Communications to the Autumn Meeting of the British Geriatrics Society

28 - 30 November 2012
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programme of abstracts
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<td>Youde, J H</td>
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<td>Zamboni, M</td>
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</table>
PLATFORM PRESENTATIONS

Session C  14:00 - 15:30  ABSTRACT BOOK NOS  1

THURSDAY, 29 NOVEMBER 2012

Session J  11:45 - 13:00  2-6
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DISPARITY IN THE QUALITY AND SPEED OF ACUTE STROKE CARE BETWEEN ELDERLY AND YOUNGER PATIENTS

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Introduction

There is clear evidence that better quality of care following a stroke is linked to improved patient outcomes.

We present data from the Stroke Improvement National Audit Programme (SINAP) comparing elderly patients, defined as being 81 or over, and younger patients with respect to the quality and speed of care they received.

Methods

SINAP is a prospective audit of acute stroke admissions in England and Northern Ireland. Logistic regression was used to compare a range of care standards received by elderly and younger patients. Analyses were adjusted for sex, OCSP stroke classification, consciousness level and need for palliative care.

Results

Between Apr 2010 and Sep 2011, 30,910 patients were admitted with a stroke. Patients aged 81 or over were more likely to be female (66% vs 42%) and less likely to be fully conscious during the first 72 hours of their admission (62% vs 79%).

Elderly patients were less likely to arrive at hospital within 1 hour of their stroke (OR 0.79 95% CI 0.72-0.86), and once in hospital were less likely to arrive at a stroke team within an hour (OR 0.77 95% CI 0.73-0.81). In the first 24 hours of admission, elderly patients significantly less likely to see either a nurse (OR 0.74 95% CI 0.66-0.82) or a stroke consultant (OR 0.81 95% CI 0.77-0.86). However, if they needed to see a physiotherapist (OR 0.98 95% CI 0.89-1.06) or have a swallow screening (OR 1.00 95% CI 0.92-1.09) they fared the same as younger patients.

Conclusions

Older stroke patients progressed more slowly along the care pathway, and did not see some key medical staff, when compared with younger patients. Hospitals need to ensure that they are equipped to cope with this challenging group of patients.
THE FRAILTY INDEX IN EUROPEANS: ASSOCIATION WITH AGE AND MORTALITY

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Introduction
The concept of frailty is well known to clinicians, but the operationalisation of this construct remains a research challenge. The Frailty Index (FI) is an approach to the operationalisation of frailty based on accumulation of deficits. The majority of studies on FI have been conducted outside Europe. Our objective was to construct gender-specific FIs from a large sample of Europeans and study their associations with age and mortality.

Methods
This study is based on the Survey of Health, Ageing and Retirement in Europe (SHARE, http://share-dev.mpisoc.mpg.de/), a large longitudinal population-based survey. We studied 16,217 females and 13,688 males aged ≥ 50 from wave 1 (2004 – 2005). Mortality data was collected between 2005 and 2006 (mean follow-up: 2.4 years). A 40-item FI was constructed as per standard procedure. We conducted regression curve estimations between age and the FI. Logistic regressions were used to assess the relative effects of age and the FI towards mortality.

Results
In both genders, there was a significant non-linear association between age and the FI (females: quadratic R² = 0.20, P < 0.001; males: quadratic R² = 0.14, P < 0.001). Overall, the FI was a much stronger predictor of mortality than age, even after adjusting for the latter (females: age-adjusted OR 100.5, 95% CI: 46.3 – 218.2, P < 0.001; males: age-adjusted OR 221.1, 95% CI: 106.7 – 458.4, P < 0.001). There were clinically significant differences in mortality between genders, with males having greater mortality rates despite having lower mean FI values.

Discussion
For the first time, we operationalised a FI in a large representative sample of community-dwelling Europeans. The FI had the expected properties. If the European FI is to be operationalised in clinical practice, our findings may serve as a reference to help European practitioners identify at-risk patients who need priority access to resources.
THE EFFECTS OF AEROBIC EXERCISE ON SARCOPENIA AND PHYSICAL PERFORMANCE IN COMMUNITY-DWELLING OLDER PEOPLE FROM THE HERTFORDSHIRE COHORT STUDY: A RANDOMISED CONTROLLED TRIAL

H J Denison¹, H E Syddall¹, H J Martin¹, F M Finucane², S J Griffin², N J Wareham², C Cooper¹, A A Sayer¹ and the HPAT Study Group

Introduction
Physical activity is important in sarcopenia, the age-related loss of muscle mass and function. Resistance exercise is consistently associated with improved muscle strength and physical performance (PP) in older adults but the influence of aerobic exercise on muscle outcomes is less clear. We investigated the effects of an aerobic exercise intervention on muscle strength and PP among community-dwelling healthy older men and women.

Methods
Participants from the Hertfordshire Cohort Study (HCS) were randomly assigned to a 12 week aerobic exercise programme or a non-intervention control group. Sarcopenia and PP were assessed at the beginning and end of the study using a DXA measure of lean mass, grip strength and a PP battery including a timed 3 metre walk, a timed up and go (TUG) test, chair rises and standing balance.

Results
96 individuals (age range 67-76 years) were randomised equally to control and intervention groups; these were well matched at baseline for anthropometric and PP variables. In comparison with controls, TUG performance among the exercise intervention group improved significantly at 12 week follow-up (p=0.04), decreasing from 11.0 seconds (s) (SD 2.0) at baseline to 10.2 s (SD 1.6) at follow-up, in comparison with no change among the control group. Changes in lean mass, grip strength, 3 metre walk and chair rises times over the 12 week follow-up did not differ between the control and intervention groups.

Conclusions
Aerobic exercise improved physical performance, specifically the TUG test, among community-dwelling older men and women. Further research is required into the potential benefits of aerobic exercise as well as other types of physical activity on sarcopenia and PP outcomes.
REFINE-REDUCING FALLS IN IN-PATIENT ELDERLY USING BED AND CHAIR PRESSURE SENSORS IN ACUTE HOSPITAL CARE: A RANDOMISED CONTROLLED TRIAL

C D Vass¹, O Sahota², A Drummond¹, D Kendrick³, M Grainge⁴, J Gladman⁵, T Sach⁶, M Avis¹

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Introduction
Advances in sensor technology afford innovative approaches to reducing falls in acute hospital care, however its clinical and cost-effectiveness has not been evaluated in a RCT.

Method
Pragmatic, parallel-arm, randomised controlled trial of bed and bedside chair pressure sensors (intervention group) compared to standard care (control group) to reduce inpatient falls in high risk elderly patients admitted to acute, general medical wards, in a large UK teaching hospital. The primary outcome measure was the number of in-patient bedside falls per 1,000 bed days.

Results
1,839 participants were randomised (918 to the intervention group and 921 to the control group). There were 85 bedside falls (65 fallers) in the intervention group, with a falls rate of 8.71 per 1,000 bed days compared with 83 falls (64 fallers) in the control group, with a falls rate of 9.84 per 1,000 bed days (adjusted incidence rate ratio, 0.90; 95% confidence interval [CI], 0.66 to 1.22; p=0.5). There was no significant difference between the two groups with respect to time to first fall (adjusted hazard ratio [HR], 0.95; 95% CI, 0.67 to 1.34; p=0.12). The mean cost per patient in the intervention group was £7199 compared to £6400 in the control group, mean difference in QALYs per patient, 0.0001, not significant, (95% CI, -0.0006 to 0.0004, p=0.67).

Conclusions
Bed and bedside chair pressure sensors as a single intervention strategy do not reduce in-patient bedside falls, time to first fall and are not cost effective in high risk elderly patients in acute, general medical wards.
THE EFFECT OF INTRAVENOUS THROMBOLYSIS WITHIN 6 HOURS OF STROKE ONSET ON DISCHARGE DESTINATION, THE ABILITY TO WALK AND TALK, AND QUALITY OF LIFE IN PATIENTS OVER THE AGE OF 80 YEARS IN THE THIRD INTERNATIONAL STROKE TRIAL (IST-3)

C Roffe¹ on behalf of the IST-3 Collaborative Group²

1. North Staffordshire Combined Healthcare Trust and Keele University, 2. Edinburgh University and 156 Collaborating Hospitals

Introduction
Thrombolysis for acute ischaemic stroke is licensed for use within 3 h of symptom onset in patients up to the age of 80 years, and the ECASS 3 study has shown effectiveness up to 4.5 hours. IST-3 sought to determine whether a wider range of patients in including those over the age of 80 years might benefit up to 6 hours from stroke onset.

Methods
This is an international, multicentre, randomized, open-treatment trial (ISRCTN25765518). Patients with symptoms of stroke where the treating physician was uncertain in relation to the benefit of thrombolysis were eligible to enrolled if they fulfilled the following criteria: <6 h of symptom onset, intracerebral haemorrhage excluded by head scan, no stroke within 14 d, no known clotting disorders, no surgery, major trauma, or haemorrhage within 21 d, independent in activities of daily living, blood pressure 90-220/40-140mmHg. They were randomized to either recombinant tissue plasminogen activator (rt-PA) 0.9 mg/kg or control (routine care). Follow-up was at 6 months by postal questionnaire.

Results
3035 patients were enrolled by 156 hospitals in 12 countries. 1617 (53%) were >80 y old. At 6 months, 554 (37%) patients in the rt-PA group versus 534 (35%) in the control group were alive and independent (p=0.18); an ordinal analysis showed a shift towards better Oxford Handicap Scale (OHS) scores (OR 1.27; 95% CI 1.10—1.47; p=0.001). Patients >80 y were significantly more likely to benefit than younger patients (OR 0.92 vs. 1.35, p=0.03). Results relating to discharge destination, independence in activities of daily living, the ability to walk, and speech problems at 6 months will be presented.

Conclusions
Intravenous thrombolysis in patients over the age of 80 reduces death and dependency after stroke.
THE SOUTHAMPTON SICKNESS BEHAVIOUR SCALE: VALIDITY, INTERNAL CONSISTENCY AND RELIABILITY IN ALZHEIMER’S DISEASE AND LEWY BODY DEMENTIA

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Memory Assessment & Research Centre, Clinical Neurosciences, Faculty of Medicine, University of Southampton, UK

Introduction

In animal models of neuro-degenerative disease, neuroinflammation is associated with cytokine-related sickness behaviours, such as apathy, somnolence and malaise. In this study we aimed to develop and validate a scale to measure cytokine-related sickness behaviour in humans with dementia.

Methods

Eighty five participants with a diagnosis of Alzheimer’s disease (n=64) or Lewy Body dementia (n=21) were recruited through the memory service in Hampshire, UK. 26 putative sickness behaviours were rated on a four-point scale by a reliable informant. In phase 1, psychometric analysis, using a discrimination index and categorical principal components analysis, identified items that did not contribute significantly to the total scale variance. In phase 2, the retained items formed a scale that was compared with serum cytokine levels to assess biological construct validity. Serum samples were obtained at the time of scale administration for multiplex cytokine immunoassay. Construct validity was assessed further by principal components analysis. Cronbach’s alpha was calculated to assess internal consistency. A sub-set of participants (n=13) underwent a 7-day retest for test-retest reliability. LREC approval was granted (LREC:07/Q1704/78).

Results

Phase 1: 16 items had a discrimination index <0.2, or an eigenvalue <0.5. These items were discarded.

Phase 2: Construct validity for the remaining 10-item scale was demonstrated by significant correlations between the total scale score and levels of serum IFN-γ (Spearman’s r =0.25, p=0.019) and IL-4 (Spearman’s r =0.33, p=0.002). Categorical principal components analysis revealed 2 groupings of the 10 scale items consistent with the theoretical construct of sickness behaviour, providing further support for the construct validity of the scale. The 10-item scale had high internal consistency (Cronbach’s alpha=.85, 95% CI .81 to .89), and high test-retest reliability (ICC=.89, 95% CI .68 to .96).

Conclusions

We have presented data to support the validity and reliability of the 10-item Southampton Sickness Behaviour Scale in dementia.
STROKE PROPHYLAXIS WITH WARFARIN AND DABIGATRAN FOR PATIENTS WITH NON-VALVULAR ATRIAL FIBRILLATION - A COST ANALYSIS

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Introduction
Dabigatran, a direct thrombin inhibitor, has recently been shown to be equally as effective as warfarin in stroke prevention in patients with non-valvular atrial fibrillation (NVAF), with similar or lower bleeding complications. It has been approved by NICE in the UK for this indication, but cost analyses have been based on complication rates derived from clinical trial cohorts rather than "real life" clinical cohorts.

Objective
To investigate the costs of dabigatran compared to warfarin in a "real-world" clinical cohort of patients with NVAF.

Methods
Prospective observational study of patients with NVAF referred to a tertiary hospital anticoagulation clinic. Patients were telephoned at 4-6 weekly intervals and general practice notes reviewed for bleeding events. Anticoagulation cost calculations were based on (i) drug cost, (ii) INr monitoring, and (iii) bleeding cost. Theoretical cost calculations for dabigatran excluded INR monitoring costs. Adjustments were made for differences in stroke and bleeding rates between the two therapies.

Results
A total of 402 patients were followed up for a mean (SD) of 19 (8.1) months, providing 634 patient-years of treatment. Annual costs of anticoagulation were £207.3 and £1,573 for warfarin and dabigatran respectively. Total costs to prevent one stroke per year were £6,219, £28,086.5, and £25,181 per year for warfarin, dabigatran 110mg and dabigatran 150mg respectively. Drug price constituted 13.6% of total warfarin costs and 94% of total dabigatran costs.

Conclusion
Drug price is the main driver of anticoagulation costs for dabigatran, while INR control is the main driver for warfarin. Until the price of dabigatran is reviewed, warfarin remains suitable for the majority of patients with NVAF.
**Prevalence of Unrecognised Metabolic Syndrome in the Healthy Elderly Population– Brighton and Verona Seniors Study (BrAvES)**

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¹. Brighton and Sussex Medical School, Brighton, UK; ². Clinica Geriatrica, Ospedale Maggiore, Verona, Italy

**Introduction**
There is a lack of data on the prevalence of metabolic syndrome in elderly populations. We aim to describe the prevalence of the metabolic syndrome (as defined by the NCEP-ATP III criteria – see table I) in two apparently healthy volunteer elderly populations and to compare the prevalence of the metabolic syndrome components between the UK and Italy.

**Methods**
194 healthy elderly age 65-85 years, resident in Verona Italy (n=94, Age: 73.02 ± 5.6, mean ± SD) and Brighton, UK (n = 90, Age: 69.54±4.15) were recruited to the study.

Known hypertensives, diabetics, those on statin therapy and the clinically obese were excluded. Our outcome was the prevalence of unrecognised metabolic syndrome.

**Results**

<table>
<thead>
<tr>
<th>Component of Metabolic Syndrome</th>
<th>ATP III Criteria</th>
<th>Brighton % prevalence n= 90 (Male= 26, Female= 64)</th>
<th>Verona % prevalence n= 94 (Male= 37, Female= 57)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waist Circumference</td>
<td>Male &gt;102cm</td>
<td>44.4</td>
<td>27.7*</td>
</tr>
<tr>
<td></td>
<td>Female &gt;88cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fasting Glucose</td>
<td>&gt;110mg/dl</td>
<td>28.4</td>
<td>25.6</td>
</tr>
<tr>
<td>HDL</td>
<td>Male &lt; 40mg/dl</td>
<td>14.4</td>
<td>21.6</td>
</tr>
<tr>
<td></td>
<td>Female &lt; 50mg/dl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triglycerides</td>
<td>&gt;150mg/dl</td>
<td>11.1</td>
<td>17.0</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>&gt;130/&gt;85 mmHg</td>
<td>52.0</td>
<td>53.3</td>
</tr>
</tbody>
</table>

The prevalence of the metabolic syndrome in the Italian group was 20.5% and in the British group was 21.0% and the components within the two groups are given in the table to the left.

Table I: Prevalence of Metabolic Syndrome Components in Brighton and Verona

*p=0.01

Unrecognised hypertension was by far the most common factor with over 50% prevalence in both groups. Waist circumference was significantly different between the two groups with Italians having lower prevalence of increased waist circumference (p=0.01). Despite this, they had a similar prevalence of metabolic syndrome owing to a tendency to higher triglyceride and lower HDL cholesterol concentrations.

**Conclusion**
In both groups, the metabolic syndrome was present in 1 in 5 subjects. However the components of the syndrome differed between the two groups.
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SYSTEMATIC REVIEW OF BIOMARKERS FOR DISEASE PROGRESSION IN PARKINSON’S DISEASE

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Scope
Using surrogate outcome biomarkers as endpoints in Parkinson’s disease (PD) trials may help differentiate symptomatic effects of putative neuroprotective agents from true disease-modification. We undertook a systematic review to assess what biomarkers for disease progression in PD exist.

Search Methods
MEDLINE and EMBASE (1950-2010) were searched using five search strategies (four based on keywords, one MeSH headings). Abstracts were assessed to select papers meriting review in full. Reference lists were reviewed to identify articles missed by the electronic search, which was validated by hand-searching. Studies of participants with idiopathic PD diagnosed by formal criteria or clearly described clinical means were included, regardless of participant age, disease duration, treatment or study design. We included studies of tests (including imaging, blood, CSF and neurophysiology) used to investigate disease progression. We looked for associations of the test result with clinical measures of disease progression - impairment, global cognitive function, disability, handicap, quality of life and survival. Associations to individual symptoms, parts of scoring systems, mood, disease duration, therapeutic complications and treatment status were excluded. Papers available in English and in full were included.

Results
183 studies were included: 163 (89%) cross-sectional, 20 (11%) longitudinal. The sensitivity of the electronic search was 71.4%; specificity 97.2%. Median longitudinal follow-up was 2.0 years (interquartile range 1.1 to 3.5). Included studies were generally of poor quality, cross-sectional with small numbers of participants, applied excessive entry criteria, had flawed methodologies, and inappropriate statistical analyses.

Conclusions
We found insufficient evidence to recommend the use of any biomarker for disease progression in PD trials. Given the poor quality of included studies, we present a provisional ‘roadmap’ for conducting future disease progression biomarker studies.
OUTREACH SERVICE TO CARE HOMES IN BURY

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Care of the Elderly Department, Fairfield General Hospital, Bury

Background
Residents of care homes have complex healthcare needs with multiple long-term conditions and significant disability and frailty. General practitioners who have main responsibility for their medical care are not always adequately supported to provide the best possible care.

Innovation
An outreach service for nursing and residential homes in Bury was piloted in 4 care homes April to September 2010 (total of 334 residents). A Consultant Geriatrician provided weekly visits to each home. The aims of the service were

1. Improve quality of care of residents by providing specialist service for early intervention and treatment
2. Prognostic planning
3. Reduce avoidable hospital admissions
4. Improve confidence in caring for the elderly
5. Improve communication with relatives, patients and primary care.

Evaluation
Hospital admission figures and length of stay from the targeted care homes were obtained from Pennine Acute Hospital Trust (PAHT) information department.

<table>
<thead>
<tr>
<th>LOS days</th>
<th>2009-2010</th>
<th>2010-2011</th>
<th>2011-2012</th>
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<tr>
<td>0-1</td>
<td>36(46%)</td>
<td>26(70%)</td>
<td>35(67%)</td>
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<tr>
<td>2-3</td>
<td>10(13%)</td>
<td>0</td>
<td>7(13%)</td>
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<tr>
<td>4-5</td>
<td>7(9%)</td>
<td>2(5%)</td>
<td>2(4%)</td>
</tr>
<tr>
<td>6-7</td>
<td>2(2%)</td>
<td>2(5%)</td>
<td>1(2%)</td>
</tr>
<tr>
<td>&gt;7</td>
<td>23(29%)</td>
<td>7(19%)</td>
<td>6(14%)</td>
</tr>
</tbody>
</table>

Bed days used | 765 | 309 | 229
Bed days saved (compared to 2009-2010) | -465 dys | -536 dys

Conclusion
Regular specialist input by Geriatricians into care homes can significantly reduce acute hospital admissions. The service has also helped to facilitate early discharge resulting in huge savings by reducing length of stay.

The feedback obtained from residents, family and carers was very positive. Following the successful pilot, the service has been commissioned by NHS Bury and is now serving 8 Care Homes providing specialist care for over 500 residents.
SURVEY EXPLORING ELDERLY PATIENTS’ VIEWPOINTS OF THE MULTI-COMPARTMENT COMPLIANCE AIDS

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¹. Dept of Elderly Care, The Royal Oldham Hospital; ². Dept of Elderly Care, Rotherham District General Hospital

Introduction
Elderly patients often require complex pharmacological interventions involving multiple medications. Multicompartment compliance aids (MCAs) are widely used to improve compliance, however preparation is time consuming, labour intensive, and expensive. It is likely that use of MCAs will lead to patients’ loss of responsibility, autonomy, or decision making regarding their own medications. The aim of this survey was to explore patients views about the use of MCAs.

Sampling methods
A cross-sectional survey was conducted over three months on acute medical wards in a district general hospital in the UK. Patients aged ≥75 years who were using MCAs were included. Activities of daily living were assessed by Barthel Index, cognitive function by the Mini-Mental State Examination (MMSE). Patients were interviewed about their perception of MCA use. The outcome measure was their perception whether the use of the MCA was appropriate for them. We also compared views of patients who preferred the MCA with those who didn’t.

Results
Fifty one patients using an MCA were identified. 35% of patients, if they were given the choice, would prefer not to have the MCA. These patients had on average higher MMSE scores (24.4 vs 21.8, P = 0.02), were less dependent on social services support (67% vs 39%, P = 0.04), better informed about their medications’ names (44% vs 6%; P = 0.01) and indications (28% vs 9%, P = 0.02) than those who preferred the MCA. They reported greater loss of autonomy (94% vs 52%; P = 0.002) and decision making (78% vs 49%; P = 0.04). They were more likely to use other medications, not in the MCA, (89% vs 39%; P = 0.01).

Conclusions
MCAs resulted in a lack of autonomy and decision making in some patients. If their use was better targeted, patient satisfaction could improve and cost savings made.
A SURVEY OF CAPACITY ASSESSMENT AND USE OF RELEVANT LEGISLATION

A McGovern, A Breckenridge, P Seenan

Care of the Elderly Department, Gartnave General Hospital, Glasgow

Introduction
Dementia and cognitive impairment in hospitalised patients is currently receiving much attention both in the national media and Government strategies. Legal frameworks exist to protect vulnerable adults; in Scotland the ‘Adults with Incapacity Act (2000)’ (AWI) and in England and Wales the ‘Mental Capacity Act (2005)’, both legislations share similar indications and principles.

Prompted by recent Government hospital inspections which revealed lack of knowledge and use of AWI certificates, coupled with recent upheld complaints to the Ombudsman that severely criticized lack of capacity assessment and documentation in an elderly patient, we surveyed our use of cognitive testing, appropriate AWI certification and capacity documentation. The results are highly applicable to the rest of the UK.

Sampling Methods
Spot analysis of 100 inpatient case notes was performed in a care of the elderly assessment unit within a city hospital.

Results
• 78 patients had admission cognitive testing
• Further assessment was indicated but not performed in 34
• 22 had no admission cognitive assessment
• In total 50 patients had incomplete cognitive assessment
• 16 had capacity assessment documented
• 11 of these were deemed to have ‘no capacity’ to consent to basic medical care, only 4 had an AWI certificate
• In total 23 had an AWI certificate, however, 18 had no documented capacity assessment
• 10 patients with an AWI certificate lacked evidence of discussion with next of kin or Power of Attorney.
• 12 patients had no cognitive or capacity assessment at all.

Conclusions
Although cognitive assessment of all elderly patients admitted to hospital is recommended by the RCP and BGS, this survey highlights many deficiencies. It is possible incomplete review of cognition is contributing to absence of capacity assessment. A clear framework is needed to ensure cognitive function and capacity is assessed and documented appropriately in order to avoid future complaints and protect the welfare of our patients.
IMPROVED AWARENESS AND MANAGEMENT OF THROMBOPROPHYLAXIS IN ATRIAL FIBRILLATION IN AN ELDERLY CARE POPULATION OVER A SEVEN YEAR PERIOD

A Samani, S Das, S Khan

Dept of Elderly Medicine, East and North Herts NHS Trust

Evidence-base
Atrial Fibrillation (AF) is the commonest cardiac arrhythmia. Its incidence rises with age but more importantly the relative risk of stroke, the most feared sequela of AF, also rises with age from 2.6 at age 65 to 4.5 at age 85. Consequently, risk stratification tools have been devised to help justify thromboprophylaxis of choice in AF.

Change strategies
Audits were carried out in 2005 and 2010 (with 2nd cycle in 2012). In the interim between the last two audits local change strategies included educational meetings at both departmental and hospital-wide levels. Nationally, journal publications, educational posters and medical school teaching would all have contributed to the improvements seen.

Change effects
In 2005, 18 retrospective case note reviews of patients with AF found 72% were not on warfarin (n=13). Of these, 77% were on aspirin (n=10) while the remainder were on no prophylaxis (n=3). Of these 13 cases, only 38% had documentation of the reason for warfarin omission (n=5).

In 2010, 40 retrospective case note reviews of patients with AF identified 65% were not on warfarin (n=26). Of these, 73% were on aspirin (n=19) with 27% on no antithrombotic therapy (n=7). Crucially, there was documentation justifying the lack of anticoagulation therapy in 73% of cases (n=19). Re-audit found explanatory documentation in 85% of non-warfarinised patients.

