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THURSDAY, 18TH APRIL

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## THURSDAY, 18TH APRIL

### PLATFORM PRESENTATIONS

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THE SOUTHAMPTON SICKNESS BEHAVIOUR SCALE: VALIDITY, INTERNAL CONSISTENCY AND RELIABILITY IN ALZHEIMER’S DISEASE AND LEWY BODY DEMENTIA

J W Butchart, L J Wolfe, C Holmes

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.
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PERCEPTION OF POLYPHARMACY AMONGST HOSPITAL DOCTORS

A Abdullah, A N Omar, R Mulcahy

Waterford Regional Hospital, Ireland

Introduction
Polypharmacy and inappropriate prescribing and understated as major causes of morbidity and mortality in both hospital inpatients and outpatients. This survey aims to investigate the perception on the importance of polypharmacy held by hospital doctors excluding doctors specialising in Geriatric medicine.

Sampling methods
The survey was conducted amongst doctors across different specialties (medical, surgical and orthopedic) at different levels of training (intern, senior house officers (SHO), registrars and specialist registrars) in a regional teaching hospital. The response rate was 50% (n=24; interns 25%, SHOs 58%, registrars 16%).

Results
62% felt that 5-10 medications should be considered as polypharmacy while 25% considered polypharmacy to be more than 10 medications. All registrars and SHOs review kardexes daily but only half of the interns do so. Only 20% of doctors surveyed were aware of a recognized tool for screening potentially inappropriate prescribing (eg. STOPP criteria). Most respondents deem polypharmacy to have most profound effect on drug-drug interaction (44%); least impact on duration of hospital stay (20%), compliance (20%), and hospital expenditure (25%). 41% of respondents thought that general practitioners were most likely to instigate polypharmacy and that they were also more responsible to monitor for polypharmacy (37%). The likeliest time inappropriate prescribing is thought to occur is during oncall hours and at weekends. The majority of interns and SHOs (65%) did not feel confident to alter medications prescribed and would prefer to alert more senior staff when encountering polypharmacy. All registrars were confident and would withhold medications until next review. Only 1 respondent rarely documents duration of short term medication, and 9 respondents stated that they rarely document the reasons for altering medications.

Conclusion
Despite reports on the significance of polypharmacy on morbidity, mortality and healthcare costs, non-consultant hospital doctors remain poorly aware of it, as well as the importance they play to minimise the problem. Education at junior levels should be given to promote awareness and confidence when dealing with polypharmacy and inappropriate prescribing.
RESPONDING TO THE HEALTHCARE NEEDS OF AN AGEING POPULATION: THE DEVELOPMENT OF A POSTGRADUATE MASTERS COURSE IN CLINICAL RESEARCH

A Clapp¹, E Tullo², D Carrick-Sen¹, J Newton², B Hirst¹

¹. Faculty of Medical Sciences Graduate School, Newcastle University; 2. Institute for Ageing and Health, Newcastle University

Introduction
Increasing longevity is changing the key healthcare needs of our population. Accordingly, clinical research priorities must evolve to encompass the needs of older people historically under-represented in research - both as participants and involved partners. One strategy supporting research for the benefit of older people is to educate health and social care professionals about research with older people.

Innovation
Since 2008 Newcastle University has taught a multi-professional part-time programme - the Masters in Clinical Research (MClinRes). Initially delivered using traditional teaching, a subsequent development of an e-learning version facilitated students to engage with the course via distance learning. In recognition of the changing needs of the older population and the gap in clinical research training for those working with older people, a parallel course focussing on ageing research (MClinRes Ageing) was developed. These modules concentrate on age-related patterns of disease, priorities for clinical research involving older people, and the benefits and challenges of working with older people in a research environment. One of the modules was developed with input from a local user group who advised on their preferences for course content.

Evaluation
Since inception, over 120 clinicians have registered on the MClinRes. Evaluation by numbers enrolling/successful graduation; student destination; and quantitative and qualitative feedback show that this programme meets the learning needs of a workforce training as clinical researchers. Similar evaluation parameters will be used for the MClinRes (Ageing) evaluation to ascertain whether our ageing-specific modules have the potential to facilitate involvement of older people in research.

Conclusion
The new MClinRes (Ageing) programme was designed to fill a gap in training for clinical researchers working with older people. Our ageing-specific course will be subject to on-going evaluation to ensure that it meets the learning needs of professionals working with older people in a research environment.
INTRODUCTION

Patients with atrial fibrillation and transient ischaemic attack or ischaemic stroke are at high risk (4% to 18% annual risk) of stroke. Anticoagulation (ACTIVE trial, NICE guidance and ESO guidance) remains the most effective measure in reducing the risk of stroke when compared to antiplatelets in these patients. In patients where anticoagulation is contraindicated anti platelet agents (international stroke trial, CAPRIE trial) should be considered. Anti coagulated patients should have anti hypertensive therapy (ESO guidance) to reduce the risk of cerebral haemorrhage.

METHOD

Patients with atrial fibrillation and transient ischaemic attack or stroke are identified as eligible patient for anticoagulation. In patients where anticoagulation is contraindicated antiplatelet agents are offered. All eligible patients were considered for hypertension management.

The audit was done in year 2010 and above strategies implemented and the re-audit was done during year 2012. Total number of patients involved are 49.

