.56 (1.03-12.35) respectively) and GAD predicted cardiovascular mortality (5.92 (1.84-19.08)).
Conclusions: LCA-defined anxious depression is considerably more common than DSM-IV/5 categories and is a strong predictor of cardiovascular outcomes in type 2 diabetes. Comorbid anxiety and depression, even of sub-syndromal severity, have an adverse impact in type 2 diabetes.

OR12
A COMPARISON OF THE NEUROPSYCHOLOGICAL PROFILES OF PEOPLE LIVING IN SQUALOR WITHOUT HOARDING TO THOSE LIVING IN SQUALOR ASSOCIATED WITH HOARDING

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Aims: Squalor affects 1 in 1000 older people and occur as an epiphenomenon to a range of medical and psychiatric conditions. Squalor present heterogeneously, and in a large proportion of cases, squalor is associated with hoarding. In this study, we compared the neuropsychological profile of people living in squalor associated with hoarding to those presenting with squalor only.

Methods: We conducted a retrospective analysis of a case series comprising 69 people living in squalor who underwent neuropsychological assessments in hospital inpatient and community settings. 40% (n=28) of the group with co-morbid hoarding behaviours, forming the Squalor-Hoarding group, was compared to the Squalor-Only group (n=41) in regard to their demographic characteristics and domain specific cognitive functions.

Results: The Squalor-Hoarding group (mean age 75.8, SD=6.9) was significantly older (Browne Forsythe (1,63.7) = 5.7, p<0.05) than the Squalor-Only group (mean age 69.9 years, SD=13.1). Executive function was impaired across the whole sample, with significantly greater impairment in the Squalor-Only group. Chi-square analyses revealed significant differences in
visuoperception, abstraction, planning, organisation, problem solving, mental flexibility and impulsivity between the two groups. Logistic regression analysis found impairment of mental flexibility emerged as a significant predictor, with its presence strongly indicating Squalor-Only (OR = 0.07; 95%CI: 0.01-0.82).

Conclusions: This study found executive dysfunction was present in people who live in squalor regardless of whether there is associated hoarding or not. The preliminary evidence presented here indicates that people living in squalor associated with hoarding may have distinct neuropsychological profiles that differentiate them from those living in squalor without hoarding.

OR13
DIGNITY AND OLDER INPATIENTS: THE PHOTO-NEXT-TO-THE-BED STUDY

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Aims: Older people in hospital, stripped of physical and cultural identifiers, are denied the attributes that make them unique and become vulnerable to stereotyping. Furthermore, the inter-subjective recognition which underpins respect for any individual may be compromised by physical illness and cognitive decline. This study aimed to investigate whether a simple intervention could enhance the dignity of care for older inpatients.

Methods: All patients in a rehabilitation ward were encouraged to bring in a photograph of their choice to place next to their bed. Separate focus groups were held for patients, family members and staff to explore their reflections. Discussions were transcribed and analysed using a grounded-theory approach to capture evolving themes.
**Results:** All groups reported that the photograph provided a “connection” and means of communication between patients and staff. As one patient said “I think it’s very important for staff to be able to communicate with the patient, rather than just your name, your birth date, and your serial number.” Nurses spoke positively of gaining additional insights into their patients’ lives. Unexpected benefits (identified by next-of-kin and patients respectively) included enrichment of the relationship between staff and family members and the facilitation of friendships among patients.

**Conclusions:** Medical care for older people cannot simply focus on pharmacotherapy and the optimisation of physiological and functional parameters. To be valued and comforted, particularly during illness and distress, is a fundamental need. A photograph next to the bed may promote more dignified interactions between older inpatients and those entrusted with their care.

**OR14**

**Medication Reconciliation in an Aged Care Setting: A Quality Improvement Project**

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**Problem**

Current practices employed in documentation of medication history were not in keeping with Standards specified by the Australian Commission on Safety and Quality in Health Care. An aged care setting was chosen as this represented a high-risk group with multiple drugs and comorbidities. The pre-audit found that only 71% of patients had a medication history documented in the admission notes. Less than half (49%) had confirmation with a second source.

**Design Methods**

Ethical approval was obtained. This was followed by an intervention. Change was assessed by a post audit. The setting was an acute geriatric inpatient unit.
Practice Change
The intervention included an awareness campaign, education sessions and introduction of a nationally approved paper-based tool. This was focused on medical, pharmacy and nursing staff. A survey was conducted on the usefulness of the tool and the challenges of medication reconciliation.

Re-audit
Following the intervention 74% had a medication history documented in the admission notes. Sixty seven percent had confirmation with a second source. Ninety six percent of discharge summaries in the post intervention group listed the correct medications and doses. The survey had a 100% response rate. Most people found the paper tool useful and all thought it improved care.

Conclusions
The pilot project in aged care showed a moderate improvement in changing clinical practice. It was useful in highlighting the challenges of medication reconciliation at our institution and will assist in informing the hospital wide rollout of medication reconciliation process.

OR15
THE UTILITY OF THE FRAILTY INDEX IN CLINICAL DECISION MAKING

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Aims Frail older inpatients are at high risk of adverse outcomes. However, measurement of frailty status is not currently part of routine care and it is uncertain whether an awareness of frailty would affect clinical decision-making. The aim of this study was to determine the impact of a frailty measure on management decisions.

Methods Electronic surveys were distributed to all members of the Australian and New Zealand Society of Geriatric Medicine consisting of three vignettes derived from cases commonly seen in an acute inpatient ward; patients being considered for intensive care treatment (ICU),

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rehabilitation, and coronary artery bypass surgery (CABG). A Frailty Index (FI) was generated through Comprehensive electronic Geriatric Assessment which was either high or low (reflecting frailty and fitness respectively). For each vignette, respondents were asked to make a recommendation for management based on either a brief or detailed amount of clinical information and to reconsider their decision after the addition of the FI.

**Results** 233 out of 1021 (23%) responded. Clinicians were more likely to change their recommendation after addition of the FI in decisions relating to ICU (65%) and CABG (58%) when the information provided to them was brief. In cases with a high FI, many clinicians changed to more conservative management decisions (56% ICU, 25% rehabilitation, 67% CABG).

**Conclusions** The FI changed management decisions in vignettes, particularly when less clinical information was available. How this translates into practice, and whether the revised management results in better outcomes for patients, are critical questions for future studies.

OR16

**SEX DIFFERENCES IN FRAILTY: A SYSTEMATIC REVIEW AND META-ANALYSIS**

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**Aims**

Despite ‘health advantages’ that contribute to longer life expectancy, females experience greater levels of disability, more co-morbidities and poorer self-rated health than males. This systematic review and meta-analysis aimed to determine the pattern of sex differences in frailty and mortality, using the Frailty Index (FI).

**Methods**

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Medline, EMBASE and CINAHL databases were searched for observational studies that measured FI and mortality in male and female community-dwellers over 65 years of age. The authors of included studies were contacted for additional data. Meta-analysis determined the mean difference in FI between females and males (MD = FI_{female} – FI_{male}) in five-year age groups. Meta-analysis generated mortality rates (MR) in five-year age groups for each sex.

Results
The search strategy yielded 211 articles. Seven articles were included in this review. Meta-analysis of data from five studies (37,426 participants) found that MD values were positive (p <0.001; MD range = 0.02-0.06) in all age groups, indicating that females were frailer than males at all ages. This finding was consistent across individual studies. Heterogeneity was high ($I^2 = 72.7\%$), reflecting methodological differences. Meta-analysis of mortality data (23,871 participants) showed that male MRs exceeded female MRs up until the 90 to 94-years age group. Individual studies reported higher MRs for males (compared with females) at each level of FI, and higher risk of death for males when controlling for age and FI.