Conclusion
The development of risk stratification algorithms (CHA2DS2-VASc), bleeding risk tools (HAS-BLED) and improved education concerning stroke risk in AF over the past years have led to better awareness of the need for optimal thromboprophylaxis and hence improved documentation justifying its choice amongst junior medical trainees. We postulate that this will translate into improved patient outcomes through prevention of stroke.

DOES ‘THE BUTTERFLY SCHEME’ ALTER STAFF’S PERCEPTIONS OF THE PREVALENCE OF COGNITIVE IMPAIRMENT ON A GENERAL MEDICAL WARD? A SURVEY PRE AND POST IMPLEMENTATION OF A COGNITIVE AWARENESS SCHEME

A J Puffett, J Morgan, G Ross

Withybush Hospital, Haverfordwest

Introduction
25% of inpatients aged over 65 have dementia. Delirium is also common, however despite its frequency, cognitive impairment is often unrecognised by hospital staff. The Butterfly Scheme is a cognitive awareness scheme that allows patients to opt in to using a butterfly symbol at the bedside to highlight to staff that they have cognitive problems and would benefit from the tailored approach to their care that the scheme provides. Prior to the implementation of the scheme at a District General Hospital, the ward staff's perceptions of the prevalence of cognitive impairment were not clear.

Sampling Methods
An anonymised survey was conducted of staff who worked on a 30 bed general medical ward. On the same day, prevalence of cognitive impairment was estimated by notes review and supplemented by asking patients on the ward to complete the clock drawing test as an assessment of cognitive capability. The survey and clock drawing assessment were repeated on the same ward three months after initiation of the scheme.

Results
24 staff completed the initial survey and 45 completed the follow-up. Pre implementation of the scheme the prevalence of cognitive impairment was 45%. Two thirds of staff underestimated this. The staff’s estimates of prevalence ranged from 10% to 70%. Following implementation of the scheme, although the range of estimates and true prevalence remained similar, only 39% of staff underestimated the prevalence. Seven patients were using ‘The Butterfly Scheme’.

Conclusions
Perceptions of the prevalence of cognitive impairment improved after implementation of ‘The Butterfly Scheme’, with the exception of medical staff. Accuracy of awareness increased most in the allied health professional group.
FACILITATING EARLY HOSPITAL DISCHARGES BY USE OF A DAILY BOARD ROUND PROMPT SYSTEM

A Cantlay, N Khan, A Bhalla, M Sweeting

Guys and St Thomas NHS Trust

Evidence base
St Thomas’ ECU is a 84 bed unit concerned with the treatment and rehabilitation of older inpatients. A daily 9:00am board-round occurs to co-ordinate multidisciplinary (MDT) members on patient progress and facilitate discharge planning.

Adequate discharge planning reduces hospital readmissions. ECU patients often require substantial packages of care (PoC) to support them at home. Patients should leave the ward by 12:00pm to ensure arrival at home by 15:00pm and allow an evening carer call.

Internal audit revealed that only 24% (n=70) of patients leave the ECU wards by 12:00pm, with 39% leaving >15:00pm. Factors contributing to patient discharge include: completion of Electronic Discharge Letters (EDL’s), booking of transport, medical reviews on the day of discharge and PoC confirmation by social workers.

Change Strategies
Discharge data was collected via a cross-sectional survey and from the Electronic Patient Records database.

In order to improve timely discharges, a wall mounted laminated sheet with pre-discharge prompts was incorporated into the 9:00am board round. Patients were identified 48 hours prior to discharge by their Estimated Discharge Date on the board. Patient’s due for discharge prompted the charge nurse to ask the following questions.

• Has the EDL been completed?
• Has transport been booked?
• Has the PoC been confirmed?
• Is a medical review needed – if yes prioritise?

A traffic light system on the board was used to stage completion of each task.

Change Effects
Re-audit (n=112) showed an increased number of discharges by 12:00pm (24%vs 45%, p =0.0071) and a decreased number leaving >15:00pm (39%vs. 21%, p=0.0172). The audit cycle is completed monthly and results presented to ECU wards.

Conclusion
Timely hospital discharges can be increased by a simple board-round prompt system. This system is easy to use and data is easy to collect (via hospital computerised system). Regular feedback of results is important to maintain and improve standards.
REDUCING INAPPROPRIATE URINARY CATHETER USE THROUGH INTRODUCTION OF AN ELECTRONIC ORDER FORM

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_Elderly Care Unit, Guy’s and St. Thomas’ NHS Foundation Trust_

Evidence-base
Catheter use leads to a 3-6% daily risk of bacturia. After 7-10 days, 50% of catheterised patients are bacturic, and 20-30% of these will develop a catheter-associated UTI (CAUTI), with elderly patients being at particularly high risk. To reduce the risk of CAUTI, catheterisation should only be performed when the patient stands to benefit. Appropriate reasons for catheterisation are published by the Royal College of Nursing and NICE.

Change Strategies
To reduce rates of inappropriate catheterisation in patients admitted to our hospital through the general medical unit, an electronic order form was introduced as part of the trust’s electronic patient record system to be filled out by all healthcare professionals who insert catheters. It mandates the user to select the indication for catheterisation from a list of appropriate indications, and prompts inclusion of urinalysis results, antibiotic use, residual volume and time of catheter removal.

Change Effects
An audit of catheterised general medical patients took place in April/May 2011 before introduction of the form, and repeated in May/June 2012 with the form in use. In the second audit, 50% of patients had the form correctly filled in. Before the form was in use, only 9 of 21 (43%) newly inserted catheters were for an appropriate indication, compared to 20 of 24 (83%) afterwards (p < 0.01 2-tailed Fisher’s test). There were no inappropriate cases when using the order form.

Conclusion
Documentation filled in by healthcare professionals at the time of catheter insertion can reduce rates of inappropriate catheterisation. We found a significant change even though the form was only filled in contemporaneously half of the time, which may be due to knock-on effects of increased awareness and education. Such documentation can be recorded electronically where facilities exist to reduce paper, improve visibility, facilitate future audit and collect trust-wide data, e.g. for CQUIN targets.
REACHING THE LIMITS? DETERMINING TARGETS FOR BEST POSSIBLE END-OF-LIFE CARE

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Evidence-base
The delivery of excellent care of the dying is a core responsibility of the health service. NHS trusts are rewarded for achieving high standards in end-of-life care. This is demonstrated by the proportion of adult patients cared for on the Liverpool Care Pathway (LCP) or regional equivalent during the last hours or days of life. However, it is unclear what target for percentage use is most appropriate. The current CQUIN (Commissioning for Quality and Innovation) indicator for the Leeds Teaching Hospitals Trust aims for 48-50% use of the LCP.

Change Strategies
An audit was designed to establish a realistic and achievable target percentage of use for the LCP within Elderly Medicine in keeping with best possible practice. Over a two week period, 73% of deaths within the department (25/34) were expected. 68% of expected deaths (17/25) and 50% of all deaths had the LCP instigated.

The results were fed back to the clinical teams at the departmental Audit meeting with a focus on education of the Pathway’s advantages and limitations.

Change Effects
In the second cycle, 50% of expected deaths (35% of all deaths) involved the use of the LCP. This considerable difference illustrates the individual nature of palliative care, and throws into question the appropriateness of target-driven end of life care.

Conclusion
The LCP is a crude method of measuring the quality of end-of-life care, but presently remains the clearest indicator. It is unrealistic to target 100% LCP use yet we may have not reached the ceiling of potential use in our department. There are a number of impediments to optimal LCP use: physician bias, reluctance to discontinue active treatment, unpredictability of disease progression, lack of confidence in decision making and lack of knowledge may all contribute. These factors can be combated by improved education.
THE IMPACT OF STAFF EDUCATION ON FLUID INTAKE IN AN EMI CARE HOME

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Evidence-base
Older people in care homes are at particular risk of becoming dehydrated. There is no clear consensus as to the exact daily fluid requirement for adults of any age, but it is generally accepted that an older person should drink at least 1600 mls of fluid per day (Hodgkinson B, Evans D, Wood J. International Journal of Nursing Practice. 2003; 9: S19-28.)

Change Strategy
Our aim was to observe the impact of staff training on the daily fluid intake of residents at an EMI care home.

We performed an observational study, collecting data prospectively.

A baseline fluid intake for each resident was recorded over a twelve hour period (8am-8pm.)

Following this, three, two-hour educational sessions were delivered to staff, covering topics such as the importance of adequate hydration and ways of improving their residents’ fluid intake.

The audit cycle was completed with a further twelve hour period of monitoring.

Change Effects
Data from before and after the educational sessions was available for 45 residents.

After staff education mean fluid intake rose from 1149 ml (range 465 ml to 2425 ml) to 1302ml (range 250 ml to 3300ml), (Z= -2.163, P =0.031, Wilcoxon Signed Ranks Test).

On initial assessment only 5 (11%) residents drank 1600ml or more, this rose to 12 (27%) residents after the educational sessions.

Conclusion
Our results show a small, but significant improvement in residents’ fluid intake following education. However, in general the residents’ fluid intake remains less than adequate with only a quarter of residents meeting the recommended requirements after staff education. This suggests that although there is a good role for this intervention, additional methods are also needed to tackle this problem.
EARLY SENIOR ANAESTHETIC ASSESSMENT IMPROVES CLINICAL OUTCOMES IN OLDER ADULTS WITH FRACTURED NECK OF FEMUR

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Background
Surgery on the day of, or the day after admission of patients with fractured neck of femur is a National Health Service standard (NICE, 2011) and delays to surgery are associated with greater morbidity and mortality (British Orthopaedic Association, 2007). Patients with fractured neck of femur have a high prevalence of comorbidity and preoperative assessment and optimisation of fitness for surgery is a clinical priority (NICE, 2011). In order to avoid a delay in surgery, the immediate identification and treatment of correctable comorbidities is required.

At University Hospital Lewisham (UHL), routine management includes preoperative assessment by an orthogeriatrician and an anaesthetist. However, inconsistencies in the assessment of fitness for surgery were being observed, with junior anaesthetists requesting non-routine investigations, thereby delaying surgery.

Innovation
In September 2011, the preoperative assessment of patients was changed to include an early assessment by a critical care consultant anaesthetist. In addition to identifying correctable comorbidities and ensuring immediate treatment, the role of the consultant included an assessment of fitness for surgery.

Evaluation
The evaluation consisted of an analysis of data from the National Hip Fracture Database for 100 admissions pre and post inclusion of an early senior anaesthetic assessment at UHL.

Following the innovation delays in surgery reduced from 34% to 17% (p=0.009). This was due to a significant reduction in delays due to medical comorbidity (18% vs. 5%, p= 0.007). Although there were no significant differences in length of stay and rates of institutionalisation, mortality at 30 days significantly reduced from 14% to 4% (p=0.024).

Conclusion
At UHL, early senior anaesthetic assessment led to a reduction in delays in surgery in older adults with fractured neck of femur. A significant reduction in mortality was also observed. Prompt multidisciplinary management of patients remains a priority in patients with fractured neck of femur.
SWALLOWING SCREENING IN ACUTE STROKE PATIENTS – IMPROVEMENT IN PRACTICE AT NORTHUMBRIA TRUST AFTER IMPLEMENTING CHANGES

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Change strategies

In February 2011, a four-week prospective audit was conducted to assess Northumbria Trust compliance with NICE standards on swallowing screening, and to identify the barriers in meeting these standards. Medical records of forty consecutive patients admitted with acute stroke were reviewed. Times of hospital admission, swallowing screen and admission to acute stroke unit (ASU) were recorded. Pre-screen ‘nil by mouth’ (NBM) status was recorded from the patients’ notes, and confirmed (if possible) by interviewing the patients themselves. Records without documentation of relevant parameters were considered as negative results.

A programme of change was implemented after the first audit. This included: (a) educational interventions (mandatory training for stroke unit staff, and more frequent training opportunities for A&E staff), and (b) procedural optimisation to expedite patient transfer to ASU.

A re-audit was conducted in Feb. 2012 on a numerically comparable cohort (n=50) using identical audit methodology. This demonstrated a clear improvement in Trust compliance with NICE guidelines.

Change effects

<table>
<thead>
<tr>
<th></th>
<th>2011 (n=40)</th>
<th>2012 (n=50)</th>
<th>Difference (Fisher's)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Timing of screen</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Within 4 hours</td>
<td>11 (27.5%)</td>
<td>28 (56%)</td>
<td>p=0.01</td>
</tr>
<tr>
<td>After 4 hours</td>
<td>29 (72.5%)</td>
<td>22 (44%)</td>
<td></td>
</tr>
<tr>
<td>b) Patient kept NBM prior to screen</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>25 (62.5%)</td>
<td>45 (90%)</td>
<td>p=0.002</td>
</tr>
<tr>
<td>No</td>
<td>15 (37.5%)</td>
<td>5 (10%)</td>
<td></td>
</tr>
<tr>
<td>c) Admission to ASU</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within 4 hours</td>
<td>12 (30%)</td>
<td>35 (70%)</td>
<td>p=0.0003</td>
</tr>
<tr>
<td>After 4 hours</td>
<td>28 (70%)</td>
<td>15 (30%)</td>
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</tr>
</tbody>
</table>

Conclusion

Implementing new changes resulted in better documentation, rapid transfer of patients to ASU, improved timing of swallowing screen, and most patients were kept NBM prior to screen reducing risk of aspiration. All of these change effects were statistically significant.
KNOWLEDGE OF MEDICATION AMONGST ELDERLY OUTPATIENTS

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Background
Older adults are vulnerable to the potentially life-threatening consequences of poor adherence and these risks increase when they are poorly informed. Previous inpatient study in this hospital showed elderly inpatients had only partial knowledge of their medications; there is limited information about outpatients in this respect. Community dwelling adults are more reliant on their own knowledge to enable adherence making it vital that they are well informed. Before considering strategies to improve adherence, we wanted to establish elderly patients’ current knowledge of and attitudes to their medication.

Sampling Methods
Local Ethics approval was obtained. Community dwelling patients attending specialist geriatric clinics at a district general hospital were recruited. Patients under 65 years old or with cognitive impairment were excluded. Following informed consent, a clinician (not involved in patient’s care) interviewed participants using a questionnaire, which was developed in a small pilot study, and assessed knowledge of purpose, dosages, side-effects and attitudes towards compliance. A percentage was generated to reflect patient knowledge in each domain.

Results
74 patients were recruited between January and April 2012. Median age was 77 years [IQR 71-82]. Median number of medications was 7 [IQR 5-9]. Median values for knowledge of medication purpose, dosage and timings were 76%, 33% and 88% respectively. 33% patients admitted difficulties remembering their medication. Only 24% patients were aware of potential drug side-effects. 23% admitted they would stop medication without informing a clinician if they felt they were having side-effects. 24% found drug information inserts unhelpful. Only 58% thought their medication regimen had been explained to them and only 31% reported ever having had a medication review.

Conclusions
Local strategies need to be developed to promote concordance and improve partnerships between prescriber and older patients.
SURVEY OF THE USE OF SCREENING TOOLS FOR DELIRIUM AND DEMENTIA IN COMMUNITY HOSPITALS - PROMOTING THE PROFORMA

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University of Oxford

Background
Delirium and dementia are both prevalent in older inpatient populations and are associated with adverse outcomes. This is reflected in current guidelines from NICE and the British Geriatrics Society which recommend cognitive screening in at risk patients admitted to hospital.

This survey was conducted to assess the number at risk of delirium, and rates of screening for delirium and dementia in older patients admitted to community hospitals in South/Central Oxfordshire.

Sampling methods
On a given day, notes from all inpatients > 65 years at Abingdon, City and Witney Community Hospitals were reviewed for evidence of risk factors for delirium, and the presence of a mental state assessment including Confusion Assessment Method (CAM), Abbreviated Mental Test Score (AMTS) and/or Mini Mental State Examination (MMSE).

Results
Among 118 patients (mean age 83, sex 42% men), 115 (98%) patients had a risk factor for delirium. In patients with at least one risk factor for delirium 81 (69%) had no CAM recorded, 0 (0%) had a reason for non-completion recorded, and 37 (31%) had a CAM recorded (Abingdon=56%, City=50%, and Witney=0%), with a mean score of 0.4. In all patients 62 (53%) had no AMTS/MMSE recorded, 9 (7.6%) had a reason for non-completion recorded (n=5 dysphasia, n=3 hearing impairment, n=1 non-English speaking), and 56 patients (47%) had AMTS/MMSE recorded (Abingdon=73%, City=40%, Witney=24%), with mean AMTS 6.8, and mean MMSE 20.

Conclusions
Rates of cognitive screening using the CAM and AMTS/MMSE were relatively low despite the high proportion of patients with at least one risk factor for delirium, but were higher at sites where clerking proformas including the screening tools were used. These findings suggest that clerking proformas may facilitate cognitive screening, but further education is also required to make cognitive assessment routine in the assessment of elderly inpatients.
ACUTE MEDICAL ADMISSIONS OF NURSING HOME RESIDENTS - A PROSPECTIVE OBSERVATIONAL SURVEY

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Wishaw General Hospital Department of Medicine for the Elderly Wishaw Lanarkshire

Background
Nursing home (NH) residents tend to be elderly and frail with a number of co-morbidities associated with significant functional impairment. Hospital admissions are associated with significant risks to frail elderly people. While it is important to ensure that frail nursing home residents have access to emergency hospital care when required, it is equally important to avoid admission for this group where possible. A prospective observational survey of NH residents admitted to Wishaw General Hospital was performed to determine whether or not the admissions were "necessary" or "avoidable".

Sampling
Over a 3 month period, NH admissions were reviewed by two Consultant Geriatricians (with 93% concordance) to determine whether admission was "necessary" based on the need for inpatient investigation and treatment or "avoidable" by delivering appropriate medical care in the NH setting.

Results
Of the 58 residents admitted, 21 patients (36%) were seen by their usual General Practitioner (GP) with the remaining 37 patients (64%) being seen by an Out of Hours (OOH) GP or sent in by ambulance. 6/21 (29%) of admissions who had been assessed by their usual GP were felt to be avoidable. 21/37 (57%) of admissions seen by either OOH GP or sent directly to hospital were felt to be avoidable. Of those admitted 44/58 (76%) were discharged to their NH. 14/58 (24%) died.

Conclusions
This survey suggests significant numbers of admissions from nursing homes to acute medicine in Wishaw General Hospital are avoidable. NH residents who were not seen by their usual GP were more likely to be admitted to hospital. Advanced care planning involving NH residents, their families, GPs and NH staff might help reduce unnecessary hospital admissions. Implementation requires increased communication between primary and secondary care combined with enhanced education and goal setting in the NH.
ANTICIPATORY CARE PLANNING IN CARE HOMES REDUCES HOSPITAL ADMISSIONS AT THE END OF LIFE

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². Liverpool Community Health

Background
Care home (CH) residents are often frail and approaching the end of life. During the last year of life the focus of care should centre on comfort and reducing burdensome interventions such as hospital admission. However, locally it was revealed that 27% of CH residents died within 24 hours of hospitalisation – suggesting that transfer could have been predicted as futile.

Innovation
CH residents identified as entering the last year of life using Gold Standards Framework prognostic indicators were referred by Community Matrons and General Practitioners (GPs) to a Community Geriatrician. An individualised anticipatory care plan (ACP) aimed at preventing further hospital admissions was completed for each resident. However, it was stressed that this did not preclude future hospitalisation if comfort could not be achieved in the CH. Where residents lacked capacity a multidisciplinary decision was made with their family on a best interests basis. The ACP was shared with the CH, GP and out of hours service.

Evaluation
ACPs have been completed for 595 residents since November 2009. Of these 250 have subsequently died – only 10 in hospital. In addition, the proportion of residents dying within 24 hours of hospitalisation has fallen by 52% to 13%. The main reason for implementation of an ACP was advanced dementia (50%), the majority of the rest were for increased physical frailty. Relatives report that having conversations about future prognosis and avoiding unnecessary distressing interventions is empowering. CH staff feel more confident about not sending frail residents into hospital when they are approaching the end of life.

Conclusions
The introduction of ACPs has significantly reduced in-hospital deaths and improved end of life care for residents, particularly with advanced dementia. This service now needs to be expanded so that all residents that would benefit from an ACP have this available to them.
MEDICAL STUDENTS’ ATTITUDES TOWARDS PEOPLE WITH DEMENTIA: AN INTERNATIONAL SURVEY

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Background
The changing demographics of societies mean that medical students internationally must be sufficiently prepared to care for patients with age-related conditions such as dementia. However, there is current concern that there are deficiencies in the knowledge, skills and attitudes of professionals caring for people with dementia (PWD), and that education and training must be improved at undergraduate and postgraduate level. Improving medical education about dementia will require multiple strategies, but a better understanding of of student attitudes is likely to facilitate the design and delivery of appropriate teaching interventions. This study was, as far as we were aware, the first investigation of the attitudes of medical students towards PWD - the aim was to survey attitudes of students in different year groups, at a medical school with a UK and Malaysian campus.

Sampling methods
Pragmatic samples of 1st and 3rd-year students based in the UK and Malaysia completed the Approaches to Dementia Questionnaire (ADQ), a previously validated attitudes scale, administered using paper-based or electronic means. Participation was voluntary and anonymous. Group comparisons were made using non-parametric statistical analysis.

Results
256 1st-year and 44 3rd-year students completed the ADQ. 3rd-year students expressed more positive attitudes than 1st-year students (p<0.01). A significant difference in attitude scores between national groups was present amongst 1st-year students but not 3rd-year students. There was no difference between genders.

Conclusions
Medical students' attitudes towards PWD were generally positive and comparable with other professional groups previously surveyed. It remains unclear why there was a difference in attitude scores between national groups at entry level, but this may relate to cultural factors. Qualitative data collection to further explore the nature of medical student attitudes towards PWD, and related learning needs, is ongoing.
THE IMPACT OF A SPECIALIST INTERDISCIPLINARY TEAM ON THE QUALITY OF CARE OF OLDER PEOPLE PRESENTING TO THE EMERGENCY DEPARTMENT

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Background
Providing quality care for older people in the Emergency Department (ED) is challenged by the pressure of meeting time targets. ED is a key area where decisions on admission of older people take place and where alternative approaches might be considered.

Innovation
A team of specialist nurses, therapists, and social workers has been established within the ED in a large teaching hospital, specialising in multi-faceted assessment, safe discharge and liaison with community care teams. Patients are referred by clinicians in the ED as well as community colleagues, and are actively sought out by the team in any of the areas of the ED.

Evaluation
Data was collected on older patients who attended the ED between January and March 2012, to compare re-presentation rates of those patients seen by the team with those who received routine care. A patient satisfaction questionnaire was completed by 20 patients seen consecutively in one week by the team. Those with cognitive impairment were excluded.

3,802 patients over 65 attended ED during the 3 month period. 839 (22%) patients were seen by the team; the readmission rate for these patients was 0.31% compared to 1.73% for those receiving routine care. The mean patient satisfaction score was 8.9/10.0.

Conclusions
The specialist team achieved lower readmissions despite their focus on frailer patients with multiple co-morbidities within the ED. Patients were highly satisfied with the service which identified problems, addressed them directly and linked to existing primary and intermediate care teams for additional input. Quality care for older people in ED is achievable.
DOES REGULAR TEACHING ON GERIATRIC GIANTS REDUCE NURSING STAFF STRESS LEVEL?

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Background
High stress levels have been reported amongst nurses from various background. The sources of stress and the coping mechanisms have been studied but the impact of intervention with regular teaching at the ward level is unclear.

Innovation
Nursing staff training on understanding and management of delirium, dementia, malnutrition, incontinence, pressure sores, postural instability and falls was organised in two geriatric wards. Weekly teaching was delivered by a geriatrician and two specialty trainees in a 30 minutes session for consecutive 6 weeks. Three training cycles over 18 weeks were done to include all staff members.

Evaluation
Stress level amongst staff members was measured using a validated scale, expanded nursing stress scale* (ENSS) at the beginning and end of 18 weeks. ENSS has 57 items to rate the stress on a scale of 1-4 for each item. Fifty ENSS questionnaires were given. The response rates pre and post intervention were 52% and 58% with mean overall stress scores 137.46±41.82 & 122.48±29.14 (p=0.13) respectively. Sub-analyses were done for four factors. Mean scores (pre vs post intervention) were, for conflict with physicians 7.88±5.28 vs 10.03±2.82 (p=0.13); workload 27.5±5.04 vs 20.86±5.18 (p=0.001); uncertainty concerning treatment 19.38±8.37 vs 18.93±5.60 (p=0.8); patients and their families 23.19±5.89 vs 20.38±5.68 (p=0.07) respectively.

Conclusion
Staff appreciated the teaching sessions and their overall stress levels were reduced but not significantly. Subanalysis showed significant reduction in stress from their routine workload in managing complex and frail older people. Conversely stress levels were non-significantly higher over conflict with physicians perhaps reflecting increased knowledge or more involvement of nurses in patient care. Further studies of similar intervention would be helpful to confirm our findings.

THE IMPACT OF RED PLATES ON NUTRITIONAL INTAKE FOLLOWING HIP FRACTURE: A COMPLETED AUDIT CYCLE

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Evidence Base
Malnutrition in hospitalised elderly patients is an important challenge. Current literature suggests that inpatients with hip fractures receive only half of their necessary nutritional intake. Delirium is also very common in this patient group. Decline in visual acuity may impact on nutritional intake in confused elderly patients. Patients with advanced Alzheimer’s disease in a care home setting were found to eat more when food was presented on brightly coloured plates. We completed an audit cycle to assess the impact of red plates on patients’ oral intake.