Conclusions
The pattern of sex differences in the FI and mortality of older adults was consistent across populations and confirmed a ‘male-female health-survival paradox’.

OR17
EVALUATING THE ROLE OF THE GERIATRIC EVALUATION AND MANAGEMENT UNIT IN THE REHABILITATION OF OLDER PATIENTS WITH CANCER.

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Introduction: There is a rising prevalence of cancer in the ageing population. Medical advances have led to an increased survival of older patients with cancer. Cancer
symptomology, treatment-related toxicity along with comorbid illnesses in the older person results in increased frailty, physical deconditioning and loss of independence. As such, older patients with cancer are increasingly referred for rehabilitation, often following acute care hospitalization.

**Aims:** This study aims to assess the rehabilitation outcomes of older cancer patients admitted to the Geriatric Evaluation and Management (GEM) unit.

**Methods:** A retrospective cross-sectional study was performed on four GEM units across two Victorian hospitals. Out of 341 subjects, 128 were older cancer patients. Primary outcomes measures were functional outcomes, measured by the difference in functional independence measure scale (FIMS) on admission and discharge, length of rehabilitation stay (LOS) and discharge destination. Secondary outcomes measures were patient readmission rates and mortality at 30 days post discharge.

**Results:** FIM difference was greater in non-cancer patients (13.02 vs. 8.22; p=0.02). Both cancer and non-cancer patients had similar LOS (24.09 days vs. 26.58 days). 60.2% of cancer patients compared to 72% of non-cancer were discharged home. 30 day mortality and readmission rates were higher in cancer patients (13.8% vs. 2.9% and 29.4% vs. 17.7%).

**Conclusion:** There appears to be a role for the rehabilitation of older patients with cancer through the GEM unit at no greater length of stay than non-cancer patients. However, increased mortality in cancer patients needs to be factored in to assess suitability for rehabilitation.

**OR18**

Physical activity of older adults in inpatient rehabilitation: a feasibility study using Actigraph

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Aims To assess the feasibility of using an Actigraph accelerometer to measure physical activity (PA) of older adults in rehabilitation.

Methods A three-month feasibility study was conducted in inpatient rehabilitation unit in Sydney, Australia. We recruited 35 participants, aged 65 years or older with a Functional Independence Measure (FIM) score of ≥5 and Mini mental state examination (MMSE) score of ≥15. We measured physical activity (PA) using the Actigraph GT3X accelerometer attached to the waist over four days. Questionnaires were used to assess tolerability of wearing the device and socio-demographic data were collected. Physical capacity was measured on admission and discharge using the FIM, Six-Minute Walk Test (6MWT) and Short Physical Performance Battery (SPPB).

Results 79.5% of participants tolerated wearing the device. The main device related issue was mild discomfort on the skin after showering. Participants had very low PA levels with 714.3 steps per day and spent 93.6% of their time in sedentary activity. There was a positive correlation between the FIM ($r = 0.422$, $p<0.01$) and 6MWT ($r = 0.385$, $p<0.05$) on admission and steps per day. There was a negative correlation between length of stay and steps per day ($r = -0.317$, $p<0.05$). All three tests of physical capacity improved on discharge ($p<0.0001$) but did not correlate with steps per day.

Conclusions Accelerometers provided an objective PA measurement and were well tolerated among the geriatric inpatients. Future studies should allow removal of device during showering to improve tolerability. Clinicians should consider incorporating accelerometers into everyday practice as a goal-setting tool to promote physical activity.

OR19
ADVANCED CARE PLANNING IN RESIDENTIAL AGED CARE FACILITIES

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Aims:
To determine the prevalence of formalised, documented advanced care planning in local residential aged care facilities, factors promoting such planning, and the impact of advanced planning on death in hospital.

Methods:
Medical records from 2 local residential aged care facilities were obtained for all residents who had died between January 1, 2013 and December 31, 2014. These were compared with medical records from St Vincent's Hospital for the same period. Data was collected including documented advanced care plan, co-morbidities and frailty on admission to facility, time in facility, and place of death.

Results:
There were 159 residents of the facilities involved who died during the study period. 116 (73%) had a documented advanced care plan. A proportion of residents (83%) died in their residential facility. Presentation to hospital prior to death did not vary between those with an advanced care plan (15%) and those without a plan (23%), (P = 0.20). Where the identified next of kin was a spouse or child, advanced care planning was more common (78% vs. 63%, P = 0.046). Charlson Comorbidity Index and Clinical Frailty Scores were not correlated with completion of an advanced care plan.

Conclusions:
A documented advanced care plan did not appear to be effective in significantly reducing presentation to hospital prior to death. Facilities may be under-resourced to manage end of life care where symptoms are contributing to patient distress.

OR20
EVALUATION OF ADVANCE CARE PLANNING AND A ‘GOALS OF PATIENT CARE’ FORM FOR RESIDENTIAL AGED CARE FACILITIES

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Aims To evaluate the practices, barriers and enablers of Advance Care Planning (ACP) and a trial doctor-completed Goals Of Patient Care (GOPC) form in Residential Aged Care Facilities (RACFs).

Methods Two exploratory questionnaires, incorporating a hypothetical case scenario, a simulated Advance Care Plan, and a simulated RACF GOPC form, were distributed to General Practitioners, Emergency Physicians, Consultant Geriatricians, Aged Care Registrars, and RACF staff in the northern suburbs of Melbourne, Victoria. Twenty-six medical practitioners and 32 RACF staff responded. Results from completed questionnaires were organised using Microsoft Excel, and free-text data analysed thematically.

Results Findings from this study identify challenges for ACP in RACFs to include patient-related barriers, limitations of resources, the perceived confronting nature of ACP, and uncertain timing. Improved discussions and documentation, education, increased resources, and collaboration amongst healthcare providers are required to improve the effectiveness of ACP in RACFs. The RACF GOPC form was rated highly as easy to use and understand, translating patient preferences into a clear management plan to guide decision-making. Analysis of responses to the provided scenario revealed that 41% of RACF staff changed their management after viewing the completed GOPC form.

Conclusions Findings from this study suggest that the RACF GOPC form may have benefits additional to those of ACP. The RACF GOPC form has potential to assist medical decision-making and person-centred care at a time of deterioration, and may help avoid unnecessary hospital transfers from RACF. Medical practitioners and RACF staff would require education about the role of the RACF GOPC form prior to implementation.

OR21
Impact of Acute Geriatric Service to Nursing Home on Local Emergency Department and Subsequent Hospitalisation Rates

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Background: Prior to May 2015, only non-urgent geriatric consultation service was provided to nursing home residents Bankstown health service area. From May 2015, Hospital in the Nursing Home (HITNH) services (also known as Connecting Care) was commenced. It provides acute care in the nursing home as a replacement for in-hospital care, across a range of specialties, diagnostic groups and treatments. Treatments range from intravenous antibiotics, fluids and a variety of injections. The impact on local emergency department and subsequent hospitalisation rate was not known.

Aims: The aim of this audit was to investigate emergency department presentation rate from nursing home and subsequent hospitalisation. This was to determine if the newly founded hospital avoidance program of nursing home patients has had made an impact on the health service.

Methods: Retrospective electronic medical record (EMR) review of all nursing home residents presented to Bankstown-Lidcombe Hospital from May 2015 to August 2015 (intervention group). This was compared to same period in 2014 (control group) when Connecting Care program was not available. Basic demographic data was recorded. Admission and discharge rates from emergency department were calculated. Connecting Care activity data was reviewed with hospital data to determine impact. Baseline characteristics and outcomes were compared between 2014 group and 2015 group.