Change strategies
Prospective data was collected for both parts of the audit. All patients with hip fractures on the hip fracture unit were included. For a 2-week period the amount of main course eaten at lunch-time was calculated (by weighing plates before and after eating); during this period all patients were served food on a standard hospital plate (white with pale blue edging). In the second audit meals were served on red plates.

Change effects
Audit 1:
160 meals from 30 patients. Mean age 83.5 yrs, AMTS 8.16.
N=8(26.7%) needed some assistance with eating.

Audit 2:
195 meals from 36 patients. Mean age 83.5yrs, AMTS 5.63.
N=13(36%) needed some assistance with eating.

Patients with an AMTS<7 and patients not requiring assistance with their meals ate significantly more from a red plate. AMTS <7: standard hospital plate 93.7g versus red plate 123g (p<0.05). No assistance: standard hospital plate 148.6g versus red plate 194g (p<0.05).

Conclusions
Serving food on a red plate may increase oral intake in patients with cognitive impairment and in those patients who do not require assistance with feeding. Measuring the nutritional content of the food eaten needs to be calculated in future studies.
USING PROBLEM LISTS AS “ACTIVE LEARNING” TO GENERATE CLINICAL REASONING

I Wilkinson, M Cottee

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Background
Two thirds of hospital beds contain patients over the age of 65 many of these will have complex healthcare needs. The clinical assessment of these patients requires a combination of good clinical reasoning and a comprehensive geriatric assessment. The use of problem lists (PLs) is one way of organising the CGA in these patients and we think the generation of PLs may help promote clinical reasoning.

Innovation
52 third year medical students (4-6 per group) participated in a case-method learning session working through a real-life complex clinical case. As they went through the case with a tutor active learning was promoted with a number of problem list creation tasks and directive questioning.

Evaluation
The session was evaluated with a pre (n=52) and 1 week post (n=50) session questionnaire. Quantitative results about student confidence in using PLs were obtained from a Likart scale (1 very confident, 5 not at all confident) and qualitative results from written answers. N=6 (11%) students had not come across PLs in their education thus far.

Pre and 1 week-post session results showed students self confidence at using problems lists increased (mean Likart score 3.6 2.39 (P<0.001)).

The qualitative analysis prior to the session showed students felt PLs were useful for: prioritisation, simplifying the complex patient and providing holistic care (including improved clinical communication). Following the session the importance of the interaction between problems and their treatment and seeing the links and potential causality became apparent.

Conclusion
The results show that a single active learning session can improve students’ confidence in using problem lists. Also the results suggest that students’ clinical reasoning may be improved with more complex ideas being generated about the usefulness of PLs following the session.
A SURVEY ON MANAGEMENT OF EPILEPSY IN OLDER PEOPLE BY GERIATRICIANS

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Background
Epilepsy is the third most common neurological disorder in older people. Given its atypical presentation, many of these patients are initially seen by geriatricians. We sought to seek the views of geriatricians regarding management of epilepsy in older people.

Sampling Methods
A questionnaire survey at Autumn BGS meeting 2011 was conducted. The questionnaire was distributed to attendants of the session on epilepsy and enquired mainly about practice and management of epilepsy.

Results
The total number of responses were 45; 53% consultants and 47% registrars.

58% would treat epilepsy themselves while 42% would refer to neurologist. Although the number of patients seen varied, the majority (78%) would see 1-5 patients per month, whereas 13% saw between 5-10, and 4% saw more than 10 patients per month.

The majority (58%) would start antiepileptic drug (AED) treatment after a second seizure. However 9% would commence AED after the first seizure, 31% after first seizure if CT/MRI was abnormal, 7% after first seizure if EEG was abnormal, and 2% depending on type of seizure.

As first line AED, 62% said they would start valproate, 27% lamotrigine, 11% levetiracetam, 4% carbamazepine, and 2% said they would use phenytoin. For second line AED, 44% said they would commence levetiracetam, 16% lamotrigine, 11% valproate, 9% phenytoin, 7% carbamazepine and 2% said they would start topiramate.

Although the majority (76%) would take into consideration concomitant medication when deciding on AED, 69% also took co-morbidities into account and 47% would consider both aetiology and type of epilepsy as well.

Only 60% would commence anti-platelets if seizures were secondary to cerebral event and 27% would start calcium+vitamin D as osteoprotection.

Conclusions
This is the first survey among geriatricians looking at their practice and management of older people with epilepsy. The results show that both the practice and treatment vary widely and geriatricians would benefit from best practice guidelines.
THE EFFECT OF ANTI-EPILEPTIC DRUGS ON BONE MINERAL DENSITY AND FRACTURE RISK IN OLDER PEOPLE: A SYSTEMATIC REVIEW

T S Irani, AJ J Abdulla

Princess Royal University Hospital, Department of Elderly Care

Scope
Although the older antiepileptic drugs (AEDs) are known to reduce bone mineral density (BMD) and have been implicated in fractures, the extent of their effect in older people is not clear. In contrast, the newer AEDs are thought to have bone sparing properties but this is also yet to be confirmed.

Search Methods
Systematic search of MEDLINE and EMBASE databases from 1976 – 2011 looking at the effect of AEDs on fractures and BMD in older people (≥ 65yrs).

Results
The search yielded 872 abstracts of which 25 were thought to be relevant. Only 10 papers were suitable for inclusion. 6 were related to fractures and 4 involved BMD.

Fracture Risk: All 6 studies showed increase in fracture risk mostly at the hip. In one study the order was greatest with phenytoin > carbamazepine > phenobarbital > gabapentin > clonazepam. Two studies showed increased risk with newer AEDs (non-enzyme inducers). Another study showed use of more than one antiepileptic drug (AED) increased risk of fractures.

BMD: 3 out of the 4 articles showed reduced BMD with use of AEDs. One study involving 9,700 women average 70 years on enzyme inducer AEDs showed nearly 50% greater rate of bone loss per year. Another study in 4,222 men ≥ 65 years, gabapentin was independently associated with increase rate of hip bone loss.

Conclusions
The available few studies indicate that both new and old generation AEDs reduce BMD and increase fracture risk. Skeletal monitoring with appropriate osteoprotection is indicated in patients on chronic AED therapy. Further studies are needed to assess the efficacy of osteoprotection in this group.
OLDER PEOPLE’S EXPERIENCES OF THERAPEUTIC EXERCISE AS PART OF A FALLS PREVENTION SERVICE: PATIENT AND PUBLIC INVOLVEMENT

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Background
Falling, and fear of falling, significantly affect older people and their lifestyle resulting in loss of confidence, restriction of activity and deteriorating quality of life. Active participation in an evidence-based exercise programme is a key component of a multi-factorial assessment and intervention plan to prevent and manage falls. This project assesses delivery of objective 3 (early intervention to restore independence) from the Prevention Package for Older People (DH, 2009).

Method
To obtain patient experiences of NHS run therapeutic exercise programmes to reduce falls, using a postal questionnaire developed by a multi-disciplinary group including patient and staff representatives. Questionnaires were sent to patients within 12 weeks of completing therapeutic exercise classes as part of a falls prevention service. Another questionnaire went to staff delivering NHS run exercise interventions for reducing falls risk.

113 sites from 94 trusts took part, in England, Wales, Northern Ireland and Channel Islands. Sites comprised local health boards, health and social care trusts, community service providers and integrated care services.

Results
1768 patient and 100 staff (site) questionnaires were returned. Only 52% of patients felt their exercise programme had been progressed. 29% used ankle weights, 81% indicated their class-based exercise lasted less than the recommended 12 weeks. The equivalent figure was 73% for home-based exercise. 91% said they continued to exercise once their programme finished, but from comments many may not be evidence-based exercises for reducing falls. 54% of sites had staff who have completed PSI training and 41% who have completed Otago training.

Conclusions
Implementation of evidence-based exercise interventions by healthcare providers is incomplete and varies widely. Commissioners need to commission a local, integrated exercise continuum across health and local authorities/voluntary sector to ensure long term provision of evidence-based exercise programmes for reducing falls run by appropriately qualified staff.
THE FIRST UK NATIONAL AUDIT OF RED CELL TRANSFUSION IN ADULT MEDICAL PATIENTS

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Background
Medical (rather than surgical or obstetric) patients now account for nearly 2/3 of red cells transfused. Regional audits have shown many patients are transfused unnecessarily or excessively. Blood transfusion carries a risk, especially in older people. Evidence from other patient groups indicates a conservative approach to transfusion may give the same or better outcomes at reduced cost. There is little direct evidence for transfusion thresholds for medical patients, so standards were derived by expert consensus.

Methods
All hospitals in the United Kingdom were invited to audit red cell transfusions for all medical patients and one third of haematology patients for three weeks (one week in each of September to December 2011). Information was collected on pre- and post-transfusion haemoglobin (Hb), diagnosis, comorbidity, symptoms, and investigations.

Results
9126 cases were audited from 197 sites. Median age was 73 (IQR 60-82, range 18-111); 53% were male. Transfusion was given for anaemia (78%), blood loss (19%), or prior to invasive procedure (2%). 3.6% of patients were transfused despite Hb > 10.0 g/dl; of the 7625 cases with post transfusion Hb results 5.9% had Hb > 12.0 g/dl. About a fifth of anaemia cases had evidence of a possible reversible cause. 34% of anaemia patients were transfused above the pre-transfusion Hb threshold; there was wide variation between sites with median 33% above threshold (IQR 26-43%, range 0-80%) in the 178 sites with more than 10 cases.

Conclusions
Most medical patients receiving red cell transfusion are older people. There is variation in practice and evidence of excessive red cell transfusion. Physicians and the Transfusion service should work together to improve the evidence base and to reduce unnecessary blood use.
THE VALUE OF REPEATED CAROTID DOPPLER STUDIES IN ACUTE STROKE PATIENTS

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Background
In patients with a recent history of acute stroke or transient ischaemic attack, who have undergone an initial carotid Doppler, there is little guidance with regards to the value of repeating this test if the patient re-presents with further symptoms within twelve months. Current practice varies from hospital to hospital, and can lead to unnecessary repetition of this specialised test.

Search Methods
The database at Queen Alexandra Hospital was searched for patients who underwent two or more carotid Doppler examinations within a twelve-month period, between 2006 and 2010. It was ascertained whether patients progressed within the twelve-month period from “non-surgically significant disease” (i.e. carotid artery stenosis on the symptomatic side that was not appropriate for surgical intervention) to surgically significant disease.

Results
In total 76 patients were identified with non-surgically significant disease on initial scan (age range 34 to 92 years; mean 72). Of these, 61 patients had two carotid Dopplers performed, while 15 had three or more examinations within a twelve-month period.

Only one patient progressed to surgically significant disease. This individual had borderline surgical disease on the initial scan.

Conclusions
In patients whose initial carotid Doppler revealed no surgically significant disease, repeating the test within twelve months did not lead to a change in diagnosis. These data would challenge the practice of repeating carotid Dopplers within twelve months in patients re-presenting with an acute stroke or TIA and non-surgically significant disease on the initial carotid Doppler scan.
DEVELOPING THE ROLE OF ADVANCED CLINICAL PRACTITIONERS IN THE ACUTE CARE OF OLDER PEOPLE

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Background
In June 2010 the Royal Derby Hospital, a PFI funded redevelopment of hospital services in Derby opened. At this time two sites merged and the medical on call system changed to a speciality based service with Medicine for the Elderly, Respiratory, Cardiology, Stroke, Renal and Gastroenterology consultants attending the medical admissions unit (MAU) twice a day.

Innovation
Despite early assessment by senior clinicians, discharge for older people was often delayed due to lack of follow through of the consultants recommendations, limited liason with professions allied to medicine (PAMs) and poor communication with relatives and community services. To address these issues several measures were put into place which included the development of two Advanced Clinical Practitioners (ACP) to improve the care of older people on the MAU and facilitate timely discharge. They attend the consultant ward rounds, ensure investigations are requested and reviewed, liase closely with the PAMs and service navigation team to facilitate discharge.

Evaluation
In the four month period prior to the introduction of this role, of 670 patients allocated to Medicine for the Elderly 1.4 % were discharged from MAU, compared to 11% of 679 patients in the corresponding time period the following year. Comparative length of Stay fell from 11 days to 9.4 days. The effectiveness of the role and further service developments are continuing.

Conclusion
The development of a new clinical role for older people care in the MAU setting has improved the number of timely discharges.
FUNCTIONAL CAPACITY AND FRAILTY OF METABOLICALLY HEALTHY OBESE (MHO) OLDER PERSONS

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Background
A recent study of walking distance and speed in eighty six obese women found that MHO women had a better functional capacity than non-MHO women. The authors speculated that MHO women could be at lower risk for future disability. The term MHO has been used to describe obese individuals who do not display the expected features of metabolic dysfunction usually associated with excess adiposity. The reported prevalence of MHO varies from 6-40% depending on the population studied and the criteria used to define the condition. We proposed that older MHO individuals have better functional capacity when compared with metabolically unhealthy obese (MUO) individuals and have analysed The Irish Longitudinal study on Ageing (TILDA) dataset to investigate this hypothesis.

Method
Sampling and data collection for TILDA has previously been described. MHO individuals were defined using cut-points adapted from the International Diabetes Federation consensus definition of the metabolic syndrome, 2006. Regression analysis was performed to compare markers of functional capacity and frailty. The regression model used adjusted for age, gender, educational level, smoking status and alcohol intake.

Results
Of the stratified clustered sample of 8175 individuals representative of the community-living Irish population >50yrs, 6126 had anthropomorphic measurements taken to calculate BMI. Of these, 2,008 (32.8%) were obese. The prevalence of MHO was 6.3% (n=127). The MHO are a younger group (MHO:16%>65yrs vs MUO:43%>65yrs). There was a trend towards superior outcomes for Timed Get Up and Go, steadiness and falls in the past year in the MHO group, with gait speed, heel ultrasound T-score and bone stiffness significantly improved versus the MUO group (p<0.05).

Conclusions
Gait speed, heel ultrasound T-score and bone stiffness are significantly improved in MHO older persons. Analysis of data from future TILDA phases will provide further clarity on trajectories of functional capacity in ageing MHO individuals.
COGNITIVE OUTCOMES OF METABOLICALLY HEALTHY OBESE (MHO) OLDER PERSONS

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Background
The metabolic syndrome and its individual components are known to have a negative impact on cognitive function in older persons but studies exploring relationships between obesity and cognitive impairment in the elderly are conflicting. The term MHO has been used to describe obese individuals who do not display the expected features of metabolic dysfunction usually associated with excess adiposity. The reported prevalence of MHO varies from 6-40% depending on the population studied and the criteria used to define the condition. We proposed that older MHO individuals have a reduced prevalence of cognitive impairment when compared with metabolically unhealthy obese (MUO) individuals and have analysed The Irish Longitudinal study on Ageing (TILDA) dataset to investigate this hypothesis.

Method
Sampling and data collection for TILDA has previously been described. MHO individuals were defined using cut-points adapted from the International Diabetes Federation consensus definition of the metabolic syndrome, 2006. Regression analysis was performed to compare outcomes of cognitive function. Age, gender, educational level, smoking status and alcohol intake were identified as confounders for inclusion in the regression model.

Results
Of 8175 individuals representative of the community-living Irish population aged 50yrs and over, 6126 had anthropomorphic measurements taken to calculate BMI. Of these, 2,008 (32.8%) were obese. The prevalence of MHO was 6.3% (n=127). The MHO are a younger group (MHO:16%>65yrs vs MUO:43%>65yrs) and adjustment for age results in some differences in cognitive parameters losing significance. There was a trend towards better cognitive values for MMSE, MoCA, and reaction times in the MHO group, with immediate and delayed recall scores significantly higher than the MUO (p<0.05).

Conclusions
Immediate and delayed recall scores are significantly higher in MHO compared to MUO older persons. Analysis of data from future TILDA phases will provide further clarity on cognitive trajectories in ageing MHO individuals.
COMMUNICATION WITH THE DEAF OR HEARING-IMPAIRED ELDERLY INPATIENT. A SERVICE EVALUATION STUDY – PATIENT PERSPECTIVES AND VIEWS

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Background
Age-related hearing loss can cause a reduced ability to communicate effectively. Communication is an important part of dignified care and essential for enhancing patient experience, providing safe patient centred care and allowing patients to be fully involved in decision making, leading to timely discharge.

Sampling Methods
- Interviews of inpatients identified as hearing-impaired.
- Individual responses to quantitative questions were converted into scores on a scale of 0 to 100 (100 representing best possible response), then averaged out to arrive at a single score.
- Nursing and medical documentation was audited.

Results
80 inpatients interviewed; 44 female, 36 male. Mean age 88.5 years.

Patients reported difficulty in hearing conversations (overall patient score 52.5/100, 95% CI 44.3 - 60.7) and do not always receive answers in a way they could understand (54.7/100, 95% CI 48.1 - 61.3). 95% were not asked for their preferred communication method (4.4/100, 95% CI, 0-8.8) and 38.75% were not given enough time to reply to questions. 32.5% felt that staff talked in front of them as though they did not exist and 40% feel communication with staff could improve.

Hearing impairment was not documented in 83.75% of medical clerking notes. In nursing documentation, there was evidence of insufficient screening and assessment of patient communication and hearing-impairment care planning needs. 76% of patients were hearing-aid users, though only half were using their hearing-aids effectively. Missing or faulty/broken hearing-aids were reported in 6.45% and 9.67% of cases respectively whilst 16% were admitted without their hearing-aids.

A bedside sign identifying hearing-impairment is available but not used; 90% of patients would not object to this and feel that it would facilitate communication.

Conclusions
Hearing loss in the elderly is a widely unrecognised condition bringing both communication difficulties and management issues that need to be better addressed to enhance patient experience and care.
COMMUNICATION WITH THE DEAF OR HEARING-IMPAIRED ELDERLY INPATIENT. A SERVICE EVALUATION STUDY – FRONTLINE STAFF PERSPECTIVES AND VIEWS

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Background
Age-related hearing loss is the third most prevalent chronic condition in older adults yet under-recognised. Effective communication is integral to providing safe, patient-centred and dignified care. This study sought to explore whether staff feel able to meet this aspect of care.

Sampling Methods
Structured questionnaire distributed to medical, nursing, physiotherapy and occupational therapy staff within acute elderly care. Questions covered identification, assessment and documentation of needs, communication with patients, hearing-aid care and deaf awareness.

Results
100 questionnaires were completed, a response rate of 57%.

71% of staff feel that deaf or hearing-impaired inpatients are disadvantaged during hospital admission directly due to communication difficulties.

Over 83% state that their communication with this patient group could be improved and cite lack of time, skills and knowledge. 52% report that they frequently only become aware of a patient’s hearing-impairment after they have opened a conversation. The use of a bedside sign to identify hearing impairment may facilitate communication and is favoured by 68%, but patient confidentiality and stigmatisation are reported concerns to their use. 53% are not aware of aids or services to assist communication and 43% do not know how to access these.

Staff report difficulties in dealing with basic hearing aid care, fault finding and maintenance, and cite lack of skills and knowledge. 52% believe that faulty hearing-aids occur frequently in elderly inpatients and 38% believe that hearing-aids frequently become lost during admission.

89% of staff reported not receiving any form of deaf awareness training which might assist them to more effectively deal with patient communication difficulties.

Conclusions
Staff feel inadequately equipped to deal with the communication needs and care demands of this increasing patient group and need both training and support to provide the necessary skills and knowledge.
NON-PHARMACOLOGICAL TREATMENT OF SLEEP DISTURBANCE IN ELDERLY PEOPLE WITH DEMENTIA: A REVIEW OF THE LITERATURE

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Introduction
Sleep disturbance in dementia is common. Pharmacological treatments are associated with harm and lack evidence in treating people with dementia. Non-pharmacological treatment in elderly people without dementia is effective but, in dementia, a Cochrane review concluded bright light therapy was ineffective in managing sleep [Forbes D et al, Cochrane Database Syst Rev. 2009 7;(4):CD003946]. The aim of this review is to explore evidence for other non-pharmacological treatments of sleep disturbance in elderly people with dementia.

Search Methods
A literature search of Medline, Embase and PubMed was performed using the search terms ‘sleep’ or ‘sleep initiation and maintenance disorders’ and ‘aged’ or ‘aged, 80 and over’ and ‘dementia’ or ‘cognitive disorders’ or ‘cognitive impairment’ or ‘nursing homes’. Inclusion criteria: randomised control trials with sleep primary outcome, mean age >65, mean MMSE<24 or diagnosis of dementia. Exclusion criteria: foreign language publications or bright light as sole intervention.

Results
Nine randomised control trials, (960 participants), seven trials in care home residents, (792 participants) and two community-based trials (168 participants).

Care home trials: Exercise or individualised social activities reduced daytime sleep, (487 participants) and in combination may marginally improve night sleep, (243 participants). A sleep hygiene education programme for care staff improved night sleep but required individualised plans and intense follow up (47 participants). There was no evidence environmental changes, (reducing noise and light or altering continence care), affected night sleep.

Community studies: Some evidence a combination of sleep hygiene education for carers, exercise and bright light therapy improved night sleep (168 participants), though result was not durable in larger of two studies and participants found intervention difficult to persevere with.

Conclusions
Non-pharmacological interventions can improve sleep in elderly people with dementia, however, evidence is limited, improvements marginal and interventions effort intensive. No studies looked at quality of life or quality of sleep.
RISK SCORING FOR STROKE AND BLEEDING IN ATRIAL FIBRILLATION

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Evidence Base
Atrial fibrillation (AF) increases the risk of stroke and antithrombotic therapy is the key intervention to prevent this. Balancing the individual's risk of stroke with their risk of bleeding on antithrombotic therapy is complex, especially in the elderly. We observed that patients with AF were not undergoing a comprehensive, evidence-based assessment of stroke and bleeding risk to inform the clinician's choice of antithrombotic. The 2006¹ National Institute for Health and Clinical Excellence (NICE) and 2010² European Society of Cardiology (ESC) guidelines recommend that the choice of aspirin or oral anticoagulant should be based on the individual's risks of stroke and bleeding, and these should be determined using risk stratification algorithms: CHA2DS2VASc or CHADS2 to assess risk of stroke and HASBLED for risk of bleeding.

Change Strategies
We presented the audit results to the medical department and emphasised the importance of these risk assessments in AF. We implemented posters with CHA2DS2VASc and HASBLED scores on all medical wards for reference. We changed the Electronic Discharge Network (eDN) system to include a template where these scores and a reason for choice of antithrombotic agent are entered.

Change Effects
The number of patients with a documented score in the notes for stroke or bleeding risk rose from 3.3% to 16.1% and the number scored on the eDN increased from 0 to 9.8%. The number of patients prescribed aspirin or oral anticoagulant as recommended by their score rose from 44.7% to 57.1%.

Conclusion
Education and systems to facilitate the use of the risk algorithms can increase the number of patients with AF undergoing a detailed assessment of stroke and bleeding risk before commencing antithrombotic therapy.

TIMELY ADMINISTRATION OF ANTI-PARKINSON’S MEDICATIONS: A MULTIDISCIPLINARY PROJECT TO IMPROVE KNOWLEDGE, DRUG AVAILABILITY AND PATIENT EMPOWERMENT

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Evidence Base
Initial audit of patients with Parkinson’s disease (PD) admitted to the Whittington in 2010 against NICE Clinical Guidelines 35 (CG35) 2006 demonstrated that 38% experienced delays in administration of their PD medication, often on admission. Inappropriate reasons cited included ‘nil by mouth’ and ‘unavailable’, with evidence of uncertainty around prescribing and obtaining medication, particularly out-of-hours when specialist advice was unavailable.

Change Strategies
1. We liaised with the hospital pharmacy, anaesthetics, radiology and endoscopy departments to write local guidelines to augment NICE guidance. These specified how to convert different PD medication regimes into drugs stocked in the emergency drug cupboard, and optimal management of patients ‘nil by mouth’ due to an unsafe swallow or forthcoming procedure. The guidelines were widely publicised on Trust computer screensavers.

2. Rotigotine patches were added to our hospital formulary as an alternative for patients who were unable to absorb enteral medication.

3. We liaised with pharmacists and nursing staff to allow inpatients to self-manage their medication.

4. Junior doctors were given case-based education sessions to encourage use of the guidelines.

Change Effects
In the 2011 re-audit, the number of patients experiencing delays in PD medication prescriptions fell from 38% to 14%. Interestingly, the percentage of inpatients for whom a review by the Parkinsons’ team was sought also fell, from 58% to 32%.

Conclusion
In this completed audit cycle, the identification of poor practice was used as a driver to improve training and resources for doctors, nurses, pharmacists and patients. Along with the introduction of locally-appropriate, specific advice in the form of ‘hospital guidelines’, this has increased adherence to NICE CG35 at Whittington Hospital and reduced unnecessary delays for patients with PD in receiving their medication. The unintended consequence may have been to reduce perceived need to refer to PD specialists; work is ongoing to address this.
ASSESSING FRACTURE RISK IN PATIENTS WHO FALL: A COMPARISON OF FRAX® AND NICE GUIDELINES

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Background
Patients who fall need to be assessed for fracture risk. The National Institute for Clinical Effectiveness (NICE) provides guidance on primary and secondary prevention of osteoporotic fracture. Risk calculation tools, such as the World Health Organisation Fracture Risk Assessment tool (FRAX®) may underestimate the risk of fracture in patients who fall1. We compared the recommendations from both models when applied to our patients who fall and observed for differences.

Sampling methods
Patients seen in specialist falls clinics between September 2011 and March 2012 were reviewed. Data on patient demographics; risk factors for fracture/ low bone mineral density and those required to use FRAX® were collected. Those over 90 years, already taking bone protection, or who had never fallen were excluded.