Results: 276 and 318 nursing home patients in 2014 and 2015 groups respectively presented to emergency department during the study period (p=0.056). In the 2014 group, the discharge rate was 38.4%. In the 2015 group, the discharge rate in 2015 group was 52.6% (p value=0.00058) with an odds ratio of 1.76 (95%CI 1.2-2.4).

Conclusion: There was no statistically significant difference in the number of presentations to the local emergency department between the two periods. However, more patients were
discharged back to nursing homes without needing hospitalisation. It was likely due to service impact by the newly founded Connecting Care Program.

**OR22**

**Evaluation of Older Patients for Delirium Risk by using Delirium Risk Assessment Tool (DRAT)**

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**Aims:** To assess the accuracy of the Delirium Risk Assessment Tool (DRAT) in the early identification of delirium risk in hospitalised older medical patients based on pre-morbid characteristics present at admission.

**Methods:** The DRAT was used in the emergency department to assess older patients risk for developing delirium. During hospitalization, patients were reviewed by treating team for development of delirium. The Confusion Assessment Method (CAM) was used to diagnose delirium. Admission records of all patients aged 70 years and older who were admitted to medical wards over three months period between June to August 2014 following an initial delirium risk assessment, were retrospectively reviewed. Demographic data, onset of delirium, length of hospital stay and discharge destinations were recorded. The main outcome measure was incidence of delirium during hospitalization and its correlation with risk stratification measured by DRAT.

**Results:** Of 110 patients, 57 were included in the study. A total of 9 (15.7%) patients developed delirium. On application of DRAT, 23 (40.4%) identified as low risk, 24 (42.1%) as intermediate risk and 10 (17.5%) as high risk for developing delirium. Rate of incident delirium for the low, intermediate and high risk groups were 4.3%, 12.5% and 50%, respectively. In 87.5% patients, DRAT correctly categorized patients into their risk groups.
Conclusion: The newly developed DRAT is a useful clinical screening tool which has a high rate of correctly classifying patients early in their admission who are at risk of developing delirium during hospitalization.

OR23
ALCOHOL AND THE RISK OF BEHAVIOURAL AND PSYCHOLOGICAL SYMPTOMS OF DEMENTIA IN MEN AND WOMEN

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Aims
The aim of this study is to examine the association of current and past alcohol intake and behavioural and psychological symptoms of dementia.

Methods
We studied 792 patients with mild cognitive impairment, mild, moderate and severe dementia and their carers at an Australian hospital memory clinic who reported their alcohol intake and their calculated Neuropsychiatric Inventory (NPI) scores. Secondary outcomes included examining safe and hazardous levels of alcohol intake as well as Neuropsychiatric Inventory (NPI) subsyndromes.

Results
Using multivariate logistical regression, there was a statistically significant association (p <0.05) towards lifetime alcohol intake and the severity of NPI affective subsyndrome in females only. There was no association with the total NPI score and either gender or collectively.

Conclusion
Given the association of NPI affective subsyndrome and lifetime alcohol intake in females, further study needs to be done to delineate the association between alcohol and NPI subsyndromes and differences between genders.

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OR24

Behavioural emergency in the elderly: a descriptive study of patients referred to an Aggression Response Team in an acute hospital

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Aims: The management of severely agitated elderly patients is not easy, and limited guidelines are available to assist practitioners. At a Sydney hospital, an Aggression Response Team (ART), comprising clinical and security staff can be alerted when a staff member has safety concerns. Our aims were to describe the patient population referred for ART calls; reasons for and interventions during ART calls, and complications following them.

Methods: Patients 65 years and older referred for ART calls in the emergency department or wards during 2014 were identified using the Incident Information Management System database and their medical records reviewed. Demographic and clinical data were collected.

Results: Of 43 elderly patients with ART calls, 30 had repeat ART calls. Thirty one patients (72%) had underlying dementia, and 22 (51%) were agitated at the time of admission. The main reasons for ART calls were wandering and physical aggression. Pharmacological sedation was used in 88% of ART calls, with a range of psychotropics, doses, and routes of administration, including IV (19%), and most commonly, midazolam (53%). Complications were documented in 14% of cases where sedation was used.

Conclusions: We demonstrated a high frequency of pharmacological sedation of severely agitated elderly, with significant variance in the choice and dose of sedation and a high rate of complications arising from sedation, which may be an underestimate given the lack of post sedation monitoring. We recommend the development of guidelines on the management of
behavioural emergency in the elderly patient, including de-escalation strategies and standardized psychotopic guidelines.

OR25
LOWER URINARY TRACT SYMPTOMS AND INCIDENT FALLS IN COMMUNITY-DWELLING OLDER MEN: THE CONCORD HEALTH AND AGEING IN MEN PROJECT

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Aims To determine which lower urinary tract symptoms (LUTS) are associated with incident falls in community-dwelling older men.

Methods Concord Health and Ageing in Men Project involves a representative sample of 1705 community-dwelling men aged 70 and older in a defined geographic region in Sydney. One thousand and ninety men without neurological diseases, poor mobility and dementia at baseline were included in the analyses. LUTS were assessed using the International Prostate Symptom Score (IPSS) and incontinence was assessed using the International Consultation on Incontinence Questionnaire (ICIQ) at baseline. The IPSS subscores were calculated for each of storage and voiding symptoms. Incident falls in one year were determined by four-monthly telephone follow-up.

Results Urgency incontinence was associated with falls (adjusted incidence rate ratio (IRR)=2.31, 95% confidence interval (CI): 1.40-3.82). In addition, intermediate to high IPSS storage subscores (frequency, nocturia and urgency) without urgency incontinence were
associated with falls (adjusted IRR=1.62, 95%CI: 1.18-2.22). Other types of incontinence and urgency alone without urgency incontinence were not associated with falls.

**Conclusions** Urgency incontinence especially carries a high risk of falls in community-dwelling older men. Storage symptoms were also associated with falls independently of urgency incontinence. Circumstances of falls among men with LUTS should be explored to understand how LUTS increases fall risk and to generate hypotheses about what types of intervention may be effective. Furthermore, trials to treat LUTS in older men should include falls as an endpoint.

**OR26**

**PREDICTORS AND EFFECT OF ADHERENCE TO A MULTIFACTORIAL FALL PREVENTION PROGRAM FOLLOWING PARAMEDIC CARE**

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**Aim** To understand determinants of adherence to a multifactorial falls prevention program, and the program’s effect on falls and health service utilisation.
Methods Randomised, single-blind, controlled trial with a priori subgroup analysis according to adherence levels within the intervention group (IG). Participants were community-dwelling adults (≥65years), not transported to hospital following fall-related paramedic care. Fall risk assessment identified relevant fall-prevention recommendations. IG received assistance to implement. The Attitudes to Falls-Related Interventions Scale (AFRIS) was completed at baseline, adherence levels measured at six months, falls and health service utilisation recorded for 12-months. Multivariate logistic regression and AUC calculated with 95%CI.

Results AFRIS scores within IG (n=85) were independent of participant characteristics; 48 (56%) participants showed positive intention towards their recommendations. At six months, 39 (46%) participants reported adhering to all recommendations. Significant predictors of adherence were positive AFRIS (OR 3.66, 95%CI 1.35-9.92), taking 8+ medications (OR 2.78, 95%CI 1.02-7.56) and receiving 3+ recommendations (OR 2.90, 95%CI 1.07-7.90). The AUC (3-variable model) was 0.77 (95%CI 0.66-0.87), significantly outperforming individual variables. Adhering IG participants experienced significantly fewer falls (IRR 0.53, 95%CI 0.45-0.80) fall-related paramedic attendances (IRR 0.51, 95%CI 0.30-0.88), ED presentations (fall-related: IRR 0.37, 95%CI 0.17-0.82; fall-unrelated: IRR 0.51, 95%CI 0.28-0.94) and fall-related hospitalisations (IRR 0.37, 95%CI 0.16-0.89) compared to non-adhering participants.