Results
Complete data from 106 patients (mean age of 79.3 years) was analysed. Of the 70 patients assessed for primary prevention, NICE guidance recommended immediate treatment for only one patient. This patient was deemed intermediate risk by FRAX®. Of the other 69 patients, FRAX® recommended dual energy X-Ray absorptiometry (DXA) scans in 15 patients. NICE advises an assessment of fracture risk for these patients, but does not recommend DXA scanning specifically. Of the 36 assessed for secondary prevention, 25 could receive immediate treatment under NICE with the rest being offered a DXA scan. FRAX® identified only 2 patients as high risk and these patients would not have received immediate treatment under NICE guidance. FRAX® advised DXA scanning for 23 patients, and no treatment for 11.

Conclusions
In patients who fall, there is no significant difference between NICE guidance and FRAX® in immediate bone protection for primary prevention. Fewer patients would be prescribed bone protection for secondary prevention if FRAX® is used instead of NICE guidance.

HOW MUCH DO OLDER IN-PATIENTS KNOW ABOUT BLOOD PRESSURE CONTROL? AND ARE WE MISSING AN OPPORTUNITY TO EDUCATE THEM?

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Background
World-wide hypertension is a significant, preventable cause of premature death. Despite a global increase in life expectancy blood pressure (BP) control rates amongst older-adults remain low.

Whilst there are inconsistencies regarding exact targets it is clear that lowering high BP is beneficial (Robert, Phillips et al. Journal of Clinical Hypertension. May 2012. Vol 6 (5) 267–273).

The aims of this study were to:

1. Establish if older in-patients have been educated about BP control in the community?
2. Determine if older patients, whilst in hospital, received information about BP control?
3. Assess if we are missing an opportunity to educate older patients?

Sampling Methods
A five-point questionnaire was distributed to hospital in-patients. Patients were divided into those >65 years (older-adults) and <65 years (controls). Patients were included if they had documented history of hypertension. Confused patients were excluded.

Results
The results showed:
• Prior to admission, 40% of older patients had their BP recorded, in the last 5 years, compared to 100% of the controls.
• Prior to admission 80% of older patients had received BP management advice (written or spoken).
• Whilst in hospital 100% of both cohorts had their BP measured.
• Whilst in hospital only 50% of hypertensive, older-adult patients received BP advice compared to 100% of the control group.

Conclusions
Studies show that older patients benefit equally to younger patients from anti-hypertensive treatment. We have shown that older patients in the community, have their BP measured infrequently. Furthermore, in hospital, where BP measuring occurs frequently, education about BP management is poor.

Whilst BP education predominately occurs in the community, it is important to remember that hospitals offer an excellent setting for opportunistic education. The distribution of leaflets and posters to older hospital in-patients, may help raise awareness and prevent premature deaths.
STAYING STEADY: IS AN ALTERNATING GROUP AND HOME EXERCISE
PROGRAMME EFFECTIVE?

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Background
The FaME programme (Skelton et al, Age Ageing, 2005, 34, 636-9) is a 36-week exercise programme proven to reduce falls. Exercise is delivered in weekly classes with additional exercise at home. To maximise limited resources, FaME was adapted to be delivered in alternating blocks of group and home exercise.

Innovation
Staying Steady is a 36-week exercise programme delivered by a fitness instructor and involves alternate 9 week blocks of group and unsupervised individualised home exercise. One telephone prompt and one social session occur during each home exercise block to encourage compliance.

Objective proxy falls-risk measures of balance, gait and endurance (timed up and go (TUG); 30 second sit to stand) are completed at weeks 1 (baseline), 27 (end second block of group exercise), and 36 (end second block of home exercise). Data have been analysed using paired t-tests.

Evaluation
Full data sets are available for 74 of the 128 participants (58%) completing the programme. 74% were female, mean age 81, SD 7. There are significant improvements in objective outcome measures compared with baseline at both weeks 27 and 36 and also between weeks 27 and 36.

Conclusions
Alternate blocks of group and home exercise are an effective way to deliver community exercise programmes. This approach maximises scarce resources by providing exercise for twice as many participants as continuous weekly classes.
THE UTILITY OF CALCANEAL QUANTITATIVE ULTRASOUND (QUS) COMPARED TO BONE DENSITOMETRY IN PATIENTS WITH A HIP FRACTURE ATTENDING A SPECIALIST BONE HEALTH CLINIC

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**Background**
Bone density evaluation for diagnosing osteoporosis can be performed by various methods, including bone ultrasound, bone densitometry, tomography and radiography. Dual X-Ray absorptiometry (DXA) remains the gold-standard test for the diagnosis of osteoporosis, however access to this method is still restricted due to its high cost and limited availability in rural zones.

**Sampling Method**
We looked at 340 patients attending our institution following a hip fracture. These patients had both a DXA and calcaneal QUS at initial review. We looked at the relationship between the T-score results on DXA (lowest of either total hip or neck of femur) and calcaneal QUS.

**Results**
We found that of those with a normal T-score on calcaneal QUS (n = 41), only 25% had normal scores on DXA with the remaining 75% being classified as osteopenic or osteoporotic. When calcaneal QUS indicated osteopenia (n = 78), only 59% were osteopenic, 34.6% were osteoporotic and 6.4% were normal on DXA. When calcaneal QUS indicated osteoporosis (n = 221), 73.3% were osteoporotic, 24.9% were osteopenic and 1.8% were normal on DXA. There was a modest correlation between T scores identified on DXA and calcaneal QUS (r =0.5, p<0.0001).

**Conclusion**
Based on this review, we conclude that calcaneal QUS cannot be used reliably in a hip fracture population to estimate bone mineral density. Only 24% of QUS scores reflected accurately a normal T-score on DXA. QUS T-score in a normal or osteopenic range tended to underestimate reduced bone density compared to the equivalent DXA T-score, whilst QUS indicating osteoporosis tended to overestimate compared to the DXA result.
SERVICE EVALUATION OF VITAMIN D LEVEL ASSESSMENT IN HIP FRACTURE PATIENTS

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Background
Vitamin D level is currently assessed in hip fracture patients in the Nottingham University Hospitals (NUH). If <30nmol/L a loading dose of vitamin D (colecalciferol 20000 IU daily for 7 days) is prescribed, followed by combined calcium & vitamin D. If level >30nmol/L, combined calcium & vitamin D is prescribed. This survey was designed to establish whether deficiency could be identified using clinical criteria without the need for checking vitamin D or whether inadequacy is so common that it would be cost effective to prescribe a loading dose to all hip fractures.

Sampling method
We retrospectively identified 502 hip fracture patients from trauma handover sheets admitted to NUH from May 2010 to April 2012. Data collection: Handover sheets and electronic patient records (NOTIS). Cost data: pharmacy and laboratory of NUH.

Results
63.5% have Vitamin D <30nmol/L. Adequate levels (>75nmol/L) seen in 6.4%. Deficiency is commoner in <60yr than >90yr olds at 83.3%:58.6% (15/18:58/99). Those from care homes are less likely to be vitamin D deficient than those from home 58.5%:66.6% (48/82:257/405). Deficiency is commoner in the darker 6 months of the year compared to the brighter 6 months 73.7%:51.3% (199/270:119/232). Average cognition is similar (AMT 7/10) between deficient and replete groups. Vitamin D status is unrelated to Nottingham Hip Fracture Score (correlation coefficient -0.02034). Current cost of treatment with colecalciferol 20000 IU daily for 7 days is approximately £3 and serum 25 OH vitamin D assay costs £4. If all hip fractures receive a loading dose, cost will be £300/100 patients. Cost for testing & treating: £(4X100)+(3X63.5)=£590.50/100 patients.

Conclusion
Vitamin D deficiency is common while adequacy is <7%. There are no reliable clinical predictors for deficiency. Assessing 25OH vitamin D is suggested following hip fracture. However blanket use of a loading dose (unless contraindicated) is cheaper and likely to be safe.
AN EVALUATION OF A COMMUNITY IN-REACH REHABILITATION AND CARE TRANSITION SERVICE

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Introduction
In the elderly, hospital length-of-stay is much longer, the risk of hospital acquired complications much higher, discharge planning more complex and 28 day re-admission rates much greater, compared to younger patients admitted to hospital.

Methods
NHS Nottingham City Clinical Commissioning Group (Nottingham City CCG) have commissioned a pilot community in-reach rehabilitation and care transition (CIRACT) service for elderly, general medical in-patients to tackle this problem.

The core members of the CIRACT team consist of a senior occupational therapist and two assistant practitioners, linked to a named social worker. The novel element of this service is that although the core team members are employed by the community, they are based on the hospital ward, working with the ward multidisciplinary team.

Results
167 patients received the CIRACT intervention and 129 traditional hospital based rehabilitation (THB-rehab) over the first 4 months. The median difference in length of stay between the two groups was 3 days (p=0.0025), CIRACT intervention 6 days (interquartile range 5 to 11), THB-rehab 9 days, (interquartile range 3 to 15). There was a trend towards a reduction in 28 day readmission rate in favour of the CIRACT intervention, 45%. Ten semi-structured interviews were carried out with a purposive sample and included a wide range of the multidisciplinary CIRACT team and patients. The emerging themes were mostly positive.

Discussion
The partnership has achieved a unique collaborative service innovation. This approach has demonstrated a reduced length of stay and reduced early re-admission. We now propose to progress this to a formal RCT.
VITAMIN D LOADING FOLLOWING FRACTURED NECK OF FEMUR AT UNIVERSITY HOSPITALS SOUTHAMPTON (UHS)

F Brown, F Rossiter, M Baxter

Medicine for Older People, University Hospitals Southampton

Introduction
Research demonstrates a high prevalence of vitamin D deficiency in patients with a hip fracture. Vitamin D repletion is of recognised benefit for falls and fractures prevention and a requirement for anti-resorptive medication. Examination of our local practice demonstrated that deficiency was not being identified and treated in a standard manner.

Innovation
We developed a protocol for patients over 60 years with an eGFR > 30ml/min presenting with a fractured neck of femur. This recommended measurement of serum vitamin D levels at baseline, oral loading with 100,000 units of cholecalciferol (prior to test result) with continued oral therapy of 800IU daily. The serum level was repeated at 3 months.

Data was collected August-November 2011 for patients admitted to UHs hip fracture unit, this included, demographic data, previous fracture history and prior use of anti-osteoporosis therapies including calcium and vitamin D supplementation.

Vitamin D results were classified based on local guidance as:

Severely deficient <25nmol/l; Moderately deficient 25-52nmol/l; Insufficient 52-72nmol/l; Sufficient >72nmol/l

Evaluation
129 patients were admitted and 122 (mean age 84) had vitamin D levels measured; 14 (11%) sufficient, 17 (15%) insufficient, 48 (39%) moderately deficient, 43 (35%) severely deficient.

Repeat levels at 3 months were available in 67 patients: 54% sufficient, 25% insufficient, 18% moderately deficient and only 3% severely deficient. No level was in the toxic range.

Conclusion
This is a practical and reasonably effective way of treating Vitamin D deficiency in people admitted with hip fracture where compliance is a problem. Following this data collection exercise, our guideline no longer recommends baseline testing for deficiency, but that eligible patients should receive 100,000 units cholecalciferol and post dose levels be measured at 3 months. Ongoing data collection and follow up may lead us to modifying the loading regime to try and achieve a greater proportion of sufficiency.
How Much Do Doctors Know About Healthcare Costs?

E Mucci¹, A Brown¹, S H D Jackson²

¹. Department of Medicine for the Elderly, Conquest Hospital; ². Department of Clinical Gerontology, King's College Hospital

Background
It is known that involving clinicians in the financial management of healthcare leads to efficient use of resources and good quality services. (Audit Commission, 2009. 52p.p) NHS doctors are salaried and do not themselves have to bear the costs of treatments, as a result ignorance of costs may lead to unnecessarily expensive care. (Harrison S, SAGE; 2008.ix, 206p.p)

Method
We surveyed doctors of all grades working in the Department of Clinical Gerontology at King's (n=86) and general medicine at Conquest Hospital (n=20) at face to face meetings during 2011. Participants were asked to complete a questionnaire containing quantitative, semi quantitative and qualitative questions covering attitudes to diagnostic cost spending, previous experiences and knowledge of costs of commonly used healthcare items (13 in total). Each participant was asked to estimate the cost of all items and this was then used to calculate a “Knowledge Score”. The participant was scored as being accurate if their estimate was within 20% of actual cost, a score of 13 being the maximum score.

Results
Knowledge of day to day expenditure is poor: average knowledge score was 1.5. Participants' knowledge of the cost of drugs was particularly poor: only one participant correctly estimated the cost of more than 1 drug. No one estimated the cost of simvastatin to within 20%. In most cases this was due to gross overestimation of costs. 94% agreed that doctors should have cost awareness. 92.5% had not received teaching on the use of health resources. Over 50% attributed excess requesting of laboratory tests to “protecting themselves” or due to ease of availability of the tests.

Conclusion
The vast majority of doctors at all grades do not know the costs of commonly used blood tests, imaging procedures and drugs. Over 90% of doctors believe they should be cost aware. The majority never had any training in NHS finance.
DAILY MULTIDISCIPLINARY MEETINGS REDUCE LENGTH OF STAY OF ACUTE GERIATRIC IN-PATIENTS

N de Savary¹, S Hasan¹, H Jones², J Birrell¹, J Hockley¹

1. Department of Medicine for Older People, Buckinghamshire Healthcare NHS Trust; 2. Department of Geratology, Oxford University Hospital NHS Trust

Background
The timely discharge of elderly patients is facilitated by the multidisciplinary team (MDT). A daily meeting of the MDT could reduce length of stay. This new practice development piloted a daily MDT Boardround for geriatric inpatients.

Innovation
For three months there was a daily MDT Boardround beside the white-board listing all in-patients, in a confidential setting. A facilitator ensured the meeting was focused and proactive, lasting no longer than 20 minutes. Actions for each patient were agreed, recorded and assigned to the relevant MDT member. Length of stay (LoS) data from this period was compared to that during a 3 month period with only a weekly MDT.

Evaluation

<table>
<thead>
<tr>
<th>Number of patients discharged</th>
<th>No intervention</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>12</td>
<td>25</td>
</tr>
<tr>
<td>Week 2</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>After week 2</td>
<td>23</td>
<td>28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient discharges with LoS &lt; 2 weeks</th>
<th>No intervention</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>24</td>
<td>30</td>
</tr>
<tr>
<td>LoS</td>
<td>7.7 days</td>
<td>5.2 days</td>
</tr>
</tbody>
</table>

More patients (25) in the intervention group were discharged within 7 days of admission than in the non-intervention group (12). P =0.001 95% CI(16.18, 36.90) However, fewer patients were discharged from the intervention group in the second week. P=0.04. Overall, patients in the daily MDT group with a LoS less than 2 weeks were in-patients for 5.2 days versus 7.7 days with weekly MDT. P=0.02. 95% CI for the difference (0.45, 4.5).

Conclusion
This suggests that a Daily MDT boardround does have an effect on achieving safe discharges early in admission. In those patients that require a longer stay in hospital the effect on LoS is less. Effective deployment of comprehensive geriatric assessment via the daily MDT Boardround significantly reduced LoS within the first 2 weeks of admission.
URINARY TRACT INFECTIONS: ARE WE OVER-DIAGNOSING THEM?

N Hensey, N Athavale, R Meiring

Department of Health Care For Older People, Rotherham District General Hospital

Background
Urinary Tract Infection (UTI) is commonly diagnosed in elderly patients on admission to hospital. Often there is no complaint of lower or upper urinary tract symptoms. We looked at the accuracy of the diagnosis of UTI and examined what evidence was used to make the diagnosis.

Sampling Methods
The notes of patients admitted on the acute unselected take were surveyed. Minimum age for inclusion was 75. The clerking by the first medical doctor was analysed and those given a diagnosis of UTI included, whether or not differential diagnoses were listed. We looked at demographics and details of clinical features. Biochemical information and microbiology results were obtained.

Results
53 patients were included. There was range of presentations, the commonest being delirium (69.8%), hypotension/tachycardia (39.6%), pyrexia (26.4%) and abdominal pain (24.5%). Urinary symptoms only featured in 17%. 13.2% presented with delirium as the only supporting clinical feature.

An alternative source of infection, or differential diagnosis, was given in 60.4%, the commonest being respiratory tract (52.9%). Antibiotics were started in 92% of cases. The commonest regime was Co-Amoxiclav, either alone or combined with Clarithromycin (65.3% in total). Local guidelines suggested Nitrofurantoin or Trimethoprim as first line treatment; in only 16.3% were these used, rising to 33.3% in those where no differential diagnosis was given.

77.4% had either blood, urine, or both sent for culture; 26.8% of these patients cultured an organism consistent with urinary source. 72.7% of organisms grown were resistant to at least one antibiotic.

Conclusions
UTIs are over-diagnosed and over-treated, with true bacteriuria found in only a small number of cases. Delirium is the commonest presentation provoking the diagnosis, at times inappropriately and alternative diagnoses should be sought. Broad spectrum antibiotics, rather than source-specific agents are being used, with their risks of increasing antibiotic resistance and antibiotic-related costs and complications.
REDUCING ACUTE ADMISSIONS OF OLDER PEOPLE – WHAT MATTERS? CONSULTANT PRESENCE, CLINICAL PATHWAYS, OR LEADERSHIP?

J Simms, S Brown, A West, P Diem

Medway Maritime Hospital, Elderly Care Department, Gillingham, Kent

Background
The number of older patients referred as acute medical emergencies is rising. Due to severe bed pressures we developed and trialled new care models to enable rapid assessment and early discharge of older patients from the Acute Medical Unit (AMU). We report the results of 3 cycles of change in AMU service delivery.

Innovation
Model A (January-March 2011): one on-call daytime physician, one at night, with morning and evening post-take rounds. Model B (April-10th June 2011): two discharge enthusiast consultants (respiratory physician and geriatrician) in AMU 8am-7pm (weekdays) driving discharges whilst developing discharge pathways. Model C (11th June-September 2011): reintroduced original model enhanced by discharge pathways. Model D (October-December 2011): increased consultant presence with two daytime physicians (one geriatrician) in AMU (weekdays).

Evaluation
We compared the proportion of same day discharge (day 0 length of stay) and readmissions of patients (≥75) discharged on day 0 in the four models. We analysed 4859 AMU attendances over 1 year. Mean age 83.

<table>
<thead>
<tr>
<th>Model</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Day 0 Discharges</td>
<td>12.2%</td>
<td>21.0%</td>
<td>13.1%</td>
<td>14.0%</td>
</tr>
<tr>
<td>(Discharges/Attendances)</td>
<td>(152/1243)</td>
<td>(188/897)</td>
<td>(181/1386)</td>
<td>(187/1333)</td>
</tr>
<tr>
<td>% Readmissions of patients discharged day 0</td>
<td>12.5%</td>
<td>16.0%</td>
<td>11.6%</td>
<td>15.0%</td>
</tr>
<tr>
<td>(Readmissions/Discharges)</td>
<td>(19/152)</td>
<td>(30/188)</td>
<td>(21/181)</td>
<td>(28/187)</td>
</tr>
</tbody>
</table>

There was a statistical difference in same day discharge between the models (χ²=37.7, df=3, p<0.001). Model B was the most effective compared to model A (OR=1.90 (CI 1.51-2.40)). Model C and D were not significantly better than the original model (OR 1.08 (CI 0.86-1.36), OR 1.17 (CI 0.93-1.47) respectively). No significant difference between the models (χ² 2 =1.90, df=3, p=0.594) in readmissions of those discharged day 0.

Conclusions
Increased consultant involvement on the shop-floor and pathways per se do not guarantee significantly more same day discharges. However, with a discharge enthusiastic team changing the culture in AMU, discharges can be significantly increased without significantly higher readmissions.
DELIRIUM RECOGNITION AND MANAGEMENT - AN AUDIT

R Davies, R Kings, H Coleman

St Peter's Hospital, Chertsey

Evidence Base
Delirium is common in older people affecting up to 30% of elderly medical patients. It is associated with higher mortality, morbidity and longer lengths of stay\(^1\). To compound matters, it is often poorly recognised and managed by clinicians\(^2\) but is potentially preventable.

Aim
To compare the assessment of delirium in the acute medical elderly patients admitted to St Peter's Hospital to the Royal College of Physicians (RCP) Guidelines on delirium, put in place interventions and re-audit. The intention was to reinforce the importance of identifying delirium early to help improve patient outcomes.

Methods
Two audits were carried out; firstly, the notes of 50 randomly selected elderly acute medical patients were retrospectively analysed, looking at the initial assessment of delirium and the subsequent management. Following the results, a clerking proforma designed to highlight delirium was introduced. The notes of a further 50 randomly selected similar patients were then analysed.

Results

<table>
<thead>
<tr>
<th>Admission assessments</th>
<th>Results of 2nd Audit (%)</th>
<th>Results of 1st Audit (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbreviated Mental Test</td>
<td>54</td>
<td>15</td>
</tr>
<tr>
<td>Drug history</td>
<td>92</td>
<td>96</td>
</tr>
<tr>
<td>Alcohol history</td>
<td>62</td>
<td>35</td>
</tr>
<tr>
<td>Neurological examination</td>
<td>80</td>
<td>60</td>
</tr>
<tr>
<td>Bowel status</td>
<td>24</td>
<td>22</td>
</tr>
<tr>
<td>Urine dipstick</td>
<td>62</td>
<td>50</td>
</tr>
<tr>
<td>Calcium level</td>
<td>56</td>
<td>41</td>
</tr>
<tr>
<td>Median length of stay</td>
<td>29.6 days</td>
<td>33.5 days</td>
</tr>
</tbody>
</table>

Conclusions
The recognition and management of delirium in the acute medical setting is poor. The introduction of a clerking proforma at St Peter's has improved the documentation of most relevant factors in the diagnosis of delirium. However, it does not solve the whole problem of recognition and management of this condition. Education of junior doctors is vital to improve outcomes for patients. Further changes including the use of the Confusion Assessment Method should be incorporated into the proforma to help identify delirium.

References
IMPROVING END OF LIFE CARE ON DEMENTIA INPATIENT WARDS

D Stevens¹, C Campbell¹, S Hope², A Morris³

1. Consultant in Palliative Care, Royal Cornwall Hospitals NHS Trust & Cornwall Hospice Care; 2. Department of Elderly Care, Royal Devon & Exeter Hospital; 3. Ward Sister, Cove Ward, Longreach House, Cornwall Partnership NHS Foundation Trust

Background

The Gold Standards Framework aims for co-ordinated anticipatory care planning in those nearing the end of life, and the National Dementia Strategy identifies caring for a patient in a setting where a patient is known as good practice. However patients with dementia were often (distressingly) transferred from our local inpatient dementia units to our acute trust near the end of life.

Innovation

We aimed to reduce such transfers, using a three-pronged approach:

1) Provide guidance

An End of Life Care Policy was developed for patients in the dementia units, and the Liverpool Care Pathway adapted to recognise specific needs of patients with dementia and their families, to avoid the use of syringe drivers (safety issue; using instead oral, intermittent subcutaneous, or transdermal drug administration routes). Subcutaneous injections eased by using Insuflon cannulae to reduce distress of injections.

2) Build confidence

Dementia unit staff were educated in palliative care principles & skills, with hospice nursing staff & doctors providing peer education and support.

3) Ensure support

Dementia unit staff supported in end-of-life care with prompt consultant review, & 24-hour access to Hospice Advice Line.

Evaluation

Service review and audit has shown 1-2 patients/month are referred. Face-to-face consultant review is consistently provided within 24 hours. No referred patients have been transferred to the acute trust at the end of life. A few patients whose condition improved have been taken off the LCP, demonstrating responsiveness to changing situations. There has been positive feedback from relatives, and the service nominated for a national award.

Conclusion

The continued success of supporting dementia unit staff in anticipating and caring for patients with terminal dementia means we plan to roll the service out to specialist dementia Nursing Homes locally - the other key location where patients may be more optimally cared for in their terminal phase.
DOES A SPECIALIST MEDICAL AND MENTAL HEALTH UNIT (MMHU) IMPROVE OUTCOMES COMPARED WITH STANDARD CARE FOR CONFUSED OLDER PEOPLE ADMITTED AS AN EMERGENCY: A SERVICE EVALUATION ALONGSIDE A CONTROLLED CLINICAL TRIAL

T Ong, R Harwood

Department of Healthcare of Older Person, Queens Medical Centre, Nottingham

Background
Half of people over 70 years of age admitted as an emergency are cognitively impaired. The quality of their hospital care is frequently criticised.

Innovation
We established a specialist unit (MMHU) using best practice from literature in an attempt to improve outcomes. Mental health specialists were integrated into the ward team; staff were trained in person centred dementia care; the environment was improved; a programme of purposeful activity introduced; and a proactive and inclusive approach to family carers adopted.

Evaluation
The MMHU has been evaluated by a randomised controlled trial, but along side this we undertook a service evaluation audit for the first 558 patients randomised using routinely held data on hospital admissions and clinical incidents to compare outcomes in the two settings (MMHU and standard care in a general medical or geriatric ward). MMHU patients had spent slightly longer in hospital in the year prior to the index admission.

Conclusions
The evaluation did not show any difference in outcomes, apart from an increased rate of falling in the MMHU group. This could possibly represent reporting bias. The outcomes analysed may be dependent on illness severity and external agencies such as social services. We may need to rethink appropriate outcomes for frail older people, emphasising more on quality of experience. We acknowledge that hospital administrative data can be incomplete, and formal trial results are awaited.

<table>
<thead>
<tr>
<th></th>
<th>MMHU (n=278)</th>
<th>Standard care (n=280)</th>
<th>Fisher's Exact Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median index length of stay (days)</td>
<td>16</td>
<td>13</td>
<td>0.6</td>
</tr>
<tr>
<td>Median total hospital stay over 90 days (days)</td>
<td>21</td>
<td>19</td>
<td>0.9</td>
</tr>
<tr>
<td>Patients re-admitted, n (%)</td>
<td>101(36.3%)</td>
<td>110(39.3%)</td>
<td>0.5</td>
</tr>
<tr>
<td>Recorded in patient mortality, n (%)</td>
<td>33(11.8%)</td>
<td>24(8.6%)</td>
<td>0.2</td>
</tr>
<tr>
<td>Recorded 90 day mortality, n (%)</td>
<td>70(25.2%)</td>
<td>69(24.6%)</td>
<td>0.9</td>
</tr>
<tr>
<td>Discharge to care home from index admission, n (%)</td>
<td>30(10.8%)</td>
<td>25(8.9%)</td>
<td>0.5</td>
</tr>
<tr>
<td>Falls, n (%)</td>
<td>77(27.7%)</td>
<td>41(14.6%)</td>
<td>0.0002</td>
</tr>
</tbody>
</table>
A NOVEL SIMULATION BASED TEACHING PROGRAM FOR GERIATRIC MEDICINE SPECIALIST TRAINEES IN NORTH THAMES

D Dasgupta, S Mitchell, V Dimmock, F Collin, E Wood

Homerton University Hospital, Whittington Hospital

Background
Simulation has been shown to improve clinical decision-making, and to reduce medical error through improved teamwork. It is possible to expose trainees to rare, yet high-risk clinical situations, or common error-producing conditions without affecting patient safety.

Innovation
We designed a novel, multi-professional, simulation-based teaching programme for specialist trainees to address patient safety, advocacy and dignity linked to core content from the curriculum.

Three multi-professional training days were delivered in 2011-2012 for 30 trainees. Curriculum linked scenarios were developed and all involved in facilitated debrief sessions.

Evaluation
100% - Confident to use skills gained in the workplace
100% - Training integrated theory and practice
100% - Course stimulating and motivating.

Examples of feedback: The most useful learning for me personally was…

“There is no other setting in which we debrief in peers and share experience- I thought this was excellent...”; “Patient centered care and communication skills”; “DNR/CPR discussions scenarios”; “It was very nice to have feedback from other colleagues. I felt this was important for me.”; “Debrief sessions and opportunity to talk through real life with personalised feedback”; “I feel the training developed my understanding of some of the difficult discussions doctors have to have with patients/relatives and the pressures they face”; “Utilise skills in addressing potential cases of abuse of elderly patients-feedback from other colleagues. I felt this was important for me.”; Free text feedback was extensive and useful. People cited diverse learning points from the technical, non-technical and cognitive domains.

Conclusions
This novel use of simulation offers opportunities to address many areas of the curriculum rarely taught formally. Over 90% of trainees recognise this to be an exciting learning method & would like to have more sessions. Further work will incorporate other areas from higher training grids of the curriculum into the programme.
Improving DNACPR Discussions and Documentation: An Audit Cycle Following Introduction of the Yorkshire and Humber Regional DNACPR Form in Elderly Medicine

V Green, N Hendrickse-Welsh, N Singh, A Cracknell, J Eccles

Department of Elderly Medicine, St James’s University Hospital, Leeds Teaching Hospitals NHS Trust

Evidence-base

The Yorkshire and Humber Regional Do Not Attempt Cardio-Pulmonary Resuscitation (DNACPR) form was introduced in 2011, designed in response to Resuscitation Council 2007 Guidelines recommending that all DNACPR decisions should be:

1. Explained to the patient and their family/representative, where appropriate
2. Documented in the medical notes and recorded on a form recognised by healthcare staff
3. Communicated between health professionals caring for the patient in hospital and community settings.

A prospective audit evaluated DNACPR decisions and documentation in Elderly Medicine against these standards. Results showed that 36% of decisions were discussed with next of kin, but there were no discussions with patients recorded. Only two thirds of decisions were documented in the medical notes.

Change Strategies

A patient information leaflet is now available to aid communication of DNACPR decisions with patients and relatives. An e-Bulletin publicised the audit results, emphasising the importance of reviewing DNACPR decisions. Departmental education sessions promoted the discussion of DNACPR decisions, providing guidance for improvement.

<table>
<thead>
<tr>
<th></th>
<th>Cycle 1 (November 2011)</th>
<th>Cycle 2 (May 2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNACPR forms (n)</td>
<td>17</td>
<td>76</td>
</tr>
<tr>
<td>Discussed with:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>patient relatives</td>
<td>0</td>
<td>9%</td>
</tr>
<tr>
<td>Complete healthcare</td>
<td>36%</td>
<td>43%</td>
</tr>
<tr>
<td>professional details</td>
<td>41%</td>
<td>51%</td>
</tr>
<tr>
<td>Documented in:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>medical notes</td>
<td>65%</td>
<td>76%</td>
</tr>
<tr>
<td>doctors handover</td>
<td>24%</td>
<td>41%</td>
</tr>
<tr>
<td>nurses handover</td>
<td>59%</td>
<td>81%</td>
</tr>
<tr>
<td>Review date</td>
<td>0</td>
<td>12%</td>
</tr>
</tbody>
</table>

Change Effects

Re-audit at six months showed improvement (see table).

Conclusion

Although re-audit demonstrated improvement, the majority of DNACPR decisions are still not communicated to patients or relatives. Next steps involve exploring the barriers for this with clinicians to identify further strategies for improvement. Cycle 2 results demonstrate an improvement in the documentation of DNACPR decisions. The form records and authorises the DNACPR decision, with the medical notes providing comprehensive documentation of the decision making process. DNACPR decisions should be reviewed regularly, particularly prior to hospital discharge and communicated to clinical colleagues in the community.
DEPRIVATION IN COLD WEATHER INCREASES THE RISK OF HOSPITAL ADMISSION WITH HYPOTHERMIA IN OLDER PEOPLE

R Romero-Ortuno, M Tempany, L Dennis, B Silke

Division of Internal Medicine, St James's Hospital, Dublin, Ireland

Introduction
Older adults who live in deprived neighbourhoods are vulnerable to poor health, and cold weather may contribute to hospital admissions in this group. In cold weather, the inability to maintain adequate body temperature (indoors or outdoors) may favour the development of hypothermia. Hypothermia is a medical emergency defined as a body temperature lower than 35°C due to prolonged exposure to ambient cold temperatures without appropriate protection. Our aim was to study the contribution of material deprivation to the incidence of hypothermia in older people, from an Irish hospital perspective.

Methods
Of all patients aged ≥ 65 years experiencing their last medical admission to our hospital between 1 January 2002 and 31 December 2010, we selected those who presented with a body temperature of < 35 °C. Their characteristics were compared with those of a random sample of 200 (age and gender-matched) non-hypothermic admissions. A multivariate logistic regression model was used to identify predictors of hypothermia. The following predictors were considered: age, gender, mean air temperature on the day of admission, year of admission, comorbidity, major diagnostic categories, and material deprivation as per the Irish National Deprivation Index (NDI).

Results
80 patients presented with hypothermia over the period. Hypothermic patients presented in colder days (mean 8.8°C vs. 10.8°C, P < 0.001), they were less likely to present in summer (P = 0.002), and their mortality was high (50% vs. 17%, P < 0.001). The interaction term NDI * air temperature was a significant multivariate predictor of hypothermia (OR = 1.03, 95% CI: 1.00 – 1.06, P = 0.033).

Discussion
Our study shows that a readily available measure of material deprivation increases, when the weather is cold, the risk of hospital admission with hypothermia in older people. The NDI could be an adequate tool to target fuel poverty in Irish older people.
DEPRESSION ASSOCIATES WITH MINI NUTRITIONAL ASSESSMENT (MNA), VITAMIN B12 AND FOLATE STATUS; FINDINGS IN THE BELFAST ELDERLY LONGITUDINAL FREE-LIVING AGEING STUDY (BELFAST)

M A Bowman¹, J N M Rea², A Murphy¹, I M Rea¹

1. School of Medicine, Dentistry and Biomedical Science, Queens University of Belfast;
2. Royal Free Hospital, Kings College, London

Introduction
An association between depression and folate has been found in clinical studies. Depression and dementia can contribute to nutritional deficiency. This study clinical depression in in octo/nonagenarians from the BELFAST study.

Method
In the BELFAST study, 38 free-living octo/nonagenarians (mean age 82 years), who apparently well and cognitively intact were followed up at 5 years and assessed using the Geriatric Depression Scale (GDS), Folstein (30 point), Mini Nutritional Assessment Tool (MNA) together with serum folate and vitamin B12 levels.

Results
Mean GDS was 3.4 (SD2.5), serum folate 7.1umol/l (SD5.3) and B12 553umol/l (458). With mean MNA and Folstein -25.8(SD2.7) and 27.6(SD2.7) respectively with no sex difference (p=0.78; p=0.36). 25% of subjects showed a GDS >5 indicating risk of mild depression and 21% had compromised nutritional status. MNA associated with GDS in male (r²=0.56 p=0.01), but not in female elderly subjects (r²=0.01; p=0.44). GDS score and lower serum folate were associated (r²=-0.23; p=0.01).

Conclusion
Overall there was the suggestion that nutritional status and depression might be linked in male subjects at 5 year follow-up in octo/nonagenarians from the BELFAST study. The lower folate in subjects categorised at risk of mild depression might suggest vitamin supplementation could be useful.
USING ‘NUTRITIONAL NARRATIVE’ AND FOCUS GROUPS TO UNDERSTAND HOW NUTRITIONAL CARE CAN BETTER PRIORITISED FOR OLDER PEOPLE IN HOSPITAL SETTINGS

S Morrison, S Machniewski, J Purdy, K Carlisle, D Coleman, I M Rea

School of Medicine, Dentistry and Biomedical Science, Queens University of Belfast

Introduction
 Poor nutritional status among older people is well documented with 40% of older people reported as malnourished on hospital admission. Poor nutrition contributes to increased infection, poorer patient outcomes and death and longer hospital stays. In this study we assessed the ‘nutrition narrative’ from older hospital patients together with nutrition knowledge amongst nursing and medical staff and students.

Methods
 The study used a convenience sample of older people (30, mean age 82 years) in 2 large geographically separate city hospitals. Patients mentally alert and consenting, gave a recorded ‘nutrition narrative’ to get a sense of how they felt their nutritional needs were being met in hospital. Main themes were identified by grounded analysis framework. Focus groups were recruited from medical/nursing teachers and students to assess their working knowledge of nutrition and the nutritional needs of the older patient group.

Results
 Analysis of the ‘nutrition narrative’ suggested several themes -1) staff should listen to patients’ needs/wishes in discussion with themselves and family members -2) staff should continue to encourage and progress a positive eating experience -3) staff should monitor food eaten/or not eaten and increase regular monitoring of weight. The focus groups with medical and nursing students suggested a limited knowledge about nutritional care of older people and little understanding about roles or cross-talk about nutrition across the multidisciplinary groups.

Conclusions
 The ‘nutrition narrative’ themes suggested that the nutritional experience of older people in hospital can and must be improved. Nursing and medical staff providing medical and nursing care need better basic knowledge of nutrition and nutritional assessment, an improved understanding of the roles of the various multidisciplinary staff and of hospital catering pathways. Care professionals need to prioritise patient nutrition much more highly and recognise nutritional care as integral to patient healing and recovery.
OUTCOMES OF TRAUMA ADMISSIONS IN THE CENTENARIAN POPULATION

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Introduction
The UK average population age is increasing, not uncommonly allowing individuals to live into their second century. The result is more patients over 100 years presenting to institutions with orthopaedic trauma. To our knowledge, there are no studies looking at this cohort of patients.

Methods
From our local trauma database, we identified all patients aged 100 years or greater that were admitted to our institution between January 2007 and December 2011. Usual place of residence, injury, treatment, inpatient stay, place of discharge, and date and cause of death were recorded.

Results
Eighteen patients (15 females, 3 males), with a mean age of 101 years were admitted during the above time period. Seven were from their own home and eleven were from institutional care. Proximal femoral fracture was the predominating injury (12/18). Based on pre-existing medical co-morbidities, sixteen of the patients had a pre-operative ASA grade of 3 or above, but two presented with an ASA of 1. Fifteen patients underwent surgical intervention. Inpatient stay averaged 18 days (2-60), with one returning home, and twelve discharged to community care facilities. The in-hospital mortality was 27.8%, one-year mortality was 66.7%, and the study period mortality was 83%.

Discussion
This elderly population group have greater social care needs, a higher burden of co-morbidity and a decreased life expectancy compared to younger trauma patient populations. Elective surgery in the extremely elderly has comparable outcomes to their younger counterparts, however this is influenced by selection bias, contrasting the negative selection bias associated with trauma. The estimated life expectancy for individuals over 100 years of age in the UK is 2 years, with a mortality of 40%. Therefore, our overall mortality of 66.7% following significant trauma is not unexpected.

Conclusion
To our knowledge, this is the first study focusing on trauma in centenarians. As might be expected, there is significant in-hospital and 1-year mortality.
EXAMINING THE PREDICTIVE POWER OF THE FRAX SCORE IN AN IRISH POPULATION: CROSS SECTIONAL FINDINGS FROM THE IRISH LONGITUDINAL STUDY ON AGEING

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Background
Osteoporotic fractures pose a significant public health issue, associated with significant increases in morbidity and mortality. The WHO Fracture risk assessment tool (FRAX) allows calculation of a 10 year probability risk enabling community based identification of individuals at high risk of fracture and further treatment. However its validity in a nationally representative sample of older adults in Ireland has yet to be assessed.

Method
A sample of older Irish adults aged >50 (n=8178) was recruited as part of the Irish Longitudinal study on Ageing (TILDA). Both in-home computer aided personal interviewing (CAPI) and objective health and home centre based assessments were used for data collection. Participants were asked to self-report a previous fracture, frequency of smoking and alcohol intake and a doctor’s diagnosis of rheumatoid arthritis. Medication use and co morbidities which predispose to secondary osteoporosis were also documented. Heel bone ultrasound measurements were taken. FRAX variables were entered into a logistic regression and used to predict the probability of having a fracture. Models were compared using ROC, specificity and sensitivity measures.

Results
Data from N=4397 subjects was available for analysis. Prediction using age and stiffness measures alone demonstrates an AUC of 0.536 and sensitivity and specificity of 57.8% and 63.4%. The FRAX score demonstrated an AUC of 0.618, with a sensitivity and specificity of 49.1% and 74.3% respectively. Gender differences existed in FRAX performance. FRAX had a sensitivity and specificity of 76.2% and 50% respectively for men and a sensitivity and specificity of 67.3% and 43.2% respectively for women.

Conclusion
FRAX and stiffness measures alone are at most moderate predictors of hip fractures cross sectionally and demonstrate differential results across gender in an Irish population. Future work will examine refinements of this model to improve the fracture risk prediction.
INFLAMMAGING: POWERING THE BIOLOGICAL CLOCK OF TELOMERE LENGTH?

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Introduction
Telomere attrition is often referred to as the biological clock of ageing; it has been associated with age related disease and mortality although causality is unclear and increasingly controversial. Low grade systemic inflammation, inflammaging, is also implicated in the pathogenesis of age-related diseases and telomere attrition. This longitudinal study explores the increasingly controversial relationship between TL and the ageing process, addressing the question: is TL a cause or consequence of the ageing process and does inflammaging explain the known associations between TL and ageing?

Methods
We studied Hertfordshire Ageing Study participants at baseline and 10 year follow up (n=253). Participants completed a health questionnaire and had blood samples collected for immune-endocrine and telomere analysis at both time points. Physical ageing was characterised at follow-up using grip strength.

Results
Faster telomere attrition over the 10 year follow-up period was associated with lower grip strength at follow-up (β=0.98, p=0.035). These associations were attenuated when adjusted for inflammaging burden (p=0.86) over the same period. Similarly, more inflammaging burden over the same period was associated with lower grip strength at follow-up (for example, interleukin-1β (IL-1β): β=-2.18, p=0.001), however, these associations were not lost when adjusted for telomere attrition (IL-1β, p=0.006). Interestingly, we found little correlation between telomere lengths at baseline and follow-up (r=0.09, p=0.17).

Conclusion
We present evidence that a raised pro-inflammatory milieu is the driving force powering the biological clock of telomere attrition and at least in-part explains the associations which have previously been reported between telomere length and age-related outcomes. This suggests that the commercial testing of TL as a routine health check is unwise and the use of other biomarkers of physical ageing including hand grip strength and markers of the immune-endocrine axis warrant greater exploration and could bring major health and socio-economic benefits at individual and population levels.
Factors Determining the Length of Stay of Patients with Fractures of the Proximal Femur Admitted to University Hospital Birmingham in the Year 2007-10


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Background

Hip fractures are a common cause of disability in the elderly. The total annual medical and social bill for hip fracture care in the UK equates to about £2 billion. With an increasing ageing population, incidence rates of patients with hip fractures are projected to rise. This will lead to an even higher financial impact on the NHs where most expenditure is accounted for by hospital bed-days.

Aims

To determine risk factors for increased length of stay in elderly patients who have had fracture of the proximal femur in Queen Elizabeth Hospital, an affiliate of University Hospital Birmingham UK, during the period 2007-2010.

Method

A retrospective data analysis of routinely available data was conducted to identify risk factors determining the length of stay in 1,468 patients above the age of 65, over the period 2007-2010. A univariate analysis of patient characteristics, specific comorbidities and laboratory results were conducted, and this was compared to patient length of stay. Furthermore, a multivariate analysis was performed to account for covariates.

Results

A prolonged length of stay is significantly associated with increasing age (p<0.001), higher Charlson comorbidity index (p<0.001), ethnic minority groups (p=0.03), presence of dementia (p<0.001), increased levels of creatinine (p=0.002) and lower levels of albumin (p=0.03).

Conclusion

Identification of the risk factors that prolong the length of stay, will allow healthcare professionals to address the burden on healthcare resources by targeting these factors. This may be useful for the creation of discharge models and for the design of future clinical trials.

Acknowledgement: This study was funded by the National Institute for Health Research (NIHR) through the Collaborations for Leadership in Applied Health Research and Care for Birmingham and Black Country (CLAHRC-BBC) programme. The views expressed in this publication are not necessarily those of the NIHR, the Department of Health, NHS Partner Trusts, University of Birmingham or the CLAHRC-BBC Theme 9 Management/Steering Group.

*Contributed equally
COMPARISON OF THREE FRACTURE PREDICTION TOOLS IN AN OSTEOPOROSIS CLINIC POPULATION


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Introduction
Fracture prediction is used to assess fracture risk to help guide management decisions and aid discussion with patients. The most commonly used tool is FRAX, although the Garvan and QFracture tools have also been advocated. This study compared fracture prediction between these three tools.

Methods
Women consecutively attending osteoporosis clinics were studied. Clinicians completed a questionnaire designed to ascertain information required to populate the three tools. A researcher used the web-based tools to find the 10 year fracture predictions which were then compared. The relationship between fracture prediction and a history of falls in the previous year was also explored for Garvan and QFracture (FRAX does not allow for a falls history).

Results
106 women (mean age=69.1 years, SD=12.4) were studied. 37 women (34.9%) had fallen in the previous year. The mean 10 year "major" fracture risks in percentage (95%CI) for FRAX, Garvan and QFracture were 18.3% (10.9-25.7), 46.4% (35.6-57.3) and 12.1% (5.5-18.7) respectively. The mean 10 year hip fracture risks were 7.1% (2.2-12.0), 29.1% (19.1-39.1) and 6.0% (1.2-10.8) respectively. There was a significant difference in the mean 10 year "major" fracture risk between non-fallers versus fallers using the Garvan tool [39.4% vs 63.7%; p<0.001] whereas QFracture was unable to distinguish between the groups [12.0 vs 12.4%; p=0.8].

Conclusion
Compared to FRAX, the Garvan tool overestimated both the 10 year risk of major fractures (more than doubled) and hip fractures (by four-fold). The QFracture tool tended to underestimate the risk of major fractures (by a third) compared to FRAX, although hip fracture prediction was similar. Only the Garvan tool could predict a higher fracture risk in those with a history of falls. Clinicians should be aware of the differences in fracture prediction between the web-based tools. The comparative accuracy of the different tools in predicting fractures requires a prospective study.
USE OF ACE INHIBITORS, STATINS OR THIAZIDES IS NOT ASSOCIATED WITH SLOWER DECLINE IN GRIP STRENGTH IN OLDER PEOPLE – RESULTS FROM THE HERTFORDSHIRE COHORT STUDY

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Introduction
Vascular disease has been postulated to contribute to muscle dysfunction in old age. Previous studies examining the effects of cardiovascular drugs on muscle function have shown conflicting results. We therefore examined the association of ACE inhibitor, thiazide and statin use with decline in grip strength in a well-characterised cohort.

Methods
Analysis of prospectively collected data from the Hertfordshire Cohort Study. For each medication, participants were divided into no baseline use / no use at follow-up; baseline use / no use at follow-up; no baseline use but use at follow-up, and use at baseline and follow-up. For each group, annualised decline in grip strength was calculated, then adjusted for baseline age, height, weight, baseline grip strength, indices of ischaemic heart disease and hypertension. Analyses were conducted separately for males and females.

Results

<table>
<thead>
<tr>
<th>ACEi use at baseline / follow-up</th>
<th>N / N</th>
<th>Y / N</th>
<th>N / Y</th>
<th>Y / Y</th>
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<tbody>
<tr>
<td>Males (Kg/yr)</td>
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<tr>
<td>-0.38</td>
<td></td>
<td></td>
<td>-0.59</td>
<td>-0.12</td>
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<tr>
<td>(-0.52 to -0.24)</td>
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<td></td>
<td>(-0.92 to -0.25)</td>
<td>(-0.63 to 0.40)</td>
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<tr>
<td>Females (Kg/yr)</td>
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<tr>
<td>-0.83</td>
<td></td>
<td>-1.41</td>
<td>-0.74</td>
<td>-0.73</td>
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<tr>
<td>(-0.96 to -0.69)</td>
<td>1.23</td>
<td>(-2.37 to -0.46)</td>
<td>(-1.23 to -0.25)</td>
<td>(-1.23 to -0.23)</td>
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</table>

639 participants were included in the analysis, mean age 65 years. 321 (50%) were male; mean follow-up time was 4.4 years. There were no differences in baseline grip between baseline users and non-users of any drug class. Adjusted grip strength change per year was similar for each group of ACE inhibitor use (Table) (p>0.05 for all comparisons). Similar analyses of adjusted grip strength change per year displayed no significant between-group differences for statin use or thiazide use. Analysis of dropout rates by medication use revealed no evidence of selection bias.

Conclusion
Use of ACE inhibitors, statins or thiazides was not associated with differences in grip strength decline in healthy older people in the Hertfordshire Cohort Study.
EFFECT OF ORTHOSTATIC HYPOTENSION ON BONE MINERAL DENSITY AMONGST OLDER IRISH ADULTS

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Background
Epidemiological studies have reported an association between osteoporosis and cardiovascular disease. Orthostatic hypotension (OH) has been identified in studies as a risk factor for cardiovascular morbidity and mortality. This study explores the relationship between bone mineral density (BMD) and OH among older Irish adults.

Method
The data used in this study is from Wave 1 of The Irish Longitudinal Study on Ageing (TILDA), a large prospective study of 8,504 people aged 50 years and older living in Ireland. 5,241 participants had BMD measured by stiffness index using a heel bone ultrasound scan. 6,153 participants were assessed for OH using two seated and one standing blood pressure measurements.

Results
Men and women with OH have a higher prevalence of both osteoporosis (13.33% vs 7.28%) and osteopenia (47.37% vs 40.05%) than those without OH, with a statistically significant result at the 5% level (Pearson chi2=25.789, p<0.001). After adjusting for age, smoking, body mass index (BMI) and physical activity levels, the negative effect of OH on heel stiffness index persisted in men (coefficient=-3.807, p=0.033, 95% CI: -7.299 to -0.314) and women (coefficient -2.264, p=0.070, 95% CI: -4.716 to 0.188).

Conclusion
To our knowledge, no previous study has explored the relationship between OH and BMD. Our study shows a statistically significant relationship between OH and lower BMD. The association of OH with lower BMD might be explained by a possible reduction in coronary blood flow and myocardial ischaemia during episodes of OH. Myocardial ischaemia may cause renal ischaemia. Reduced renal function has been linked to both peripheral arterial disease, and higher rates of bone loss and increased fracture risk. The association of OH and BMD has clinical implications. Individuals with OH are at increased risk of falling, and if osteoporosis is present there is increased risk of fractures.
ATRIAL FIBRILLATION IS UNDER RECOGNISED AND INAPPROPRIATELY TREATED IN OLDER ADULTS: CROSS-SECTIONAL FINDINGS FROM THE IRISH LONGITUDINAL STUDY ON AGEING (TILDA)

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Introduction
The study aims were to investigate the prevalence of objective and self-reported atrial fibrillation (AF), treatment rates of AF, and the factors underlying awareness and treatment, in a large nationally representative Irish sample.