Conclusions Older adults who commit to adhering to individualised recommendations can significantly benefit, regardless of their fall risk factors and medical history. Information on intention to engage in intervention programs provides a mechanism for more efficient use of limited health resources.

OR27
Relationships between executive function, physiological performance, medication use and falls in older people with cognitive impairment

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Aims: To gain a better understanding of the relationship between cognitive performance and falls in cognitively impaired older people (CIOP).

Methods: Prospective cohort study of 177 mild-moderate (MMSE 11-23; ACE-R<83) CIOP living in the community or low-level care facility. Participants underwent sensorimotor and balance assessments. The following neuropsychological domains were assessed: global cognition, memory, language, visuospatial, processing speed, executive function (EF) and affect. Participants were categorised into poorer and better EF groups. Falls were recorded prospectively for 12-months with the assistance of carers.

Results: The EF domain was most strongly associated with multiple falls controlling for age, gender and education (RR 1.50 95%CI 1.18–1.91). Participants with poorer EF were more likely to be taking six or more (p=0.023) and centrally acting medications (p=0.005), and were less physically active (p=0.008). They also had significantly (p≤0.003) worse vision, reaction time, knee extension strength, balance (sway on foam; coordinated stability) and physiological fall risk score. Participants with poorer EF were 1.5 times (RR 1.50 95%CI 1.03–2.18) more likely to have multiple falls controlling for age gender and education. Additionally controlling for taking six or more medications, reaction time and static balance, reduced the RR of multiple falls in the poorer EF group by 35% (RR 1.15 95%CI 0.79–1.69).

Conclusions: Poorer EF increases the risk of multiple falls in mild-moderate CIOP. Multiple medication use, reaction time and static balance significantly mediated the relationship between EF and falls suggesting CIOP with poorer EF may benefit from interventions targeting these mediating factors.
A MULTIFACTORIAL APPROACH FOR TREATING DIZZINESS IN OLDER PEOPLE: A RANDOMISED-CONTROLLED TRIAL

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Aims: Up to 30% of community-dwelling older adults report dizziness and if untreated, dizziness can lead to reduced quality of life, functional disability, depression and restricted participation in social activities. The study aims were to:

- Improve the diagnosis for dizziness in older people with a multidisciplinary assessment.
- Assess the effectiveness of a tailored multifaceted dizziness intervention in a randomised controlled trial.

Methods: 308 community-dwelling people (mean (SD) age 68 (8) years, 63% females) with significant dizziness in the past year completed the dizziness handicap inventory (DHI) (physical, functional and emotional burden) and underwent assessments of vestibular function (Dix-Hallpike, head shaking and head impulse tests), anxiety and depression, strength, balance and gait. Participants were then randomised to intervention or control groups, and based on their test performances, intervention participants were allocated to one or more interventions: vestibular rehabilitation, cognitive behavioural therapy, medical/medication management by a general practitioner or at a falls clinic and strength and balance exercises.

Results: At the completion of the six month trial and compared with baseline, median (IQR) DHI scores in the intervention group were significantly reduced compared with the control group – (baseline: 20(26) vs. 22(20.5); re-assessment: 14(19) vs. 18(22) respectively, p=0.004). There were also indications for fewer dizziness episodes (incidence rate ratio=0.86, 95%CI 0.64-1.14) in the intervention group, and intervention-specific improvements in those allocated to the four intervention types.
Conclusions: The findings indicate that a multifactorial approach for treating dizziness is effective in reducing dizziness handicap in older people.

OR29
A controlled trial of Vertebroplasty for Acute Painful Osteoporotic FractURE (Vapour trial)

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Aims: Evaluation of Efficacy and safety of percutaneous vertebroplasty in subjects with acute vertebral fractures

Methods: Randomised blinded placebo controlled trial. Fractures less than 6 weeks duration. Vertebral fill cement technique achieving cement distribution from superior to inferior end plates. Controls received simulated injection.

Primary outcome measure: pain rated pain intensity score (numerical rate scale) at 2 weeks upto 6 months.
Secondary outcome measures: functional disability and quality of life at durations upto 6 months.

Results: 120 subjects (59 control, 61 vertebroplasty). 73% female. Mean age 80 years. 43.6% in vertebroplasty group and 21% of controls achieved numerical rate score less than 4 at 2 weeks. Mean decrease in change of pain score at all time points was significant (p<0.05). Mean reduction in disability score from baseline favoured vertebroplasty from day 14 to month 6 (p<0.05). There was minimal difference in quality of life measures in both groups. 2 patients had adverse events in each group. Thoraco-lumbar fractures had the best outcomes.
Conclusions: Percutaneous vertebroplasty performed during the first six weeks post fracture utilising a vertebral fill technique is more effective than placebo in reducing pain and improving function in patients with vertebral fracture. The procedure is effective and safe.

OR30
INDEPENDENT FACTORS INFLUENCING EARLY STANDING AND WALKING FOR PEOPLE AFTER SURGERY FOR HIP FRACTURE WHO ARE MANAGED IN A DEDICATED HIP FRACTURE SERVICE.

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The Prince Charles Hospital has a shared care model between Orthopaedic Surgery and Geriatric Medicine of care for patients admitted with hip fracture, in a dedicated hip fracture service with strong emphases on early mobility as recommended by the ANZHFG.

Aims: To investigate independent factors influencing early standing and walking ability at discharge and discharge destination from the hip fracture service.

Methods: A prospective observational study involved 322 people (66% female; mean age 81.4±9.77) following surgery for hip fracture. Time to first stand and walk (hours), functional mobility (DeMorton Mobility Index) and discharge destination were recorded. Pre-existing factors (age, gender, comorbidity, level of functional independence / assistance), fracture type and stability, surgical procedure (type of fixation), along with complications postoperatively (delirium, transfusion) were recorded and analysed using multivariate models.

Results: The independent factors influencing walking within 48-hours of surgery included delirium (OR=3.51, p<.001), level of assistance pre-admission (OR=2.63, p=.005), fracture stability (OR=2.21, p=0.02) and unplanned need for intensive care (OR=6.06, p=.01). Except for intensive care, similar factors independently influenced the ability to stand within 48-hours after surgery.
surgery. Direct discharge to home was influenced by age (OR=4.1, p<.001) as well as the factors influencing time to stand and mobilise within 48hrs (OR=6.18, p<.001).

**Conclusions:** The importance of early recognition and management of delirium is pivotal to ensuring people stand and walk within 48 hours after surgery for hip fracture as delirium is the only independent factor that can be modified. Patients are significantly more likely to be discharged to home when delirium is managed.

**OR31**

**Innovations in Care Delivery: Integrating Comprehensive Geriatric Assessment into a Multidisciplinary Pain Clinic**

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**Aims:** Multidisciplinary pain clinic (MPC) programs may not be suitable for all older people, particularly those with frailty, co-morbidities or impaired cognition. The aims of this study were to assess the feasibility of integrating comprehensive geriatric assessment (CGA) into a MPC, and secondarily, to assess the impact of frailty, co-morbidities and cognitive impairment on response to treatment.

**Methods:** The outcomes of the first 100 attendees at a MPC specifically designed for older people are presented. All patients underwent CGA, including cognitive assessment, Clinical Frailty Scale, Cumulative Illness Rating Score and Brief Pain Inventory.