Methods
A nationally representative population sample of people aged 50+ years, living in Ireland (sampling ratio 1:142) were recruited as part of the TILDA study. 10 minute ECG recordings were obtained from participants (4890), and subsequently analysed to detect AF, using ESC criteria. Self-reported arrhythmia’s, other subjective and objective health measures (including CVD diseases, CHA2DS2-VASC variables, blood-pressure) and medications were recorded. Statistics were performed using Stata-V12. Logistic regressions determined associations with outcomes of AF, awareness and treatment. P <0.05 was assumed significant.

Results
Overall prevalence of AF was 2.9%, with a sharp age gradient (10.3% in those over 80-years), and sex gradient (4.7% (men) vs 1.2% (women); p<0.0001). 67.8% of those with AF were at high risk of stroke (CHA2DS2-VASC>2), of whom 59.3% were inadequately treated. CHA2DS2-VASC score did not influence treatment (OR=0.846 ;P =0.11), whereas frailty was associated with under-treatment (OR=0.047 ;P=0.046). A high proportion, (38.1%) were unaware of having AF, also independent of CHA2DS2-VASC score.

Conclusion
The prevalence of AF in Ireland is similar to previous reports. The dissociation of CHA2DS2-VASC score with awareness and treatment of AF highlights the need for increased implementation of ESC guidelines. The high discrepancy between objective and subjective AF, emphasises the importance and added value of objective in addition to self-report health measures in studies.
DOES A TARGETED BUNDLE-OF-CARE FOR INPATIENTS WITH HEART FAILURE IMPROVE RE-ADMISSION RATES?

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Introduction
Chronic heart failure affects up to 2% of the population. It confers considerable mortality and morbidity, and is associated with frequent hospital admissions. Evidence shows that patients benefit from co-prescription of beta-blockers and ACE-inhibitors, as well as from assessment by a heart failure specialist and appropriate outpatient follow-up. However, it is unclear whether the cumulative effect of these interventions, when given together in a "bundle of care, provides any additional benefit.

Methods
We collected data from the National Heart Failure Audit of a sample of 332 patients, over a 12-month period, who presented to Sunderland Royal Hospital with a primary diagnosis of heart failure as their reason for admission. The interventions these patients received were recorded, along with the 30-day and 90-day re-admission rates to hospital. These were analysed to determine any difference in re-admission rates between treatment groups.

Results
On discharge, 54% of patients were prescribed a beta-blocker and 50% were prescribed an ACE-inhibitor. Only 20.5% of patients were under the care of a heart failure specialist during admission, but 62.7% had planned specialist follow-up. There was no significant impact on re-admission rates for individual interventions. However, 28 patients received the complete "bundle of care" (beta-blocker, ACE-inhibitor, inpatient specialist care, and outpatient specialist follow-up). The 30 and 90-day re-admission rates for these patients were significantly lower than for patients who did not receive the bundle (10.7% vs 14.5% at 30 days; 17.6% vs 27.6% at 90 days; p<0.005).

Conclusions
Although the number of patients receiving all the recommended interventions was small, the data suggests that a targeted "bundle of care" for heart failure patients can significantly reduce re-admission rates in this patient population.
A NEW LOOK AT THE SOCIO-ECONOMIC HEALTH GRADIENT: OBJECTIVE AND SUBJECTIVE MEASURES OF CARDIOVASCULAR HEALTH

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Introduction
The relationship between socioeconomic status and health has been studied extensively in the medical and economics literature, with self rated measures of health typically utilized. Gradients in mortality, morbidity and poor health by socioeconomic status have been observed. However, there are growing concerns that differences in (self-reported) health are measured with bias if they vary with conceptions of what ‘good health’ means and if these conceptions vary with socioeconomic status.

Methods
Data from the first wave (2009/2011) of The Irish Longitudinal Study on Ageing (TILDA) was used. We focused on 3 cardiovascular diseases (CVDs) namely hypertension, hypercholesterolaemia and atrial fibrillation as we have both self-reported and objective measures of these conditions for same respondents. All were analyzed separately using logistic and linear regressions confounding for usual variables but also co-existent cardiovascular diseases and diabetes. Two measures of socioeconomic gradient were used: education and wealth. Research questions were: do we observe a socioeconomic gradient in health for these diseases when we use self-reported measures? Do results hold when we use objective measures of the same condition?

Results
For hypertension we found no evidence of socioeconomic gradient when using self-reported measure but evidence when using objective measure. The more educated and wealthier were significantly less likely to be objectively hypertensive (p<0.05). Wealthier individuals were more likely to have been diagnosed by the doctor with high cholesterol (self-reported). Utilizing continuous LDL-cholesterol (C) and HDL-C as the objective measure, the higher educated had higher HDL (p<0.01) but not lower LDL. For atrial fibrillation, the higher educated were more likely to be aware of having an abnormal heart rhythm but objectively were less likely to have atrial fibrillation on electrocardiogram (p<0.05).

Conclusions
We found substantial differences in socioeconomic gradient when looking at self-reported versus objectively measured CVDs.
RIGOROUS CONTROL OF BLOOD PRESSURE IS JUSTIFIED IN OLDER PEOPLE WITH CHRONIC KIDNEY DISEASE

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Introduction
Chronic kidney disease (CKD) is highly prevalent in older people and is associated with changes in cardiovascular (CV) function. Doubt exists concerning the current optimal BP targets in this group, primarily due to a perceived risk of inducing additional CV instability and increasing falls risk.

Method
We recruited 61 subjects (including non-CKD controls). Antihypertensive therapy (AHT) was fully withdrawn for 2 weeks before initial assessment of body composition (bioimpedance analysis) and function (Timed get Up and Go test (TUG)), CV function (pulse wave velocity (PWV) and baroreflex sensitivity (BRS)). AHT was restarted to a target BP 130/80mmHg. We repeated assessment 4 weeks after full AHT titration (AHTr) and after a further 12 months follow-up (FU). Falls diaries were maintained.

Results
Mean age was 76±4yrs, mean eGFR (CKD group) was 42±14ml/min/1.73m². AHT used was in line with current guidelines (mean achieved BP 128/69 mmHg). Improvements in PWV (13 to 12 m/s, p<0.001) and BRS (4.2 to 5.7 ms/mmHg, p=0.002) with AHTr were sustained over 12 months. Muscle mass fell with AHTr and at FU (0.7, p=0.031; 1.0kg; p=0.020). A trend to bone mass reduction after AHTr (0.03kg; p=0.085) was confirmed at FU (0.6kg; p=0.021). TUG fell over the year by 8 to 9 s (p=0.001). Falls rates were low, with only 27 episodes (0.5 falls/patient/year; range 0-6 per individual). No associations were noted with AHT, BRS or BP. Overall response to AHT was similar between patients with CKD or preserved renal function.

Conclusion
AHT use in older patients rapidly results in both a sustained improvement in CV function and alteration of humoral markers of CV health, which are partially reversed over time. Body composition and function decline, this does appear to be clinically significant. Concern that older patients with CKD may have a different risk/benefit profile for aggressive AHT than younger patients appears unfounded.
SINGLE AND DUAL-TASK GAIT IN OLDER ADULTS WITH DIABETES MELLITUS: PRELIMINARY ANALYSES FROM THE TILDA STUDY

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Introduction
Diabetics are more likely to fall than healthy adults. Gait impairments are associated with both falls and diabetes (Barak et al., Physical Therapy, 2006, 86, 1501-1510), however, research on dual-task gait in diabetics is limited. This study examined single and dual-task gait in adults with diabetes mellitus.

Methods
A nationally representative sample of community-dwelling adults (50+ years) took part in Wave 1 of The Irish Longitudinal Study on Ageing (TILDA). Participants (n=4926) completed an interview (including demographics, health and falls) and a health assessment, including single and dual-task gait. Dual-task conditions involved walking while carrying a glass of water (manual) and reciting alternate letters of the alphabet (cognitive). Two walks in each condition were performed on a 4.88m GAITRite mat with 2.5m acceleration and 2m deceleration. Mean gait speed, step length, step width and double support time (DST) were obtained. Coefficient of variation was used to indicate gait variability. Diabetics (n=311) reported a doctor diagnosis of the condition. Statistical tests took place in Stata (significance level: p<0.05).

Results
Diabetics were older, more likely to be male, less educated, and had a greater prevalence of falling (past year) (29% vs 20%, p<0.001), multiple falls (past year) (10% vs 7%, p<0.05) and fear of falling (31% vs 23%, p<0.05) than non-diabetics. They displayed reduced gait speed and step length, increased step width, DST and gait variability in all gait conditions after adjusting for age, sex and education.

Conclusions
Diabetics are more likely to report falls and fear of falling and present with more cautious gait in single and dual-task conditions. Gait impairments including increased gait variability in all conditions may increase falls risk in diabetics.
THROMBOLYSIS (TPA) OUTCOMES IN ACUTE ISCHEMIC STROKE PATIENTS WITH DIABETES MELLITUS - LESSONS LEARNED

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Introduction
Diabetes is recognised as a strong, independent risk factor for stroke. It is however unclear whether the severity of stroke, benefit of thrombolytics therapy and prognosis/functional outcome is different in diabetic and nondiabetic patients. We evaluated demographics, stroke onset to treatment time, prognosis, and functional outcome in patients with diabetes compared with patients without diabetes.

Materials and Methods
We collected the data of stroke patients who underwent thrombolysis from our hospital thrombolysis registry for a period of 21 months from December 2009 to September 2011.

88 patients (12 with diabetes (13.6%) who had stroke) treated with intravenous Alteplase were retrospectively analysed. (Data on 2 patients were missing leaving 86 patients for analysis)

We compared demographics, onset of symptoms to treatment time (OTT), outcome (including mortality) at 90 days using modified Rankin scale among patients with and without diabetes who received intravenous thrombolysis.

Result
Overall, diabetes was present in 12 patients (13.6%). Diabetic patients, compared with those without diabetes, were more likely to have cortical dysfunction in the form of speech difficulty (predominantly dysphasia 58% Vs 25% Dysarthria), and many of them had hypertension (75%). At 3 months, the mortality rates were higher despite low type 2 parenchymal hemorrhage rates in the diabetic groups (30% Vs 15%) (P=0.37). Longer presentation and treatment delays were both associated with increased mortality rate (OTT < 3h, 10% and > 3 hr 20%) and poor functional outcome measured by modified Rankin scale.

(Functional independence mRS 0-2 in 60% with OTT <3 h, and > 3 hr 40%)

Conclusions
Although stroke thrombolysis in diabetic patients has a low frequency of hemorrhage, mortality at 3 months were increased mainly due to presentation and treatment delays. Majority of delays were attributed to the cortical involvement and atypical presentation. However, earlier treatment with thrombolytics resulted in better outcomes regardless of diabetes status, which emphasises the need for early diagnosis of stroke and treatment in this cohort.
SUSTAINED ATTENTION AND TWO MODELS OF FRAILTY IN THE OLDER ADULT POPULATION

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Introduction
Sustained attention is a fundamental executive function and frail older people perform poorly on tasks placing high demands on resources of attention. Using the frailty index and phenotype models, we investigated whether sustained attention was associated with frailty in a population representative sample of adults aged ≥ 50 years.

Methods
4685 participants of The Irish Longitudinal Study on Ageing (TILDA) completed a comprehensive health assessment. A frailty index was calculated from 40 items, yielding a self report frailty index (SR-FI) ranging from 0 (no deficits) to 1.0 (40 deficits). Phenotypic frailty was defined by having ≥3 of low gait speed, low grip strength, unintentional weight loss, self-reported exhaustion and low physical activity. Mean and variability of reaction time (rt) in milliseconds (ms), commission and omission errors were recorded during a fixed version of the Sustained Attention to Response Task (SART).

Results
Among the Irish population ≥50 years, the mean SR-FI score was 0.11 (±0.09, range:0.00-0.56). Just 2.2% were phenotypically frail with a mean SR-FI score of 0.29 (±0.12) and 31.7% were pre-frail with a mean SR-FI score of 0.15 (±0.10). A 0.1 increase in the normalised variability of rt (range:0.06-1.53) was correlated with an increase in the SR-FI of 0.01 (p<0.001). SR-FI score also increased for every increase in commission and omission errors (p<0.001 for both). Similarly normalised rt variability was significantly associated with phenotypic frailty, (Odds Ratio [OR]=1.033, 95% Confidence Interval [95%CI]:0.023-0.042, p<0.001) and pre-frailty (OR=1.018, 95%CI:0.013-0.023, p<0.001). Both error types were also significantly associated with frailty (p<0.001) and pre-frailty (p<0.001). All associations remained significant (p<0.01) when adjusted for age and gender.

Conclusions
Lapsing sustained attention as measured by rt variability and errors on the SART were associated with two widely used definitions of frailty in the older adult population. It may provide a novel, objective and modifiable cognitive marker of frailty risk.
THE IMPACT OF BEING THE INTERMEDIATE CARING GENERATION ON SELF-REPORTED HEALTH OF OLDER WOMEN IN IRELAND. ANALYSIS OF THE IRISH LONGITUDINAL STUDY OF AGEING (TILDA 2010)

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Introduction
Previous studies in the United States and Europe have shown that women, being the intermediate between elderly parents and young adult children have born the burden of care for both generations. This paper will investigate what is associated with being in this “sandwich generation” in older women in Ireland, and how this affects health and mental well-being.

Methods
The Irish Longitudinal Study of Ageing (TILDA) 2010 is a stratified probability sample survey of 8,504 men and women aged over 50 resident in Ireland, 3196 of whom were women aged 50-69 years. Demographic and health variables associated with intergenerational transfers, both financial and non-financial, were investigated. To determine whether transfers were associated with self-reported health variables when controlling for other socio-demographic variables, a logistic regression model comparing givers with non-givers was created.

Results
Thirty-one percent of women had both living parents and children. Being in the “sandwich-generation” was associated with younger age, marriage, employment, higher educational achievement and more children at home. In this sandwich-generation, 90.4% (95% CI 88.1 – 92.3) gave help to either parents or children; 70.6% (95% CI 67.2% - 73.7%) financial and 74.7% (95% CI 71.7 – 77.5%) non-financial. In univariate analysis, women who gave help were less likely to report poor health compared to non-givers (OR=0.32 p<0.001). This varied by type of help; women giving financial help were less likely to report poor health (OR 0.44 p<0.001) or depression (OR 0.61 p=0.01) while women providing childcare to grandchildren were more likely to report depression (OR 1.51 p=0.03).

Conclusions
The proportion of women who are caring for both elderly parents and dependent children is substantial. While caring for two generations is both financially-draining and time-consuming, the relationship between giving and both self-reported health and mental health is complex and is associated with both employment status and education.
COGNITIVE PROFILE OF THE FRAIL POPULATION

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Introduction
Frailty is known to be associated with cognitive decline. It is not clear, however, whether all cognitive domains are associated with frailty. Here we investigate the relationship between specific components of frailty and cognitive domains using data from a large population-representative cohort study.

Methods
5036 participants of the Irish Longitudinal Study on Ageing underwent a health assessment including tests of general cognition (MMSE and MoCA), attention (Timed Color Trails1), memory (CAMDEX Picture Memory Tests, 10-word recall, prospective memory), executive function (CAMDEX Visual Reasoning Test, Timed Color Trails2, MoCA-language fluency), speed of processing (Choice reaction time test) and self-rated memory(SRM). Frailty was measured by slow gait, low grip strength, unintentional weight loss of ≥10lb, self-reported exhaustion and low physical activity.

Results
129 participants had ≥3 frailty components and so were considered frail. After adjusting for age, sex and education, frail participants performed worse on all cognitive measures. Slow gait and poor grip strength were significant (at p < 0.05) predictors of poor performance in every domain but were not linked to SRM. Unintended weight loss predicted poor performance on MoCA: β = -0.38(s.e.=0.18) and number of words recalled:-0.16(.08). Low physical activity predicted poor performance in MMSE(-0.16(.07)); MoCA(-0.28(0.12)), visual recognition (-0.05(0.03)) and poor SRM (OR=1.35, 95% CI: 1.09-1.67). Exhaustion significantly predicted scores in all domains (p < 0.05).

Conclusion
The relationship between frailty and cognitive function is complex. Frailty is associated with poorer performance in all cognitive domains. Poor grip, slow gait and exhaustion are consistent correlates of objective cognitive measures. SRM is related to exhaustion and low physical activity. Memory measures are associated with all frailty components but executive function, attention and processing speed are only associated with exhaustion, slow gait and poor grip. This may be beneficial for assessing the risk and type of future cognitive decline.
USING TIMED UP-AND-GO TO IDENTIFY FRAIL MEMBERS OF THE OLDER POPULATION

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Introduction
Fried’s definition of frailty is widely used, but elements of its measurement can be problematic. Timed Up-and-Go (TUG) is a simple measure of mobility that may be a proxy for frailty and that has many advantages with respect to its measurement. Here we describe the distribution of frailty in the older population of Ireland, and the extent to which TUG or a simple test of walking speed identify the frail and disabled members of the older population.

Methods
The Irish Longitudinal Study on Ageing (TILDA) is a population-representative study of community dwelling older people in Ireland. 5036 TILDA participants completed a comprehensive health assessment. Frailty was defined by having three or more of low gait speed, low grip strength, unintentional weight loss, self-reported exhaustion and low physical activity. Area under the ROC curve (AUc) was used to measure the extent to which TUG discriminates the frail and pre-frail populations, and whether TUG or normal walking speed could better identify frail or disabled individuals.

Results
Among the Irish population aged 50 and over 3.6% are frail and 35.9% are pre-frail. TUG identifies frailty with a reasonable degree of accuracy (AUc=0.86), but is less able to discriminate the non-frail from the pre-frail/frail populations (AUc=0.68). TUG captures the components of frailty that become more common with age: grip strength (AUc=0.66), walking speed (AUc=0.93) and low activity (AUc=0.65), but not the components which do not: unintended weight loss (AUc=0.61) or exhaustion (AUc=0.59). TUG better identifies those with restrictions in activities of daily living than does walking speed, but walking speed is slightly better able to identify the frail.

Conclusions
TUG is a sensitive and specific measure of frailty, and is a useful proxy for the age-related aspects of the frailty syndrome in situations where the application of the Fried criteria is impracticable.
PREVALENCE OF SARCOPENIA IN COMMUNITY DWELLING OLDER PEOPLE IN THE UK: FINDINGS FROM THE HERTFORDSHIRE COHORT STUDY

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Introduction
Sarcopenia is associated with multiple adverse health outcomes. The aim of this study was to describe the prevalence of sarcopenia in community dwelling older people using the European Working Group on Sarcopenia in Older People (EWGSOP) definition.

Methods
Lean mass (LM) as well as fat free mass (FFM) were measured by DXA and anthropometry respectively in a sample of 103 healthy community dwelling older men mean age 72.5 (SD 2.5). FFM was then measured in a younger cohort of 765 men aged 67 (2.6) years and 1022 women, 67 (2.6) years. All participants had measures of gait speed and physical performance. The lowest tertile of LM or FFM was used to denote low muscle mass in the diagnostic algorithm for sarcopenia. Body size and self-reported health were then compared in participants with and without sarcopenia.

Results
The prevalence of sarcopenia in older men was 6.8% (7/103) and 7.8% (8/103) when LM and FFM were used in the algorithm respectively. LM and FFM were significantly correlated ($r=0.9$, $p<0.001$) justifying the use of FFM as a valid marker for lean mass. When FFM was used in the younger cohort, the prevalence of sarcopenia was 4.6% (35/765) in men and 7.9% (81/1022) in women. Men and women with sarcopenia were shorter, lighter and thinner, ($p<0.001$). They scored poorly in self-reported general health and physical functioning ($p<0.001$).

Conclusions
This is the first study describing the prevalence of sarcopenia in community dwelling older people in the UK and highlights the usefulness of the EWGSOP algorithm to define cases. The next step is to use this consensus definition in other ageing cohorts as well as in hospitalised older patients.
HOSPITAL ADMISSIONS AMONG COMMUNITY-DWELLING MEN AND WOMEN WHO PARTICIPATED IN THE HERTFORDSHIRE COHORT STUDY

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Introduction
Hospital admissions in the UK are rising particularly among older people. There is considerable interest in what underlies this trend and what can be done to address the associated increasing costs. Routinely collected Hospital Episode Statistics (HES) data allow description of admissions at the population level but not identification of the individual level risk factors for service use. We have linked detailed data collected on participants of the Hertfordshire Cohort Study with HES data to explore this area.

Methods
Between 1999 and 2004, 2997 men and women, aged 59-73 years, participated in the Hertfordshire Cohort Study (HCS), UK. Extensive data on health, lifestyle and social circumstances were collected. We have obtained mortality and HES admissions data for all participants from the HCS baseline survey to the end of March 2010 and have linked these with the HCS database.

Results
HCS participants experienced a total of 8740 hospital admissions during follow-up; 5182 (59%) admissions arose from men; 6503 (74%) were elective; 5056 (58%) were day cases; 8517 (97%) resulted in discharge to usual residence. The most common primary diagnoses underlying the admissions were IHD, cataract, chest pain, follow-up after cancer surgery and arthritis of the knee. The most common primary procedures were endoscopy of the bladder, insertion of prosthetic lens, endoscopy of the gastrointestinal tract, coronary arteriography and total knee replacement.

2168 (72%) men and women were admitted at least once during the follow-up period (median 3 admissions, 7 days in hospital). Rates of admission or death, per 100 person years follow-up, were higher among men than women (40 [95%CI 39,41] vs 33 [95%CI 32,34], p<0.01).

Conclusion
Hospital admissions were common among these young-old men and women. HCS is a valuable resource for research in to a wide range of risk factors for hospital admission.
ARE GERIATRIC GIANTS A PROBLEM IN OLDER ADULTS LIVING IN URBAN MALAWI?

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Introduction
The “Geriatric Giants”; immobility, instability (falls), incontinence and intellectual impairment are common causes of morbidity and mortality in elderly people. Despite rapidly increasing elderly populations in most African countries little is known about the extent and impact of these problems. This has resulted in inadequate planning and allocation of health resources towards geriatric services. The aim of this study was to ascertain the prevalence and associations of these problems in community living older adults in Blantyre, Malawi.

Methods
A cross-sectional survey was conducted in randomly selected, elderly people aged ≥ 60 years, recruited at home or attending clinics for chronic disease management, who were not acutely sick. They were interviewed using a structured questionnaire including the Abbreviated Mental test (modified for local setting) (AMt) and a timed get-up-and-go test (TUG). The primary outcome was the rate of self-reported falls in the past 12 months.

Results
A total of 98 participants were recruited, 69 females and 29 males. 40.8% of people reported a fall in the 12 months prior to the study. Self-reported memory problems were reported by 65.3 %, but an AMt score of <7 was only found in 11.2%. Urinary incontinence was reported by 24.5% and stool incontinence by 3.1%. 4.1% were immobile. Falls were significantly associated with self-reported memory impairment (p= 0.0006), AMt < 7 (p= 0.02) and urinary incontinence (p=0.01). Immobility, TUG performance, age, gender, alcohol use, smoking, antihypertensive medication and other co-morbid conditions were not associated with falls.

Conclusion
The geriatric giants were prevalent in older people aged ≥ 60 years in urban Malawi. The rate of self-reported falls was similar to that reported in older adults in developed countries. Cognitive impairment and urinary incontinence were risk factors for falling. Further research is needed to inform establishment of Geriatric medicine services in Malawi.
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Introduction
The optimum level of vitamin D for health is unknown. This study aimed to explore the prevalence of vitamin D deficiency (<25nmol/L) and insufficiency (<50nmol/L) in The Hertfordshire Cohort Study (HCS) and evaluate gender differences. Additionally, the relationship between vitamin D insufficiency and muscle strength was examined.

Methods
The HCS comprises a well characterised cohort of community-dwelling men and women born between 1931 and 1939. In 1211 participants, serum 25-hydroxyvitamin D (25(OH)D) was measured using a DiaSorin LIAISON automated chemiluminescent assay and maximum grip strength ascertained from three attempts in each hand. Height, co-morbidity, smoking status, alcohol intake, physical activity, vitamin D supplement use, social class, season of blood sampling and age were also recorded.

Results
The mean age (SD) of men and women was 64.3 (2.6) and 65.7 (2.5) years. Across seasons women had a higher prevalence of vitamin D deficiency and insufficiency (see table).

<table>
<thead>
<tr>
<th>Vitamin D Status</th>
<th>Men (N=587)</th>
<th>Women (N=624)</th>
<th>P*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deficiency, % (n/N) (&lt;25nmol/L)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winter-Spring</td>
<td>18.3 (66/361)</td>
<td>32.9 (109/331)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Summer-Autumn</td>
<td>3.5 (8/226)</td>
<td>5.1 (15/293)</td>
<td>0.520</td>
</tr>
<tr>
<td>Insufficiency, % (n/N) (&lt;50nmol/L)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winter-Spring</td>
<td>73.4 (265/361)</td>
<td>82.5 (273/331)</td>
<td>0.004</td>
</tr>
<tr>
<td>Summer-Autumn</td>
<td>38.9 (88/226)</td>
<td>51.9 (152/293)</td>
<td>0.003</td>
</tr>
</tbody>
</table>

*Chi squared/ Fisher’s exact test compared frequencies by gender.

The effect of vitamin D status (<50nmol/L versus >50nmol/L) on grip strength was evaluated using multiple regression (regression coefficient; 95% Confidence Interval). A positive association in men (β=1.49kg; 0.23, 2.75 (P=0.02)) was attenuated after adjustment for covariates (β=-0.95kg; -0.28, 2.18 (P=0.13)). In women no association was seen in unadjusted (β=-0.15; -1.10, 0.80 (P=0.76)) or adjusted analyses (β=-0.60kg; -1.56, 0.37 (P=0.224)).