**Results:** The 3 hour assessment was generally well tolerated. Follow-up data was available for 74% of attendees. Ages range 63.7–93.7 years (mean 80.4, SD = 6.9) with 76% female. Mean number of co-morbidities was 7.3 (SD 2.0); average number of daily medications 10.2 (SD 4.1), clinical frailty was present in 71% and cognitive impairment in 45%. Pain reduction of
>30% was reported by 41.2%, and >50% reduction by 21.6%. Pain related interference in daily activities improved by >30% in 55.1% and >50% in 40.4%. Changes in pain and activity interference did not differ between cognitively impaired and cognitively intact groups. Frail patients reported less improvement in pain activity interference than non-frail (p<0.004), with a similar trend for pain (p=0.07). Number of co-morbidities was not related to change in pain and interference.

**Conclusions:** Older people unsuitable for mainstream MPC programs may obtain worthwhile benefits from a specifically tailored approach that includes CGA.

**OR32**

**Health service use by frail older people: Results from the South Australian Monitoring and Surveillance System (SAMSS)**

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**Aims:** This study aimed to provide an insight into frailty and its impact on the South Australian health care system using population health surveillance data.

**Methods:** In this study, a cross-sectional snapshot of the 2013-2015 South Australian Monitoring and Surveillance System (SAMSS) database was used, with a focus on individuals aged ≥ 65 years. Frailty was classified according to the Frailty Index (FI), with the following classifications: non-frail (scores ≤ 0.1), pre-frail (scores > 0.1 and ≤ 0.21), and frail (scores > 0.21).

**Results:** 7207 people were included: mean (SD) age was 74.8 (7.17) years (53.7% female). FI values ranged from 0.0 to 0.77 (median score = 0.21; IQR=0.14). Over half (50.3%, 95% CI
48.8-51.9) of the respondents were classified as frail, 39.6% (95% CI 38.1-41.1) as pre-frail, and 10.1% (95% 9.3-11.0) robust. After adjustment for confounders, multivariate analyses showed a gradient effect by FI group with regards to both hospital- and non-hospital based medical services. However, for GP usage, frail older people were no more likely to consult GPs than their pre-frail peers. Robust people were less likely to consult GPs than pre-frail adults.

Conclusions: Frailty prevalence was high. Older adults with frailty were high users of health care services, with the exception of GPs. Harnessing knowledge of health service patterns by frail older adults can be used to direct public health policy, and to plan future GP provision.

OR33
IMPACT OF POLYPHARMACY AND DEPRESCRIBING ON ADVERSE GERIATRIC OUTCOMES

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Aims: Rigorous evaluation of the effects of polypharmacy and deprescribing in older adults is ethically and feasibly difficult. We aimed to use our recently developed translational model of polypharmacy (Huizer-Pajkos et al., J Gerontol Biol Sci Med Sci, 2015) to evaluate whether polypharmacy (use of ≥5 different medicines) causes adverse geriatric outcomes and whether these are reversible with deprescribing (withdrawal of medicines).

Methods: Old (23-24 months) male C57BL/6 mice received either control diet (containing no drugs) for 11 weeks, or diet containing therapeutic doses of five commonly used drugs [simvastatin (20mg/kg/day), metoprolol (350mg/kg/day), omeprazole (10 mg/kg/day), paracetamol (100 mg/kg/day) and citalopram (10 mg/kg/day)] for four weeks, which were gradually withdrawn over the next 6 weeks. Mice were assessed for physical performance at 0,
Results: After 4 weeks of polypharmacy, FIAV did not change significantly for controls and declined in the polypharmacy group (p<0.05). After deprescribing (week 11) the FIAV of the control group remained at baseline, and the polypharmacy/deprescribing group did not return to baseline.

Discussion: Our polypharmacy mouse model was successfully used to assess the effects of polypharmacy and deprescribing on geriatric outcomes in old age. In old mice, physical function and a measure of frailty declined with polypharmacy and did not return to baseline after deprescribing.

OR34
Implementing Medicines Management and Quality Use of Medicines in Residential Aged Care (RAC) in New Zealand – a Clinical Pharmacy Service Model

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Aims
New Zealand, particularly Auckland, has a high proportion of people in residential aged care (Broad et al, 2011). Polypharmacy and medicine-related problems are prevalent in older adults, with high rates of anti-psychotic and benzodiazepine use (HQSC, 2015). A clinical pharmacy service model has been successfully implemented in all RAC facilities in our DHB, aiming to improve medicines management, reduce polypharmacy and potential harm.

Methods
Residents at potential risk of medicine-related harm are referred to the clinical pharmacist for a medicine review. Individual reviews are completed electronically or discussed as part of a clinical multidisciplinary meeting at the facility. All recommendations are communicated to the general practitioner’s (GP’s). Data is collected about demographics, the number of reviews...
completed, number of medicines prescribed, number of recommendations made and the acceptance rate by the GP’s.

Results
Between 1 January and 30 December 2015, medicine reviews were completed for 468 residents (average age=84 years, 64% female). There was an average of 10.3 regular medicines per resident with an average of 4.5 recommendations made per review. 85% of the recommendations were accepted by the GP’s. This role was viewed positively by GP’s and RAC staff and reflected an underlying acceptance of this role within the multidisciplinary team.

Conclusion
This model of care has resulted in a reduction in polypharmacy and collaboration with GP’s and aged care staff, which was critical to the success of this model of care. It also aligns with numerous national health strategies in New Zealand and abroad.

References

OR35
Vitamin D deficiency predict mortality among older male but not female; a nationwide study from Thailand
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Aims: Previous studies showing the association between low vitamin D level and increased mortality came from high income countries. The primary objective of this study was to
investigate the association of vitamin D deficiency and effect of gender on mortality in community-dwelling Thai population, a middle income country.

**Method**: Data of population aged 60 or more from the Thai 4th National Health Examination Survey (NHES-IV), a nationwide survey in Thai population conducted in 2008, were explored. Data regarding co-morbid diseases, cognitive function, physical activity, and serum 25-hydroxyvitamin D (25(OH)D) were obtained at the baseline assessment. Information on death was ascertained from civil registration database. Factors associated with mortality were analysed using cox proportional hazard models.

**Results**: A total of 1,268 subjects with median age 74.0 years (IQR 67.0 – 81.0) and follow-up time of 7 years were included. Prevalence of vitamin d deficiency (< 30 ng/mL) were 24.5% and 43.9 % in male and female, respectively. After adjusted with age, physical activities, comorbidities , and low BMI status; vitamin D deficiency showed a statistically significant association with all-cause mortality with hazard ratio [HR] = 1.37, 95% confidence interval = 1.07 – 1.76 , (p = 0.01). When performing separate model for gender, vitamin D deficiency predict mortality only in male but not female.

**Conclusions**: Vitamin D deficiency is an independent risk factor for increased mortality in community dwelling Thai older male. This was in accordance with previous metaanalysis showing benefit of vitamin D supplementation, exclusively among men. Attention should be drawn to focus on adequate vitamin D status in older male.

**OR36**

Diagnosing Sleep Disordered Breathing in community dwelling elderly: lessons from the SNORE-ASA clinical trial

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Sleep Disordered Breathing (SDB) is highly prevalent in the elderly and most is undetected. In the elderly the clinical significance is uncertain, however emerging evidence suggests a relationship with stroke, cardiovascular disease and cognitive decline. Longitudinal studies evaluating SDB typically rely on a full polysomnogram (PSG), where staff presence is required for set up. Unattended limited-channel testing, however, allows for cost-effective and reliable SDB assessment.

**AIM**: To acquire 1500 unattended home sleep studies, each with at least 4 hours of oximetry, in adults aged 70 and over participating in SNORE-ASA, an ancillary study to the ASPirin in Reducing Events in the Elderly study. Participants live throughout south-eastern Australia, in both metropolitan and regional settings. SNORE-ASA is evaluating the relationship between SDB, cognition and the effect of aspirin.