Conclusions
In HCS participants the prevalence of low vitamin D status was higher in older women than men. No strong associations with maximum grip strength were demonstrated. Further research on the role of vitamin D in muscle physiology is needed.
THE IMPACT OF POSITIVE AFFECT ON FALLS AND FEAR OF FALLING IN THE OLDER ADULT POPULATION

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Background
Falling can have detrimental impacts both physically and psychologically on older people. Recent falls prevention guidelines from the American and British Geriatric Societies tend to minimise the psychological factors which contribute to falls risk. Previous studies have linked high positive affect to a reduced risk of stroke, myocardial infarction, mobility, disability, frailty and mortality. This study examined the impact of positive affect on falls and fear of falling.

Method
Trained field workers administered a computer-assisted personal interview (CAPI) to 8080 participants of The Irish Longitudinal Study on Ageing (TILDA), a population representative sample of community-dwelling people aged 50 and over. Positive affect was measured using the CES-D. Falls history and frequency in the past year was self-reported. Fear of falling was measured by asking participants whether they were afraid of falling, and if they limited activity due to fear of falling.

Results
The prevalence of high positive affect, low positive affect and depressive symptoms was 67.3%, 22.7% and 10.0% respectively. Adjusting for age and gender, ≥1 falls in the past year was independently and negatively associated with high positive affect compared to those with low positive (OR=0.76, 95% CI: 0.66–0.89, p<0.001) or depressive symptoms (OR=0.51, 95% CI: 0.42–0.61, p<0.001). Similarly participants rated as highly positive reported significantly less fear of falling than their low positive (OR=0.67, 95% CI: 0.58–0.78, p<0.001) or depressive counterparts (OR=0.31, 95% CI: 0.25–0.38, p<0.001). They were also less likely to restrict activity due to fear of falling (p<0.001), High positive affect remained significantly and negatively associated with falls (OR=0.61, 95% CI: 0.46–0.79, p<0.001) among participants with and without fear of falling.

Conclusions
The findings of this study indicate positive older people were less likely to have a history of falls, underlining the role of positive affect in resilience and successful ageing.
WHICH FACTORS ARE ASSOCIATED WITH FEAR OF FALLING IN OLDER PEOPLE?

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Introduction
Fear of falling is common in older people. Its consequences include falling, loss of independence, restriction of activities and a reduction in quality of life. Understanding which factors are associated with fear of falling in older people will help identify those most at risk and provide guidance for the development of health care services and future fall prevention interventions.

Methods
Community dwelling older people aged 65+ were recruited from general practices in London, Nottingham and Derby. Participants answered questions on socio-demographic characteristics, completed instruments measuring fear of falling (Short FES-I), physical activity (CHAMPS), falls risk (FRAT), psychosocial variables (SF-12, LSNS, MSPSS) and were assessed for functional ability (Timed Up and Go and Romberg Static Balance test).

Results
1088 participants completed questionnaires (62.9% female; mean age 72.9). High fear of falling (≥11 on the Short FES-I) was reported by 19.2%. Factors significantly associated with fear of falling on univariate analysis included: use of a walking aid (OR 9.20 (CI 5.95-14.22)), ability to use public transport easily (OR 8.61 (4.92-15.05)), aged over 80 (OR 3.35 (CI 2.22-5.07)), non-white ethnicity (OR 2.21 (CI 1.53-3.20)), routine and manual occupations (OR 1.99 (CI 1.33-2.99)), living alone (OR 1.98 (CI 1.41-2.76)), female (OR 1.47 (CI 1.08-1.99)), higher BMI (OR 1.07 (CI 1.04-1.11)), increased comorbidities (OR 1.31 (CI 1.19-1.43)) and medications (OR 1.19 (CI 1.13-1.25)). Falls risk (OR 6.82 (CI 4.07-11.42)), poorer mental health (OR 2.95 (1.77-4.91)) and social isolation (OR 1.73 (1.31-2.30) were associated with fear of falling. Moderate intensity exercise (exercising for ≥150 minutes/week) and better self-reported physical function on the SF-12 were associated with a lower odds of fear of falling (OR 0.19 (CI 0.13-0.28) and 0.11 (0.07-0.16) respectively).

Conclusions
Several factors have been identified which may help identify community dwelling older people who may benefit from interventions to reduce fear of falling.
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Introduction
Fear of Falling (FoF) is the most commonly reported fear among older adults (up to 50%) and can result in the avoidance of physical and social activities, potentially leading to loss of confidence, social isolation, increasing dependency, depression and decreased quality of life. To develop a psychological intervention to address FoF, we investigated how older people make sense of and accommodate fear of falling in their everyday lives.

Methods
We conducted in-depth qualitative interviews with patients (n=13), informal carers (n=2), and professionals working in a community falls prevention clinic (n=5). Field notes from observation of patient consultations (n=11) supplemented interview data. Thematic analysis was undertaken in data analysis workshops and facilitated through the use of qualitative analysis software (Nvivo).

Results
The way in which older people made sense of FoF was linked to the attributions they made between different types of falls (eg. 'traumatic' falls resulting in significant injury vs 'trips and slips' that undermine confidence) and concerns they expressed (eg. loss of independence; breaking bones; being unable to get up). FoF was accommodated in various ways, including: spatial-perceptual strategies (visual scanning and environmental monitoring); avoiding/modifying activities; using physical aids and props; pacing yourself; maintaining overall fitness & wellbeing; and ensuring help is at hand. Strategies suggested by formal and informal carers were sometimes rejected by older people as threatening their sense of identity.

Conclusion
Behavioural responses to FoF involve a complex interplay between experiences, fears, and attributions. Successful interventions to address FoF require detailed individual assessment to develop tailored strategies which also support identity.
FEAR OF FALLING IN AN OLDER IRISH POPULATION: PREVALENCE AND PSYCHOSOCIAL PREDICTORS

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Introduction
Fear of falling (FOF) is an important and common syndrome affecting older adults. FOF may lead to activity avoidance, functional decline, restriction of social participation, decreased quality of life, increased risk of falling and institutionalisation. The reported prevalence of FOF in community-dwelling older persons ranges from 20.8% to 85.4%, however there is a lack of nationally representative data. The link between anxiety and FOF merits attention as it is possible that these two conditions are two different manifestations of the same disease.

Methods
A nationally representative sample of 8166 adults aged ≥50 years took part in wave 1 of The Irish Longitudinal Study of Ageing (TILDA). Structured interviews were conducted in the respondents’ homes using computer-aided personal interviewing (CAPI). FOF was measured by asking respondents “Are you afraid of falling?” Respondents self-reported the number of falls experienced over a 12 month period. Depression was assessed using the CES-D 20 and anxiety using the HADS-A. Generalised fear was captured as part of the CES-D.

Results
Mean age 63.83 ± 9.79. The overall prevalence of FOF was 23.3% and increased with age. At all ages FOF was more prevalent in women than men. Multivariate associations of FOF were female gender (OR 2.81), older age (OR 2.63), anxiety (OR 1.91), poor self-rated health (OR 1.74), generalised fear (OR 1.81), higher number of chronic conditions (OR 2.10) and history of falls (OR 2.69).

Conclusion
FOF is independently associated with many socio-demographic, psychological and physical health status measures. Given its prevalence and importance, questions to assess FOF should be incorporated into the clinical assessment of all older adults.
THE VALUE OF BRAIN NATRIURETIC PEPTIDE (BNP) IN PREDICTING THE RESULT OF TILT TABLE TESTING IN OLDER PATIENTS

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Introduction
Tilt table testing is used in the investigation of syncope, however it is labour and time-intensive. Brain Natriuretic Peptide (BNP) has been suggested as a marker to help elucidate the cause of the syncopal episode (Tanimoto K et al, Am J Cardiol 2004 93:228). The aim of the overall study was to determine whether BNP could predict the outcome of a tilt table test and therefore possibly reduce the need for tilt table testing in some patients. The results of the participants aged 65 years and older are presented here.

Methods
All patients who fulfilled the indications for tilt table testing who presented to the syncope clinic were potentially eligible for the study. Patients were excluded if they did not/could not give written consent to participate or had a medical condition that has been associated with a raised BNP level. A blood sample to measure BNP was taken in the supine position 15 minutes after the tilt table test had finished and when the participant’s heart rate and blood pressure were normal for them.

Results
25 older patients were eligible for analysis during the study period of which 52% were male. The median age of the subgroup was 77 years (range 65-86). 15 patients had a positive tilt test as per European Society of Cardiology guidelines – all had a vasodepressor response. The mean BNP level for patients with a positive tilt table test was 40.3 pg/ml (95% confidence interval (CI) 26.08-54.52), whilst the mean BNP level for patients with a negative tilt table test was 34.6 pg/ml (95% CI 17.46-51.74). There was no statistical difference between the two groups (p=0.55).

Conclusion
BNP level by itself is not helpful when attempting to predict whether a tilt table test will be positive in an older patient with unexplained syncope.
PREVALENCE OF SYNCOPE IN OLDER ADULTS WITH DEPRESSION: A POPULATION BASED STUDY

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Introduction
Syncope is a common problem which increases in older age groups. In syncope clinics, patients who are depressed have higher rates of unexplained and recurrent syncope. Studies exploring the association of syncope and depression in community dwelling older populations are lacking. We aim to examine the rates of depression in older patients reporting syncope and the effect of anti-depressants on the rates of syncope.

Methods
Data was extracted from the Irish Longitudinal Study on Ageing (TILDA), which includes 8,175 adults aged 50 and older, living in the community in Ireland. The Centre for Epidemiological Studies Depression scale (CES-D) was used to assess levels of depression. Syncope was assessed by self reported questionnaires. Multinomial regression was used to analyse the data with a p value of <0.05 determining significance.

Results
8,175 participants aged 50 and older were assessed. 227 patients reported at least one syncopal episode in the last year. Patients with moderate and severe depression had a greater likelihood of syncope (RR 1.99 and 2.82, respectively p <.010). When corrected for age and co-morbidities, depressed patients treated with tricyclic anti-depressants (TCAs) were more likely to have a syncopal episode in the last year (RR 2.25, p<.050). These patients had a greater number of syncopal episodes in the preceding twelve months (RR 4.13, p<.050). Patients on selective serotonin re-uptake inhibitors (SSRIs) had a higher risk of syncope but this failed to reach statistical significance.

Conclusions
This study demonstrates an increased risk of syncope in older patients with depression. TCAs carry a greater risk for syncope than SSRIs. As a cross sectional survey this study is not able to demonstrate causation and further work is warranted to investigate the underlying causes for syncopal disorders in depression.
EXPLORING CORRELATIONS BETWEEN WALKING SPEED AND COGNITIVE FUNCTION USING MONTREAL COGNITIVE ASSESSMENT (MOCA) SUBSCORES FROM THE IRISH LONGITUDINAL STUDY ON AGEING (TILDA)

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Introduction
Gait disturbances are frequent in older adults and are associated with morbidity, falls and mortality. Frontal lobes are susceptible to age related changes which may display as impaired cognitive function. Previous studies have linked MOCA subscores with functional status post Stroke (J Toglia Arch Phys Med Rehabil (2011) 92:792-8). This study explored correlations between walking speed and MOCA subscores during ageing.

Methods
A nationally representative sample of 4533 participants (50+ years) completed an interview and health assessment which included a single walk (ST) and two dual task (walk+carrying glass of water (MDT), walk+alternate letters (CDT)) . Walking speed assessed ST and percent decline in walking speed between single and dual task assessed MDT and CDT. Multiple linear regressions were performed to assess correlations between MOCA (total score (25.3±3.4 (Mean±sD)) and sub-scores) and walking speed after adjusting for age, gender, education and physical factors which affect gait.

Results
Slower walking speeds (ST) were significantly correlated with lower Language, Orientation (month), Attention (forward) and Visuospatial/Executive (VE) (numbers) subscores. Higher decrements between single and dual tasks were significantly correlated with lower total MOCA scores and Language, Naming (rhino), Attention (backwards (MDT), repetition both)), and VE (numbers (MDT), cube (CDT), trails (both)) subscores, p<0.05. Higher decrements from single to MDT were significantly correlated with lower Orientation (city), Memory (trial, recall) and Abstraction (similarity2) subscores,p<0.05.

Conclusions
Skills used in verbal fluency, attention, working memory and some visuoconstructive tasks are needed for all walking conditions, highlighting an executive and sensory requirement. More complex walking conditions may also recruit skills used in higher executive function and language tasks. These results are novel and show that specific motor activities are associated with different MOCA subscores. Further research may allow clinical walking tests to become more ecologically sound, highlighting deterioration in specific activities of daily living.
VISION, FALLS AND FEAR OF FALLING IN AN OLDER IRISH POPULATION: FINDINGS FROM THE IRISH LONGITUDINAL STUDY ON AGEING (TILDA).

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Introduction
Falls are a serious health concern for older people and a major health care cost. Fear of falling is a strong risk factor for falls. The relative role of vision in falls and fear of falling is still a matter of debate. The aim of this study was to determine if impaired visual acuity or contrast sensitivity is significantly associated with a history of falls and/or fear of falling in older adults.

Methods
N=4914 individuals were recruited as part of the Irish Longitudinal Study on Ageing (TILDA). In the TILDA health assessment both visual acuity and contrast sensitivity were measured. Participants were asked about their history of falls and fear of falling in the interview.

Results
Visual Acuity was not significantly different between fallers and non-fallers (0.05 vs. 0.06 LogMAR; p =0.54). There was no significant difference in contrast sensitivity between fallers and non-fallers. Those with a fear of falling had significantly lower contrast scores (P<0.001). Following multivariate analysis age and gender were found to account for this difference.

Conclusion
Falls are a multifactorial and heterogeneous health issue in older people. Traditionally eyesight has been considered a risk factor for falls. These results may suggest otherwise, however future longitudinal analysis will reveal the true interaction between the factors. Our results would suggest that single interventions are unlikely to reduce falls alone and individually tailored interventions are likely to be most effective in reducing falls. It was found that fear of falling is three times more common in women than men in the older Irish population. Research to investigate why this is the case and therapies to alleviate this are necessary.
COGNITIVE PROCESSES ASSOCIATED WITH FUNCTIONAL MOBILITY IN OLDER ADULTS

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Introduction
The Timed Up-and-Go (TUG) test is a functional mobility test, recommended for falls assessment in older adults. Global cognitive deterioration and reduced executive function independently predict poorer TUG performance; research examining associations with other cognitive domains is lacking. This study examined the cross-sectional associations between global cognition, executive function, processing speed, attention, memory and TUG in a population-based study.

Methods
A nationally representative sample of community dwelling adults (50+ years) took part in Wave 1 of TILDA. Participants (n=5845) completed an interview (which contained sociodemographic, health and psychological questions) and a health assessment which included mobility (TUG) and cognition. Cognitive assessment included global cognition (MMSE, MOCA), processing speed (choice reaction time), attention (sustained attention reaction time [SART]), executive function (colour trails test, verbal fluency, visual reasoning), and memory tests (prospective memory, immediate and delayed word recall, picture memory). Linear regression was used to examine whether each cognitive test was independently associated with TUG performance after adjusting for age, height, sex, BMI, education, chronic conditions, medications and depressive symptoms. Statistical tests took place in Stata; significance was set at p<0.05.

Results
Multivariate regression analysis indicated that all cognitive tests except picture memory test were significantly associated with TUG after adjusting for covariates (p<0.05). When all cognitive tests were entered into the model simultaneously, cognitive reaction time, letter fluency, Colour Trail 1, mean SART and prospective memory remained significantly associated with TUG.

Conclusions
These results highlight strong associations between a decline in all domains of cognitive function and poorer TUG performance. Clinically, an individual who presents with slow TUG should be referred for comprehensive geriatric screening to include cognitive assessment.
THE ASSOCIATION BETWEEN VITAMIN D DEPLETION AND BERG BALANCE SCORE IN SUBJECTS ATTENDING A FALLS CLINIC

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Introduction
Vitamin D’s actions are diverse and include roles in muscle function, balance and gait. The Berg Balance Scale is a tool that allows objective measurement of balance. It is a 56-point scale and allows stratification of falls risk. Levels less than 40 are associated with elevated falls risk. We hypothesised that in patients with falls, impaired vitamin D status may be associated with a low Berg score, and higher falls risk due to impaired balance.

Methods
Berg scores were categorised into groups with higher risk of falls (0-39) and lower risk of falls (40-56). Impaired vitamin D status was defined below 75nM/L. Data were subjected to Chi-Squared analysis.

Results
There were 97 male (mean age 80.7) and 173 female (mean age 79.9) fallers. Age range: 52-99. Berg score range: 7-56.

<table>
<thead>
<tr>
<th>Low Berg Score(0-39)</th>
<th>High Berg Score(40-56)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impaired Vitamin-D</td>
<td>Normal Vitamin-D</td>
</tr>
<tr>
<td>Impaired Vitamin-D</td>
<td>Normal Vitamin-D</td>
</tr>
<tr>
<td>Males (97)</td>
<td>33 (70%)</td>
</tr>
<tr>
<td></td>
<td>40 (80%)</td>
</tr>
<tr>
<td>Females (173)</td>
<td>68 (72%)</td>
</tr>
<tr>
<td></td>
<td>47 (60%)</td>
</tr>
</tbody>
</table>

In males with high and low Berg scores there was no significant difference in impaired vitamin D status (80% v 70%, \( \chi^2 = 2.81; P=0.093 \)). In females with low Berg scores versus those with high Berg scores, impaired vitamin D status was significantly more common (72% v 60%, \( \chi^2 = 5.31; P=0.021 \)).

Conclusion
Impaired vitamin D status is common amongst fallers of both sexes, but appears to be more closely linked to low Berg score (and hence impaired balance) in women than men.
AGE AT DIAGNOSIS PREDICTS TREATMENT RESPONSE IN PRIMARY BILIARY CIRRHOSIS (PBC)

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2. Department of Hepatology, Cambridge University Hospitals NHS Foundation Trust;
3. Institute of Cellular Medicine, Newcastle University

Introduction
PBC is an autoimmune disease of small bile ducts with peak incidence in middle-aged women. With increasing prevalence (a combination of increased incidence and survival) and a rising average age at diagnosis, PBC presents an expanding clinical picture in the older population. This study aimed to further understand the impact of age on PBC treatment.

Methods
Demographic, treatment and biochemical data from 2171 UK-PBC Cohort patients were analysed. Age at diagnosis, age at study, treatment received and biochemical response (defined by Paris criteria) if treated with ursodeoxycholic acid (UDCA) (1594 women, 162 men), were analysed.

Results
Men and women are similarly likely to receive UDCA treatment, yet women are more likely to be UDCA responders than men (80% v 72%, p=0.0293). Male age at diagnosis is unrelated to UDCA response likelihood which remains constant, but in women there is a strong protective influence of age. 90% of women over the age of 70 at diagnosis were classed as UDCA responders, compared to only 61% of those presenting under 30 years (p<0.0001). The equi-response rate between men and women is between 40-50 years of age at female diagnosis.

Conclusions
Increased age at diagnosis predicts increased likelihood of biochemical response to standard PBC treatment in women. The intersection of this increasing trend with the consistent UDCA response rate of men at the 5th decade for women, coupled with anecdotal reports of Tamoxifen therapy improving biochemical parameters in PBC, indicates a role for female sex hormones in treatment response. With average age at PBC diagnosis increasing, this predicts a more manageable disease course for many patients.
THE FEASIBILITY AND ACCEPTABILITY OF TRAINING VOLUNTEERS TO ASSIST OLDER MEDICAL INPATIENTS AT MEALTIMES: THE SOUTHAMPTON MEALTIME ASSISTANCE STUDY

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Introduction
Poor nutrition is common among hospitalised older people. As many older inpatients require help to eat, provision of mealtime assistance may promote food consumption. This study assessed the feasibility and acceptability of training volunteers to assist at mealtimes on a female acute medical ward for older people.

Methods
38 volunteers were recruited through the hospital voluntary services team. They were trained by a speech and language therapist and dietitian, and assisted on weekday lunchtimes over a 1-year period. The views and experiences of patients, relatives, staff and volunteers were captured through 25 semi-structured interviews and 6 focus groups during the year.

Results
29 (76%) volunteers completed the training and delivered mealtime assistance. On average 3 volunteers assisted each day, each typically feeding 2 patients, encouraging and assisting another 7, and preparing tables and cleaning hands of 9 more patients before eating. In total 3911 (76%) patients received assistance over the year (229 days). Interviews with staff, patients and relatives indicated that the volunteers were highly valued, with appreciation of their broader role in preparing patients for meals and completing food charts as well as helping patients eat. Initial staff anxieties were dispelled by increasing familiarity with the volunteers and their role, and recognition of their training and commitment. 17 volunteers were retained at the study finish and 8 more have since been trained to enable the mealtime assistance programme to continue.

Discussion
The introduction of trained volunteer mealtime assistants onto an acute medical ward for older people was feasible and acceptable. It appears to be a sustainable contribution to improved quality of care at mealtimes for older patients.
DOES THE USE OF A MULTIDISCIPLINARY GOAL SHEET IMPROVE THE QUALITY AND SAFETY OF CARE IN OLDER MEDICAL INPATIENTS?

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Introduction
Members of multidisciplinary teams responsible for the care of older inpatients use an array of patient-related information to plan effective care and prevent the development of hospital-acquired complications. The aim of this prospective study, inspired by the use of goal sheets in ICU (Pronovost Journal of Critical Care 2003), was to assess the effect of a multidisciplinary goal sheet on staff understandings of goals of care and overall safety and quality in older medical inpatients.

Methods
Patients admitted to an acute geriatric medicine ward were cared for using a multidisciplinary goal sheet in addition to usual care for ten weeks. The goal sheet, a grid containing information about each geriatric syndrome with associated goals for their prevention or management, was completed at admission to the ward, then updated regularly by the MDT. Safety and quality of care was assessed using COMPACT (a validated case record review tool) in 50 cases before and after the intervention period. Staff were asked to rate their understanding of goals of care on a Likert scale throughout the study period. Questionnaires assessed the acceptability of the intervention.

Results
42% of staff rated their understanding of goals of care "mostly" or "completely" at day 1, increasing significantly (r=.683, p<0.05) to 100% at day 21 and thereafter. Significant improvements were found in all process measures using COMPACT, but no change in the incidence of new adverse outcomes. Most respondents felt that the goal sheet was useful and not excessively burdensome.

Conclusions
The use of a multidisciplinary goal sheet on a geriatric medicine ward significantly increased staff understanding of goals of care and measures of quality of care processes. The study was probably underpowered to detect any consequent change in the incidence of adverse outcomes. A larger study is warranted to investigate this further.
PROLONGED LENGTH OF STAY IN HOSPITAL; CAN IT BE JUSTIFIED IN THE ELDERLY?

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Introduction
Length of stay (LOS) is used as an indicator of resource utilisation and efficiency in health care. ‘Prolonged LOS’ in the NHS is defined as inpatient stay ≥14 days and Trusts are under pressure to identify such patients and expedite their discharge but there is lack of data regarding ongoing interventions and to what extent prolonged stays can be justified. Our objective was to identify the main reasons for bed occupancy amongst prolonged LOS patients and to examine what proportion needed continuing care.

Methods
Data review of 100 medical inpatients with LOS ≥14 days noting various clinical and social data at separate intervals.

Results
Age range 25-100yr, median 79yrs. LOS range 14-156 days, median 43. 84% >65yrs, 30% >85yrs. Of those >65yrs; active treatment was ongoing in 58% at Day 14, 43% at Day 21 and 33% at Day 28. Rehabilitation was ongoing in 31% of these at Day 21 and in 29% at Day 28. Of those >85yrs, half were undergoing medical treatment at Day 14, 43% at Day 21 and 25% at Day 28. 'Social care delays only' were considered reason for prolonged LOS in 9% of all patients at Day 14, 19% at Day 21 and 34% at Day 28.

Conclusions
Most prolonged medical LOS patients >65yrs were undergoing active treatment at Day 14 and a significant proportion likewise at Day 21. A prolonged LOS may be appropriate, especially in older patients, as rehabilitation is often required after intensive treatment and this may need to be factored into future planning of services.
MACULAR PIGMENT OPTICAL DENSITY (MPOD) IS ASSOCIATED WITH COGNITIVE FUNCTION IN A POPULATION-BASED SAMPLE OF OLDER ADULTS

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Background
The xanthophyll carotenoids Lutein (L) and Zeaxanthin (Z) are dietary compounds which selectively accumulate at the macula of the eye to form a protective yellow pigment referred to as macular pigment (MP) (Bon, Landrum & Tarsis. Vision Research, 1985;25,p1531). Xanthophyll carotenoids are also present in the brain, and there is evidence that brain L and Z are associated with cognitive function (Johnson, Schalch & Poon et al. The FASEB journal, 2011;25:975.21). The relationship between MP and cognition thus merits investigation.

Method
Data are from a population-based sample (The Irish Longitudinal Study on Ageing) of community dwelling adults aged 50 and older. Macular pigment optical density (MPOD) was assessed in 4,281 participants using heterochromatic flicker photometry (HFP) - a non-invasive method of gauging the density of MP. Cognitive function was assessed by the Mini-Mental State Exam (MMSE), Montreal Cognitive Assessment (MoCA), Colour Trails tasks (CTT) 1 and 2, choice reaction time (CRT), Sustained Attention to Response Task (SART), prospective memory, picture memory, word recall and visual reasoning. Linear, negative binomial and logistic regression models were applied as appropriate adjusted for age, education, sex, blood pressure, cholesterol, BMI, smoking, depression and visual acuity.