**Methods**: Staff demonstrated use of the Apnealink Plus device (Resmed, Sydney, Aust) at a baseline study visit. Participants then applied the ApneaLink in their own home for one night. After use, participants returned the device in a postage-paid envelope. Device output data was uploaded to a central database, and a sleep physician investigator reported each study, generating a letter to each participant’s GP.

**Results**: 1838 participants consented with 1578 sleep studies attempted. 1383 had > 4 hours oximetry recording free of artefact, representing 88% success.
Conclusions: SDB is of growing interest for a range of health outcomes relevant for ageing persons. We have shown a self-administered home sleep study with centralised reporting is feasible for SDB assessment in community dwelling older adults.

OR37

INTER-RATER RELIABILITY OF THE STANDARDISED MINI MENTAL STATE EXAMINATION

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Aims: To assess inter-rater reliability of Geriatric Medicine Advanced Trainees when scoring the standardised Mini Mental State Examination (sMMSE) and to determine whether accuracy improved throughout training or after formal education.

Methods: Wave 1 of the study evaluated Victorian trainees’ ability to accurately score a mock sMMSE at the start of 2014. The scoring standard was based on Commonwealth Guidelines published by the Independent Hospital Pricing Authority (http://www.ihpa.gov.au/internet/ihpa/publishing.nsf/Content/smmse-lp). Wave 2 included Western Australian, Queensland and Victorian trainees at the end of 2014. Analysis of the mean and spread of scores was performed within each state group, as well as year levels. Wave 3 was undertaken in Victoria alone, following formal education by the Victorian Geriatric Medicine Training Program.

Results: Wave 1 (57 respondents) revealed a wide spread of scores (17-25). 60% scored within one point of the correct mock sMMSE response (22 points). Wave 2 evaluated 21 Victorian, 21 Queensland and 8 Western Australian trainees, with similar results across the states. Subgroup analysis demonstrated no difference between first, second or third year trainees. Wave 3 (30 respondents) revealed no improvement in the scoring spread (18-27) despite formal training.
Conclusion: High inter-rater variability exists among Geriatric Medicine trainees when scoring the sMMSE, with no improvement in accuracy despite progression through training. Our recommendations are threefold: firstly, increased awareness of the deceptive complexity of the sMMSE; secondly, development of a prescriptive education program, with competency-based assessment; and thirdly, attention brought to the inter-rater reliability of other commonly used instruments relevant to Geriatric Medicine.

OR38
RISK FACTORS FOR MILD COGNITIVE IMPAIRMENT PROGRESSION TO ALZHEIMER’S DISEASE

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Aims
To examine the commonly known dementia risk factors for mild cognitive impairment (MCI) progression to Alzheimer’s disease (AD) dementia.

Methods
Post-hoc analyses of a well-characterized cohort of MCI subjects closely followed-up for 2 years, who had serial neuropsychology testing, clinical assessments and neuroimaging with Aβ PET and MRI was conducted. The Cox model was used to explore the relationships between MCI progression to probable AD dementia with several explanatory variables (risk factors), by adjusting for all the variables.

Results
High Aβ burden, poor nonmemory-related cognitive function (NM), and clinical dementia rating sum of boxes (CDR-SOB) were all independent predictors of MCI progression to AD (HR 12.7, 6.5 and 2.6 respectively, p<0.01). Age, years of education, gender, white matter hyperintensity, poor episodic memory, number of cardiovascular risk factors, and hippocampal atrophy did not
independently predict conversion to AD. Only the HRs for NM and CDR-SOB were still significantly raised when those with low SUVRs were excluded from the Cox model, but HRs for all variables were not significant when those with high SUVRs were excluded.

**Conclusions**

1. High Aβ burden is a significant independent risk factor for MCI progression to AD dementia.
2. In the absence of significant co-morbidities and neuropathology on neuroimaging, poor memory is not a significant risk factor for MCI progression to AD dementia.
3. Strategies to reduce Aβ burden and improve NM or functional activities of daily living in MCI may be most relevant to slowing dementia onset, particularly in the setting of high Aβ burden.

**OR39**

**THE EFFECTS OF ACETYLCHOLINESTERASE INHIBITORS AND MEMANTINE ON BEHAVIOURAL AND PSYCHOLOGICAL SYMPTOMS OF DEMENTIA: A SYSTEMATIC REVIEW AND META-ANALYSIS**

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**Aims**

To review the evidence for acetylcholinesterase inhibitors (AChEI) and Memantine in treating behavioural and psychological symptoms of dementia (BPSD) across four major types (Alzheimer’s, Vascular, Frontotemporal and Lewy Body Dementia). A secondary objective was to review evidence for specific individual symptoms of BPSD.
Methods
A systematic search for English Randomised Control Trials was undertaken in MEDLINE, PsycINFO and EMBASE. Study participants had to have a diagnosis of dementia (Alzheimer’s, Vascular, Frontotemporal and Lewy Body Dementia). The interventions studied were AChEI, Memantine or combination therapy against placebo. Outcomes had to be measured using a validated measure of BPSD (Neuropsychiatric Index (NPI), BEHAVE-AD or CAMI). Meta-analysis was performed using Review Manager.

Results
52 individual trials that fitted inclusion criteria were sourced from 2436 articles. Results were significant for improvement with AChEI (mean difference (MD) in NPI -1.29 (-2.17 to -0.41) and combination therapy (MD in NPI -2.21 (-3.37 to -1.05) in Alzheimer’s Dementia. There was no significant improvement in vascular or Frontotemporal dementia. Within the spectrum of Parkinson’s Disease associated and Lewy Body Dementia there was significant improvement with AChEI (MD in NPI -6.13 (-7.21 to -5.65)). Individual meta-analysis was unable to be performed for specific symptoms. There was limited evidence for improvement in agitation/aggression (all four drugs), apathy (Donepezil), delusions (Memantine), irritability and aberrant motor symptoms.

Conclusions
Meta-analysis of trials data supports the use of AChEI and Memantine in Alzheimer’s, Parkinson’s Disease and Lewy Body Dementia. More research is required into targeting specific symptoms of dementia with these drugs.

OR40
THE USE OF TEXTURE-MODIFIED FOOD AND FLUIDS IN PEOPLE WITH DEMENTIA: A SYSTEMATIC REVIEW

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**Aims:** To identify and evaluate current evidence for the use of texture-modified food and fluids (TMF) for management of dysphagia in dementia.

**Methods:** A literature search of PubMED, MEDLINE and Cochrane Library databases from 1990 to July 2015 was performed using terms for “dysphagia”, “texture-modified food and fluids”, “dementia” and “aged care”. Studies needed to include people with dementia and investigate at least one clinical outcome where TMF was an intervention. Studies exclusively of stroke were excluded. Reference lists were screened. Included studies were systematically reviewed with data extracted, summarised, and grouped into categories of outcome measure (prevalence, aspiration, nutrition, hydration and adherence). Descriptive analysis was performed due to study heterogeneity.

**Results:** 2715 records were identified and 21 studies met the inclusion criteria. No studies exclusively examined people with dementia. There is no published data on prevalence of TMF use in dementia. TMF reduces risk of aspiration seen on videofluoroscopy but not clinical aspiration, pneumonia or death. TMF are associated with lower daily energy and fluid intake but no studies that primarily measure malnutrition or dehydration were found. Level of adherence to TMF is variable.

**Conclusions:** There is a lack of evidence supporting the use of TMF for management of dysphagia in dementia. No evidence for improved clinical outcomes relating to aspiration pneumonia, malnutrition, dehydration and mortality was found. Adverse effects of poorer energy and fluid intake were identified. Further studies examining the role of TMF in dementia are required to facilitate an evidence-based approach to care.