Results
MPOD ranged from 0 to 1.01 optical density units (ODUs), mean = 0.20, SD= 0.15. A standard deviation increase in MPOD was associated with fewer errors on the MoCA (β= -0.03, p< .01) and MMSE (β=-0.05,p< .05), faster time to complete CTT2 (log transformed) :β=-0.02, p< .01, faster CRTs (log transformed): β=-0.02, p<.001, less variable CRTs: β=-0.06, p<.01 (log transformed), better word recall: β=0.07, p<.05, fewer SART omission errors: β=-0.04, p<.05, and success on a prospective memory task: β=0.14, p<.01.

Conclusions
MPOD is significantly associated with cognitive function in older adults. Longitudinal study is required to deduce the causal nature of this relationship.
VALIDITY OF THE SCOTTISH EARLY WARNING SYSTEM (SEWS) IN VERY OLD HOSPITALISED PATIENTS

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Introduction
The Scottish Early Warning System (SEWS) is used as a measure of how acutely unwell a patient is, as a guide on the course of action to take. Previous studies in younger patients have tested validity by showing that SEWS scores predict inpatient death and length of stay. Little data exists on whether early warning systems are valid for use in very old people admitted to hospital. We therefore tested the predictive value of SEWS score for in-hospital mortality and length of stay in patients aged 80 years and over.

Methods
A prospective cohort study. Patients aged 80 years and over consecutively admitted from the community to an acute medical receiving unit, surgical receiving unit, and to a specialist Medicine for the Elderly hospital. We collected details of admission problem, first set of physiological observations, SEWS score, age and sex. Patients with incomplete SEWS recordings were excluded. Subsequent length of stay and in-hospital mortality was recorded.

Results
303 patients were included with a mean age of 86 years; 33% were male. The median SEWS score was 1, with 47% having SEWS of 0, 34% SEWS 1-2, 13% SEWS 3-4, 3% SEWS 5-6, and 2% SEWS >6. There was a weak non-linear relationship between admission SEWS score and mortality, with 11% mortality for those patients with SEWS 0 and 17% mortality with SEWS >6. A trend between SEWS score and length of stay was seen (r=0.09, P=0.055) with median stay 7 days with SEWS 0 and 18 days with SEWS >6.

Conclusions
SEWS scores in the very old are only weakly associated with inpatient death or length of stay. Modifications may be required to take account of altered physiological responses to illness in the oldest old.
WEIGHT LOSS INTERVENTIONS ARE EFFECTIVE IN OBESE OLDER ADULTS

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Introduction
Studies focusing on overweight elderly patients tend to conclude that keeping your weight stable after the age of 50 is more beneficial for the moderately overweight than attempting to lose weight. Obesity, however, is harmful at any age. The Irish Longitudinal Study of Ageing found that over the age of 65 years, 37% of men and 34% of women are obese (BMI >30kg/m²). Little is known about the effectiveness of weight loss interventions for obese older adults.

Methods
This is a retrospective study of patients attending a tertiary referral weight management clinic between 2006-2011. We investigated the weight loss achieved in obese adults >65ys, compared to a cohort of younger adults. Patients attended the multi-disciplinary team monthly for a period of at least one year, undergoing a structured, behaviorally focused weight reduction programme.

Results
Eighty-eight older patients with a baseline mean age of 66.4yrs± 5.0 and median BMI of 44.1kgs/m² (range 30-65) were compared to 616 adults with a mean age of 37.13 ± 8.6 years and median BMI of 48.9 (range 30.1 – 87.3). At 1 year follow-up mean weight loss per person was 8.5kgs ± 15.1 in the over 60s group, compared to 2.4kgs ± 11.4 in the younger group (p<0.0001). The proportion achieving clinically significant weight loss, as measured by body weight (BW), was significantly higher in the older age group (24% lost 5-10%BW; versus 6.8%; 23.8 % lost >10%BW vs 3.2%) (p<0.0001).

Conclusions
Behavioral weight loss interventions are effective forms of weight reduction in older populations. Targeting older populations is beneficial as they lose significantly more weight than younger cohorts. This study emphasises a need for further resource allocation and research into the older population of obese adults.
FACTORS ASSOCIATED WITH OBJECTIVE PHYSICAL ACTIVITY LEVELS IN PEOPLE AGED OVER 65

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Introduction
Only 7% of men and 4% of women over the age of 75 years in the UK reach current physical activity recommendations. Progress with effective physical activity promotion has suffered from a focus on individual-level characteristics and behaviours. We therefore designed a study to determine which individual, social and environmental factors explain person-to-person variation in daily physical activity in older people, with a view to designing a future intervention to increase activity participation.

Methods
We performed a cross sectional survey on a sample of community dwelling over 65s registered with the 17 Tayside practices in four strata: young-old (65-80 years); old-old (over 80 years), more affluent and less affluent groups.

Accelerometry counts of activity per day were measured over a 7-day period, and associations between physical activity counts and Theory of Planned Behaviour variables, the physical environment, health, wellbeing and demographic variables were examined with multiple regression analysis and multilevel modelling.

Results
547 older people (mean (SD) age 79(8) years, 54% female) were analysed representing 94% of those surveyed. Accelerometry counts were highest in the affluent younger group, followed by the deprived younger group, with lowest levels in the deprived over 80s group. Multiple regression analysis showed that lower age, higher perceived behavioural control, and the physical function subscale of SF-36, and having someone nearby to turn to were all independently associated with higher physical activity levels (R²=0.32). In addition, hours of sunshine were independently significantly associated with greater physical activity in a multilevel model.

Conclusion
Other than age and hours of sunlight, the variables identified are modifiable, and provide a strong basis for the future development of novel multidimensional interventions aimed at increasing activity participation in later life.
PREDICTORS OF IN-HOSPITAL MORTALITY AMONGST OCTOGENARIANS UNDERGOING EMERGENCY GENERAL SURGERY – THE MEDWAY EXPERIENCE

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Medway Maritime Hospital, Gillingham, Kent

Aim
This study identified risk factors predictive of in-hospital mortality amongst patients aged 80 years or over undergoing emergency general surgery.

Method
A retrospective notes review of octogenarians undergoing emergency laparotomy over 3 years was performed. Data were collected on demographics, medical co-morbidities including IHD, DM, CVA, COPD, previous cancer; medications including steroids and anticoagulants; ASA grade and pre-morbid functional status. Time to surgery from decision to operate, post-operative ICU admission and return-to-theatre within 30 days were also included. Parametric survival analysis using Cox multivariate regression model was used to identify risk factors predictive of in-hospital mortality. Hazard ratios (HR) and corresponding 95% confidence interval were calculated for each variable, p-value less than 0.05 was considered statistically significant.

Results
73 patients (50 females) with median age of 84 years (range 80-98) underwent emergency general surgery. 18 underwent small bowel resection, 25 had colonic surgery, 6 had strangulated hernia and 5 had peptic perforation. Over a median length of stay of 23 days (range 2-71), 28 (38%) died post-operatively. A 30-40% post-operative morbidity rate was detected. Multivariate analysis identified ASA grade (ASA 5 HR 23.4 95% CI 2.38-230, p=0.007) and coPD (HR 3.35 95% CI 1.15-9.69 p=0.026) to be the only significant and independent predictors of in-hospital mortality. Prior CVA, AF, COPD, functional status, post-operative ICU care and return-to-theatre were predictive of poor outcome in univariate analysis only.

Conclusions
Emergency surgery in octogenarians is associated with significant mortality. Early anaesthetic opinion should be sought to triage potential surgical candidates.
Comparison of Patient-Rated Treatment Response with Measured Improvement in Parkinson’s Disease

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Introduction
A marked response to dopamine replacement therapy is important in supporting a diagnosis of idiopathic Parkinson’s disease (PD). We aimed to compare PD patients’ subjective rating of improvement with measured improvement on a number of scales.

Methods
People with clinically defined PD were identified from a prospective long-term follow-up study of incident parkinsonian patients. The changes in UPDRS (ADL and motor), timed tests, and PDQ-39 between the assessments immediately before starting adequate dopamine replacement and the two subsequent follow-up assessments (mean six and 12 months after baseline) were calculated. These were compared with the patients’ own subjective ratings of improvement (nil, slight, moderate, good, excellent).

Results
133 patients were included (mean age 71 years, 56% male). Thirty eight were treated with a dopamine agonist and 95 with levodopa (median levodopa equivalent dose 300mg). Most patients showed improvements in their measured scores but there was no statistically significant association between these scores and the patient subjective response, except for the motor UPDRS at first follow-up. A third of those who showed no improvement in their motor UPDRS at first follow-up rated their improvement as moderate or better, whilst 29% of those whose motor UPDRS improved by over 50% said they had no or slight improvement.

Conclusion
PD patients’ subjective ratings of their degree of improvement often do not accurately reflect the degree of objective change in parkinsonian impairment or disability. Clinician’s should record a simple measure of motor impairment before and after treatment to assess treatment response more accurately.
SYMPTOMATIC ORTHOSTATIC HYPOTENSION IS ASSOCIATED WITH SUBJECTIVE MEMORY COMPLAINTS IN A SAMPLE OF COMMUNITY DWELLING OLDER ADULTS

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Introduction
Growing evidence suggests a link between orthostatic blood pressure changes and cognitive function. Orthostatic hypotension (OH) is common in older adults and transient cerebral hypoperfusion resulting from OH may cause cerebral white matter changes. Those with subjective memory complaints (SMC) have previously been shown to have regional alterations in cerebral blood flow on positron emission tomography (PET) neuroimaging. We aimed to investigate a potential association between OH and SMC in older adults through exploration of the biological and psychological correlates of symptomatic OH in a group of community dwelling older adults.

Methods
Cross sectional in design, 624 community dwelling participants attended the TRIL Clinic and had a full bio-psycho-social assessment encompassing Mini-Mental State Examination (MMSE), screening for SMC using the Cognitive Failures Questionnaire (CFQ) and measurement of orthostatic phasic blood pressure changes.

Results
426 participants were free from dementia (MMSE>23) and were found to have OH on the basis of 20mmHg drop in systolic blood pressure upon standing. A logistic regression model found that in addition to changes in systolic blood pressure upon orthostasis and polypharmacy, SMC were significantly associated with symptomatic OH. Scores obtained on the CFQ made a more significant independent contribution to the model (p<0.01) than did any of systolic blood pressure variables. For every five points higher the score on CFQ (scored 0-100), participants had a greater than 11% increased risk of expressing symptoms of OH (OR 1.02). This contribution was independent of depression, anxiety and personality variables.

Conclusions
Our study suggests a novel link between symptomatic OH and SMC in community dwelling older adults while controlling for potential psychological confounders. If this relationship between OH and SMC were to be confirmed in future studies, symptomatic OH may represent a potential modifiable risk factor for subjective cognitive dysfunction in the elderly.
COGNITIVELY IMPAIRED OLDER PATIENTS’ EXPERIENCES OF CARE ON A MEDICAL AND MENTAL HEALTH UNIT COMPARED TO STANDARD CARE WARDS IN A GENERAL HOSPITAL: A CONTROLLED CLINICAL TRIAL

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Introduction
Nottingham University Hospital developed a Medical and Mental Health Unit (MMHU) as a demonstration model of best practice care for older people with cognitive impairment admitted to the hospital as a medical emergency. A randomised controlled trial (NIHR TEAM trial) is evaluating patient outcomes between the MMHU and standard care. The aim of this study was to compare patient experience between the MMHU and standard care.

Methods
Patients were randomly sub-sampled from those randomised to the NIHR TEAM trial. Patient experience was measured, by two observers, using Dementia Care Mapping, a structured, non-participant observational tool. Using this method, every five minutes, for 6 hours, patients’ apparent mood or level of engagement and activity was coded. Staff behaviours which met or disregarded the psychological needs of the patient were coded as enhancers or detractors. Environment noise was recorded (alarms/telephones, background noise, patients calling out). Observations were between 07:00 and 20:30. Inter-rater reliability was tested.

Results

<table>
<thead>
<tr>
<th>Experience</th>
<th>MMHU Median (IQR)</th>
<th>Standard care Median (IQR)</th>
<th>Difference between medians (95%CI)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of time in positive mood/engagement</td>
<td>79% (67-91%)</td>
<td>68% (61-79%)</td>
<td>11 (2-20%)</td>
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<td>Proportion of time in active state</td>
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<td>74% (57-87%)</td>
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<td>0.10</td>
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<td>1 (0-3)</td>
<td>3 (1-5)</td>
<td>&lt;0.001</td>
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<tr>
<td>Number of detractors</td>
<td>4 (2-7)</td>
<td>5.5 (3-10.5)</td>
<td>1.5 (-1-4)</td>
<td>0.09</td>
</tr>
<tr>
<td>Alarms/telephone</td>
<td>59% (49-65%)</td>
<td>74% (66-85%)</td>
<td>15% (9-21%)</td>
<td>0.04</td>
</tr>
<tr>
<td>Background noise</td>
<td>25% (15-36)</td>
<td>43% (22-66)</td>
<td>18% (3-33%)</td>
<td>0.003</td>
</tr>
<tr>
<td>Calling out</td>
<td>21% (4-40)</td>
<td>6% (2-22)</td>
<td>-14% (-24% -4%)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Conclusion
Patients had a better experience of care on the MMHU than on standard care wards. They spent more time in a positive mood, and experienced more enhancers. There was less ward noise; though more patients called out in distress on the MMHU.
HOSPITAL ACQUIRED PNEUMONIA, DENTAL PLAQUE AND ORAL COLONISATION WITH RESPIRATORY PATHOGENS; UNTANGLING COMPLEX RELATIONSHIPS

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Introduction
Older people with fractures of the hip are at particular risk of hospital acquired pneumonia (HAP). HAP may be commoner in dentate persons, possibly via dental plaque acting as a reservoir for respiratory pathogens. This study aimed to determine firstly whether HAP was associated with tooth number, quantity of dental/denture plaque or oral colonisation with respiratory pathogens (OCRPs), and secondly whether OCRP was associated with heavier plaque.

Materials and Methods
93 orthopaedic patients (age >65) with lower limb fracture were followed prospectively until 3 months after discharge. Tongue/throat swabs, dental/denture plaque, functional indices and medical data and functional indices were recorded. Oral samples were tested for seven major bacterial respiratory pathogens using a novel multiplex real-time polymerase chain reaction (PCR) assay. The relationships between pneumonia and explanatory variables (Fisher’s exact test) and between OCRP and dental/demographic variables (generalised linear modelling) were investigated. All analyses were undertaken in R (R: A language and environment for Statistical computing, Vienna, Austria).

Results
HAP or LRTI up to 3 months after discharge were significantly associated (p<0.05)* with increased Charlson comorbidity index*, use of centrally acting drug at admission* and oral colonisation with S. aureus*. HAP in hospital only was significantly associated with increased age* and slightly associated (p=0.053) with oral colonisation with E. coli. HAP was highly significantly associated (p<0.01)** with post-operative cough**, aspiration**, delirium*, length of stay* and death**. In dentate patients, HAP was not associated with modified Quigley Hein scores. S. aureus was associated with heavier dental/denture plaque*.

Conclusions
Presence of S. aureus and increased host vulnerability factors were significantly more common in those who developed pneumonia. S. aureus was also associated with higher admission plaque scores. Centrally acting drugs and dental/denture plaque may represent modifiable risk factors for HAP in this cohort. Post-operative cough may identify high risk patients.
ARE WE AGEIST WHEN IT COMES TO INTERVENTIONAL STROKE STUDIES?

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Introduction
Stroke is a disease affecting predominantly older adults over 65 years of age with an incidence of only about 25% in younger patients. Concerns have been raised about the age of participants in interventional stroke studies, studies on which our treatment guidelines are based. Therefore we decided to review the mean age of patients included in these trials.

Methods
Data was obtained from the clinicaltrials.gov website. We reviewed all closed, completed interventional stroke clinical trials up to May 2012, which have reported results, for the mean age of patients enrolled. We compared these results with the results from Irish National Audit of Stroke Care (INASC) from 2008.

Results
There was total number of 110 closed interventional clinical trials with available results under the search word “stroke”. After a close review only 49 studies in the database were stroke related. The majority of trials (73.4%) did not have any upper-age cut off, however, the mean age of all patients included in these trials was 65.8 years. This is significantly lower than the mean age of patients that suffered a stroke in Irish hospitals according to INASC, where the mean age was 75 (SD 13) and similarly in UK with a mean age of 75.8 (SD 13.1) according to National Sentinel Stroke Audit 2011.

Conclusion
This confirms that the mean age of patients enrolled in interventional trials is significantly lower than the mean age of population-based stroke audits performed in UK and Ireland. Although, the complexity and consent issues in the older population may in part explain this, we should strive to ensure that the treatment we are providing to this most vulnerable group is evidence based. Further review of currently ongoing clinical trials will be necessary.
CAROTID STENOSIS IN THE OLDEST OLD

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Introduction
Carotid narrowing may be part of the ageing process and many very elderly patients likely live with a degree of mild carotid stenosis. This study investigates the prevalence of carotid disease in a clinic-based population (n=770) across various age strata over a five year period from 2006-2010.

Methods
Four randomised age-matched groups of patients (aged 60-98) were identified over a five year period from 2006–2010. Patient groups, defined by NASCET criteria based on the most severely affected internal carotid artery, were compared against each other to look for a correlation between age and carotid stenosis severity.

Results
A significantly raised prevalence of >50% stenosis was seen in patients in their 70s (n=89; 53.29%) compared to patients in their 90s (n=49; 30.06%) (P<0.0001). Prevalence of severe stenosis (>70%) was highest in the 70s age group (n=51; 30.53%) and also significantly higher than in the 90s age group (n=22; 13.49%) (P=0.0001). Furthermore the prevalence of non-severe carotid stenosis (<70%) in patients in their 90s (n=141; 86.50%) was significantly higher than those who were in their 60s, 70s and 80s combined (n=491; 76.95%) (P=0.007).

Conclusions
These results support our hypothesis that severity of carotid stenosis peaks in a younger hospital population most likely reflecting an increased mortality associated with more severe disease. Younger patients presenting with severe carotid disease are more likely to suffer vascular co-morbidities such as myocardial infarction and stroke. Our results show that carotid narrowing occurs as part of the ageing process and many very elderly patients live with non-severe carotid stenosis.
MEDICAL INSURANCE STATUS AND THROMBOLYSIS FOR ACUTE STROKE

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Background
A recent analysis of The Irish Longitudinal Study of Ageing (TILDA) showed that subjects with health insurance were significantly more likely to be aware of their Atrial fibrillation, perhaps indicating a greater awareness of health and health status. Thrombolysis is an effective treatment for ischaemic stroke but is dependent on patient recognition of symptoms and rapid presentation to be deliverable. In Ireland, thrombolysis for stroke is not recognised as a renumerable procedure by any insurance company and there are no financial incentives for doctors to perform the procedure. We performed a study to determine if patients presenting for thrombolysis were more likely to be insured.

Methods
Consecutive patients who had undergone thrombolysis in St James’s hospital between October 2011 and May 2012 were identified using the HIPE Portal Stroke Register and age and gender matched controls were identified from the same source in a 1:2 ratio. Insurance status on admission was determined from hospital records.

Results
20 subjects underwent thrombolysis in the time period (10 Male, 10 Female. Median age 80 yrs, range 56-94yrs). Controls were well matched (median age 80 yrs range 55-96 yrs). 11 (55%) of the thrombolysed group had health insurance at present compared with 10 (25%) of the control group (p=0.02 Chi Square, OR 3.7 (95% CI 1.2-11.4)).

Amongst the 60 subjects there was no significant difference in age between insured and non-insured (80.0yrs vs. 77.8 years). There tended to be a higher proportion of men with insurance, 14 of 21 insured were male (67%) versus 17 of 39 non insured (44%) (p=0.08 Chi Square). 30-day mortality in the thrombolysed group was 5% and in the control group 10%.

Conclusions
A higher proportion of patients receiving thrombolysis for stroke had insurance than controls. This may indicate a higher awareness of stroke symptoms in this group.
FOCAL NEUROLOGICAL EVENTS AMONG SYNCOPE PATIENTS

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Introduction
Syncope represents global hypoperfusion. Therefore it is not associated with focal neurological symptoms. Clinical experience, however, is that occasionally it may be. Accordingly, we conducted a study to investigate the correlation between syncope or presyncope and focal neurological episodes.

Method
All attendees of the Syncope unit at St. James Hospital from January to May 2012 completed a questionnaire. Validated assessment tools were used to examine syncope burden, and the presence of TIA/stroke episodes, migraine, somatoform disorder (PHQ15) and vascular risk. In all suspected cases follow-up telephone interviews were carried out.

Results
In total 405 patients completed the questionnaire. Seventy-five underwent a follow-up telephone interview with a stroke physician. 23 patients reported focal neurological symptoms at the time of their hypotensive events (prevalence of 5.6%). The mean age was 47 yrs, 77% were female. Twelve patients reported a monoparesis/dysasthesia, 7 reported hemiparesis/dysasthesia, 4 reported an isolated facial droop. The median symptom duration was 5 minutes and the median number of events was 15. Hypotensive symptoms preceded the focal neurology in 30% (n=7) of cases while the time of onset was the same in 40% (n=9). Patients reported these symptoms to a doctor in only 26% of cases (n=6).

The 23 patients were then compared with 3:1 age and gender matched controls (n=92). In the multi-variate analysis, those with focal neurology more often described childhood syncope (p=0.006) and self-reported fatigue as per PHQ15 (p=0.008). There was no difference between both groups for migraine (p=0.34), depression (p=0.69) and vascular risk factors (p=0.34).

Conclusion
Focal neurology occurs during hypotensive events in 5% of syncope patients. It is most prevalent in those reporting childhood syncope, which suggests a possible syncope burden association. These patients may represent a subgroup of vasovagal syncope in which syncope potentially induces localised cerebral tissue damage.
OLDER PEOPLE ARE MORE SUSCEPTIBLE TO HAEMODYNAMIC STROKE

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Introduction
While aggressive blood pressure prevention clearly benefits the brains of younger people, it is less clear whether aggressive prevention benefits the brains of the old. We investigated whether episodic hypotension, harmless in the young, may cause permanent cerebral tissue insult in the old.

Method
Over a 22-month period, all acute strokes underwent prospective screening for presence of presyncope or syncope at stroke onset. All with severe carotid stenosis were excluded. Suitable patients were referred to a syncope unit for investigation. All underwent 1.5T MRI acutely while those with suspected borderzone infarction (BZI) underwent repeat 3T MRI with perfusion imaging to confirm BZI.

Results
During a 22-month period, 550 acute stroke patients presented to St. James Hospital, Dublin. Twenty-eight reported presyncope/syncope at stroke onset and had patent large vessels (5.1% of all strokes). The mean age was 74 yrs. 57% of patients described a TIA rather than a stroke. All reported hypotensive symptoms, for a mean 5 yrs, and were diagnosed with a hypotensive disorder; Vasovagal syncope in 61% (n=17) of patients through symptom reproduction on head-up tilt, sustained orthostatic hypotension in 25% (n=7) and cardiac syncope in 11% (n=3). 15 patients had an acute infarct on MRI, 11 of which were in the borderzone region (73%), suggesting coincident episodic hypotension was causal. Those that developed BZI were significantly older than those that did not (80 yrs in BZI group Vs 69 yrs no BZI, p-value=0.006). Blood pressure drop on active stand in the BZI group was greater than those without a BZI (p=0.01). As the time to nadir BP occurred within 15 seconds in 82% of patients, sphygmomanometer assessment would be insufficient.

Conclusion
Episodic hypotension potentiates stroke, even in those without carotid disease. Older people that experience frequent postural symptoms are particularly vulnerable. We would advise against over-zealous anti-hypertensive therapy in this group.
INCREASED USE OF THROMBOLYSIS IN STROKE PATIENTS AGED OVER 80:
EVIDENCE FROM THE SINAP STROKE AUDIT

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Introduction
For patients admitted with an infarct-type stroke, treatment with an anti-thrombotic
is proven to be beneficial. At present, use is only licensed for patients up to 80
years of age, but off-license use in older patients is becoming more widespread.
We present data from the Stroke Improvement National Audit Programme (SINAP)
showing use of thrombolysis in over 80s.

Methods
SINAP is a prospective audit of acute stroke admissions in England and Northern
Ireland. Mortality status for all patients was obtained from the Office for National
Statistics.

Thrombolysis rates were over an 18 month period using logistic regression, and
Cox proportional hazards modelling was used to analyse the impact on survival.
Analyses were adjusted for sex, OCSP stroke classification, consciousness level
and need for palliative care.

Results
Between Apr 2010 and Sep 2011, 10,474 patients aged 81 or over were admitted
with an infarction stroke. Median (IQR) age was 86 (83, 90) and 34% were male.

The use of thrombolysis in patients aged 81 or over significantly increased from
3.5% in the first 6 months, to 4.7% in the second (OR 1.38 95% CI 1.03-1.84) and
then to 6.0% in the final six months (OR 1.82 95% CI 1.38-2.40). Patients given
thrombolysis had improved survival (HR 0.70 95% CI 0.59-0.82), with the difference
most noticeable from 30 days after admission. In patients who were thrombolysed,
the median age was 85 and patients aged 90 or over made up 10% of this group.

Conclusions
Thrombolysis use in patients over 80 is becoming more common, increasing 80%
over an 18 month period. There is also evidence that the use of thrombolysis in this
population confers a significant survival benefit. The running of a clinical trial to fully
determine the efficacy and safety of thrombolysis in elderly patients is
recommended.