**OR41**

**Combining \(^{18}\text{F-florbetaben A\& imaging and MRI in mild cognitive impairment****}

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Aims
1. To examine the relationships between β-amyloid (Aβ) deposition, cognition, hippocampal volume, and white matter hyperintensities (WMH) in mild cognitive impairment (MCI).
2. To demonstrate the clinical utility of sub-classifications of MCI in predicting underlying pathologies.

Methods
Forty-five MCI participants were evaluated. 18F-florbetaben positron emission tomography neocortical standardized uptake value ratio threshold ≥ 1.45 was used to discriminate high from low Aβ burden. Hippocampal volumes were extracted from MRI using the fully automated volumetric measurement program NeuroQuant®. Manual segmentation of the WMH was performed using the MRICro software. Correlations were adjusted for age, gender and years of education.

Results
High Aβ burden was found in 53% of MCI. Regression analyses showed standardized uptake value ratio (r = -0.51, p = 0.0015) and hippocampal volume (r = 0.60, p = 0.024) both contributing to episodic memory impairment in independent fashion. WMH correlated with nonmemory cognition, and this correlation was particularly associated with Aβ burden. Amnestic multi-domain MCI had significantly lower prevalence of high Aβ burden (45% vs 83%, p<0.05) and higher WMH (12.0±11.4 cc vs 4.8±6.6 cc, p<0.05) when compared with amnestic single-domain MCI.

Conclusion

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1. Higher Aβ deposition in MCI is associated with more severe memory impairment and is contributing to early amnestic symptoms independent of hippocampal atrophy.

2. There may be a synergistic interaction between Aβ deposition and WMH on nonmemory-related cognitive functions.

3. Cognitive impairment in amnestic multi-domain MCI might not be related to Aβ deposition, and non-AD pathologies should be considered when assessing their cognitive concerns.

OR42
EVALUATION OF CEREBRAL GLUCOSE METABOLISM IN DELIRIUM USING POSITRON EMISSION TOMOGRAPHY (PET)

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AIMS
Delirium occurs commonly in the hospitalised older patient, increasing morbidity and mortality. Despite this, the pathophysiology of delirium is poorly understood. One hypothesis suggests that hypometabolism and neuronal death are involved. Patterns of hypometabolism in dementia have been established using fluorodeoxyglucose positron emission tomography (FDG PET). The aim of this original study was to investigate changes in cerebral glucose metabolism during and following resolution of delirium using FDG PET.

METHODS
Participants included hospitalised patients over the age of 65 with a documented delirium. Thirteen patients underwent PET scanning during an episode of delirium, of these seven patients completed a second scan following resolution. Scans were evaluated using visual analysis by a nuclear medicine physician and quantitatively using NeuroQ, a neuro imaging analysis software.

RESULTS

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Cortical hypometabolism was universally demonstrated during delirium with relative sparing of the sensorimotor area. Visual analysis demonstrated significant improvement in the areas of hypometabolism following resolution of delirium. This was confirmed with NeuroQ with improvements in the left frontal (1.39 v. 1.41, p=0.03) and right frontal (1.44 v. 1.46, p=0.03), left parietal (1.42 v. 1.47, p=0.03), left temporal (1.20 v. 1.22, p=0.03), left (1.35 to 1.41, p=0.046) and right (1.30 v. 1.35, p=0.03) occipital cortices, and right cerebellum (1.33 v. 1.38, p=0.046).

CONCLUSION
This study demonstrates hypometabolism in cortical areas of the brain during delirium, which is at least partly reversible. This first of its kind study provides evidence of functional brain changes in delirium and contributes important insights into the underlying pathophysiology of delirium.

OR43
CHRONIC KIDNEY DISEASE (CKD) IN HOSPITALIZED GERIATRIC PATIENTS: PREVALENCE, CHARACTERISTICS AND IMPACT ON OUTCOMES

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Aims: The prevalence of CKD defined as a glomerular filtration rate (GFR) <60 mL/min/1.73m² is about 10% in the general population. We aimed to evaluate the prevalence and relationships between CKD, causes of admission, comorbidities and outcomes in hospitalized geriatric patients, issues which have not been explored in detail previously.

Methods: Demographic, clinical and laboratory data were analysed in all 585 patients (mean age 85.7 ± 6.9 years, 63.6% female) admitted to the Acute Care of the Elderly unit at The Canberra Hospital in 2014.

Results: CKD was prevalent in 328 (56.1%) patients (62.2% females) and significantly associated with exacerbation of congestive heart failure (OR=2.17, 95%CI 1.12-4.21, p=0.022), infections (OR=1.62, 95%CI 1.16-2.25, p=0.004), developing acute kidney injury (OR 2.87, 95%CI 1.64-5.07, p<0.001) and presence of anaemia (OR 1.55, 95%CI 1.10-2.18, p=0.012). Multivariate logistic analysis identified history of coronary artery disease (OR=2.08, 95% CI
1.23-3.53, \( p=0.006 \), heart failure (OR=2.89, 95%CI 1.70-4.93, \( p<0.001 \)) and hyperparathyroidism (serum PTH >6.8 pmol/L, OR=2.12, 95%CI 1.33-3.38, \( p=0.002 \)) as independent significant correlates of CKD. CKD was found to be an independent predictor of in-hospital mortality (OR=1.89, 95%CI 1.04-3.43, \( p=0.037 \)).

**Conclusion:** The prevalence of CKD among hospitalized elderly is very high (56.1%); it is associated with heart failure, coronary artery disease, anaemia, hyperparathyroidism, requires admissions for exacerbation of heart failure, developing infections and/or acute kidney injury, and increases the risk of in-hospital mortality 2-fold. New practical multidimensional diagnostic, preventive and therapeutic approaches with aggressive strategies are needed to reduce the burden of CKD in the elderly.

**OR44**

**Anaemia in hospitalised geriatric patients: an underestimated problem**

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**Aims:** To determine the prevalence, severity, types and determinants of anaemia in hospitalised geriatric patients, and its impact on outcomes.

**Methods:** Clinical and laboratory data on 587 consecutive patients admitted to our hospital under geriatric medicine in 2014 have been analysed. WHO criteria of anaemia were used: haemoglobin (Hb)<120 g/L for females, Hb<130g/L for males.

**Results:** The prevalence of anaemia was 49.1% and severe (Hb<100 g/L) in 12.3%. Iron (transferrin saturation <18%), vitamin B\(_{12}\) (<140 pmol/L) or folate (<9.2 nmol/L) deficiency was found in 67.6%, 3.6 %, and 2.8% patients, respectively. Iron deficiency was identified in 75.4% of the anaemic patients and in 58.3% among non-anaemic subjects. On multivariate logistic regression analyses, cardiac failure (OR 2.2, \( p=0.020 \)), hypoalbuminaemia (<33g/L; OR 3.8, \( p=0.000 \)), history of fracture (OR 2.5, \( p=0.007 \)), iron deficiency (OR 2.1, \( p=0.004 \)), serum ferritin
<100µg/L (OR 3.0, p=0.000), chronic kidney disease (GFR<60ml/min/1.73m²; OR 1.8, p=0.019), history of cancer (OR 1.2, p=0.022), gastrointestinal bleeding on admission (OR 6.6, p=0.015), male gender (OR 1.6, p=0.007) and age (OR 1.03, p=0.034) were the main independent associates with anaemia. Anaemia predicted mortality within 3 months (OR 1.6, p=0.052), while prolonged (>10 days) hospital stay was predicted by iron deficiency (OR 2.6, p=0.018) and severe anaemia (OR 2.2, p=0.013).

Conclusions: In hospitalized geriatric patients anaemia is very common, frequently iron deficient in origin, associated with chronic heart and/or renal failure, malnutrition, history of fracture, cancer, male gender and age, and predicts poorer outcomes. More than a half of non-anaemic patients are iron deficient.

OR45
RETROSPECTIVE REVIEW OF C2 CERVICAL FRACTURES IN OLDER PEOPLE OF CHRISTCHURCH, NEW ZEALAND

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Aims – To describe the management, complications and outcomes for elderly patients who sustain high cervical fractures.

Methods – A retrospective chart review was carried out on all patients identified via the clinical discharge code of S12.1 (fracture of second cervical vertebra) at Christchurch Hospital between 1/1/2009 and 31/12/2013. The paper and electronic medical records for these patients were reviewed to obtain data on the accident, management, complications, rehabilitation, discharge destination and mortality.
Results – The 64 patients (26 male, 38 female) had a mean age of 80.6 years. On admission 89% of patients lived at home, 25% needed a mobility aid and the average Charlson Comorbidity Index score was 1.9. 19 (29.6%) patients had high impact accidents causing the fracture. All patients were managed conservatively, but 53% of patients had a complication from their collar. Mean length of stay was 22.3 days and 57.8% required inpatient rehabilitation. Six (9%) patients died as a direct result of their injuries while one year mortality was 21%. At discharge 75% needed a mobility aid, thirteen went to residential care (seven new admissions), 43 home and two returned to other hospitals.

Conclusions – C2 fractures have a significant impact on the elderly population, despite the majority being as a result of low impact injuries they caused a significant disability requiring inpatient rehabilitation. Even with the prolonged length of stay and complications related to the collars many patients are able to be discharged home and mortality was as predicted at one year by the Charlson Comorbidity Index score.

OR46
Denosumab-induced hypocalcaemia in the Elderly

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Aims
To determine the safety profile of denosumab by investigating the occurrence of hypocalcaemia in elderly subjects given denosumab for osteoporotic fractures.

Methods
A prospective pilot study was conducted at Calvary Hospital in Kogarah, NSW where 33 patients aged > 70 years old with minimal trauma fractures were recruited and administered denosumab injections. Baseline serum calcium, vitamin D levels, renal function, albumin, parathyroid hormone levels and serum calcium levels 2 weeks after denosumab injection were measured.
Results
Of the 33 participants with a mean age of 85 years old, 5 (15.2%) developed hypocalcaemia post injection (corrected serum calcium concentration less than 2.20 mmol/l). A paired sample t-test was performed and the mean difference between the baseline calcium and post injection calcium level was 0.059 mmol/l (95%CI 0.020-0.098; t=3.080, p=0.004). Regression analysis showed that pre-denosumab serum calcium level correlated with the post denosumab injection calcium level (R=0.631, 95%CI 0.288-0.977; p=0.001). No other variables were significant.

Conclusions
Although denosumab is well-known to be safe and efficacious for treatment of post-menopausal osteoporosis, there is a higher risk of hypocalcaemia in hospitalised elderly subjects. Clinicians should be aware of this adverse effect of hypocalcaemia while using denosumab to treat osteoporosis especially in the elderly population.

OR47
SPINAL INFECTIONS IN THE ELDERLY: A COMPARATIVE ANALYSIS OF CLINICAL PRESENTATION AND OUTCOMES

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Aims To explore differences in presentation and outcomes between younger and older patients with bacterial spinal infections.
Methods A retrospective case series review was performed on patients presenting to a single metropolitan hospital with spinal infections (spondylodiscitis, vertebral osteomyelitis, septic discitis, facet joint septic arthritis, and spinal epidural abscess [SEA]) between January 2008 and January 2015. Patients were excluded if under 18 years of age, or if clinical and imaging findings were not entirely consistent with the diagnosis.

Results Of a total 53 patients, 34 (64%) were classified as elderly (≥65 years), with more males in both elderly (65%) and younger (79%) groups. Elderly patients presented later (median symptom duration 13 vs 4 days, p=0.016). Back pain was nearly ubiquitous. Whilst not statistically significant, the elderly were less likely to present with fevers (38% vs 63%) and rigors (24% vs 42%), but more likely to be hypotensive (18% vs 5%), delirious (24% vs 11%), have higher median CRP levels (166 vs 114 mg/L) and leukocyte counts (15 vs 10 x 10⁹), and have an organism isolated (77% vs 58%). They had longer median lengths of stay (24 vs 14 days), and higher likelihood of death or treatment failure (HR 9.34, p = 0.031). Radicular pain was associated with poor outcome (HR 3.29, p = 0.046).

Conclusions Elderly patients with spinal infections present later, with higher inflammatory markers, non-classical infective syndromes, and possibly different causative microbiology; these may contribute to poorer outcomes. A low threshold for promptly investigating elderly patients with new or worsening back pain should be held.

OR48

ASSESSMENT AND MANAGEMENT OF PAIN IN OLDER PEOPLE WITH AND WITHOUT COGNITIVE IMPAIRMENT FOLLOWING A HIP FRACTURE – A RETROSPECTIVE CASE CONTROL STUDY

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Aim – To assess whether older people with cognitive impairment have their pain assessed and managed the same as their cognitively intact counterparts during the pre- peri and post-operative period of their acute stay following hip fracture.
**Method** – A retrospective case control study reviewing the medical notes of age and sex matched, community living, ambulant patients with and without cognitive impairment who had a hip fracture repair in the Prince of Wales Hospital, Sydney between 2011 and 2014.

**Results** – Ninety patients were included, selected from the hip fracture registry. Forty five patients with cognitive impairment and forty five were cognitively intact, with mean age of 85 years and 77% female. There was no significant difference in the frequency a pain assessment scale score was documented between the 2 groups (p=0.66). There was no significant difference between paracetamol prescription (p=0.28) regular opiate prescription (p=0.73) or nerve block administration (p=0.67) between the groups. There was no significant difference between preoperative mean daily dose of oxycodone (10.8mg V 11.8mg, p=0.93), as required mean daily dose of oxycodone (5.5mg V 7.2mg, p=0.57) or total mean daily dose (7.9mg V 11.3mg, p=0.54).

**Conclusions** – There is no evidence to suggest a difference in pain assessment or management between the groups however the low rate of preoperative paracetamol prescription in both groups and of nerve block administration could be improved with adherence to the local guidelines.

**OR49**

**BASELINE VULNERABILITY AND INPATIENT FRAILTY IN RELATION TO ADVERSE OUTCOMES IN A SURGICAL COHORT.**

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**Aims**: The number of older patients undergoing surgery is increasing. Our aims are to derive baseline and inpatient frailty indices (FIs) in elderly surgical patients and to study their association with adverse post-operative outcomes.

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**Methods**: A secondary analysis was conducted on a prospectively collected dataset. This contained comprehensive geriatric assessment and clinical outcomes on 493 patients aged 70 years and older admitted to 4 acute hospitals in Queensland. Of these, 208 patients who were admitted to a surgical ward or had a procedural date were extracted for analysis. Baseline and inpatient FIs were calculated and their association with adverse outcome examined in logistic regression.

**Results**: The mean age of the study population was 79, with 59% being female. 45% received surgery, 12% had a low risk procedure, while 43% were managed conservatively. The mean (SD) baseline FI was 0.19 (0.09) which increased to 0.26 (0.12) on admission, with a predominant increase in domains related to the functional status. Baseline and inpatient FIs were moderately correlated with length of stay (r=0.22; p <0.01 and r= 0.32; p<0.001 respectively). In univariate analysis, higher FIs both at baseline and at an inpatient were predictive of one year mortality, inpatient delirium, and a composite outcome of adverse inpatient event. This association remained significant after adjustment for age, sex and treatment received.

**Conclusions**: A higher level of frailty as an inpatient reflects the impact of illnesses on baseline vulnerability. Both baseline and inpatient frailty indices were significantly associated with adverse post-operative outcomes.
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