RESULTS

Comparison of two data (2010, 2012) groups showed:

• Anticoagulation – improvement of 31% in anticoagulation in the 2012 (75%) group over 2010 (44%).
• Anti platelet therapy – significant improvement of 78% in 2012 (100%) group vs. 2010 (22%) group.
• Anti hypertensive therapy – improvement of 5% between groups 2012 (73%) vs. 2010 (68%) group.
• Information regarding documentation of risk vs benefit was same – 37%
• Bleeding data – no significant adverse bleeding was seen in 2012 (89%) group vs. 2010 (45%) group which equates to improvement of 44% in absolute terms.

CONCLUSION

The presence of validated risk assessment tools such as CHADS2 score, CHA2DS2-VASc score, ESO guidance and NICE guidance provides an objective method on deciding anticoagulation. Anticoagulation is associated with 1 to 2% major bleeding risk including cerebral haemorrhage which can be reduced with hypertension management. The use of HAS-BLED score and individual case assessment also helps quantify bleeding risk.
AN AUDIT IN AWARENESS OF ‘DO NOT ATTEMPT RESUSCITATION’ (DNAR) ORDER GUIDELINES AMONGST JUNIOR DOCTORS AT ASHFORD & ST PETER’S HOSPITAL’S NHS TRUST

B Handa

FY2, Ashford and St Peter’s Hospitals NHS Trust, Surrey, UK

Introduction
Following Department of Health recommendations that all healthcare staff should be fully familiar with DNAR order guidelines, the authors investigated the extent of the awareness of ‘Do Not Attempt Resuscitation’ (DNAR) guidelines amongst junior doctors at a district general hospital.

Method
A questionnaire based on the Resuscitation Council guidelines was designed and disseminated amongst junior doctors to quantify the level of knowledge. The doctors included were all below Registrar levels and included foundation trainees, core medical/surgical trainees and GP trainees.

Results
A total of 72 questionnaires were returned for the original audit and 54 on the re-audit. 0% of the respondents returned a fully correctly answered questionnaire on the original audit. There were deficits in knowledge across the spectrum of DNAR order guidelines. After implementation of educational measures that involved ad-hoc teaching, feedback sessions and dissemination of abbreviated easy access guidelines, the re-audit resulted in 43% of the respondents returning fully correctly answered questionnaire and showing full awareness of the DNAR order guidelines. On the re-audit, 72% of junior doctors expressed that they felt comfortable addressing DNAR decisions with patients and family compared to the 28% on the original audit.

Conclusions
The general level of awareness of DNAR order guidelines is very poor among junior doctors and only a small amount feel comfortable discussing DNAR issues with patients and family. After educational measures are implemented there is marked quantified increase in DNAR order guideline knowledge and a significantly higher percentage are comfortable discussing DNAR issues with family and relatives.
PROFILING ACUTELY UNWELL NURSING HOME RESIDENTS IN THE EMERGENCY DEPARTMENT: AN IRISH PERSPECTIVE

R Briggs, S Kennelly

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Objective
Hospital transfer of nursing home (NH) residents to the emergency department (ED) has become the focus of much attention. Although often essential, many of these admissions may be preventable. We aimed to develop a profile of all NH residents presenting to a large university hospital over an eighteen week period. It is hoped that the information gathered can be used to inform decisions and highlight strategies to improve medical care of NH residents.

Results
116 different patients presented during the study period, making up 155 patient visits, including repeat presentations. The mean Barthel Score was 34.1; over 85% of patients had at least four recognised medical comorbidities, including 64% with a pre-existing diagnosis of dementia.

Only a third of ED visits were during normal working hours, with more patients presenting over the weekend. Patients were reviewed by their regular NH doctor pre-transfer for only 36% of visits, and over 40% were without prior review by any doctor.

The hospitalisation rate was 71.6%; the most frequent reasons for referral were pneumonia, falls, and UTI.

Based on recent international research, over 50% of visits were potentially preventable. Average length of was 8.3 days; inpatient mortality was 11.7%. There was a high rate of recidivism with over 25% of visits comprised of repeat presentations.

Discussion
The complexity of these NH residents is evident and geriatrically-attuned care is essential. Where possible, this should ideally be provided in the NH, a setting that is both familiar and more suited to these patients. However, the fragmented nature of medical care in NHs means that this is only achievable if significant enhancements are made to NH care. These changes may include appointment of community geriatricians to oversee NH care, as well as increasing MDT support and improving access to specialist services such as palliative care.
MEASURES TO IMPROVE DOCUMENTATION OF DAILY PATIENT CARE NEEDS AT SOUTHAMPTON GENERAL HOSPITAL

C Charlton, S Gilson, K Hardy, E Ito, N Jayanetti, R Marigold, N Moss, L Sykes, L Webb

Department of Elderly Care, Southampton General Hospital

Background
Every patient should have a regular review of care needs. WHO Guidelines for Medical Records and Clinical Documentation and NICE Guidelines CG50 state that handover should include a summary of diagnosis and treatment, a monitoring and investigation plan and a plan for ongoing treatment.

Innovation
We conducted a retrospective audit of notes focusing on specific areas for patients on Elderly Care Wards with a length of stay over 1 week. Following education of medical teams we introduced weekly stickers for patient case notes as an aide memoire to ensure certain domains were considered on ward rounds. Those domains were considered at re-audit after stickers were introduced. Not all notes contained stickers at the time of re-audit due to a mislaid batch.

Evaluation
The first audit showed only 20% of patients had all domains assessed by the multidisciplinary team and only 5% by doctors. Re-audit demonstrated statistically significant improvement in several domains as shown in Table 1. This was more marked in notes with stickers than without.

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<td>Drugs</td>
<td>89</td>
<td>82</td>
<td>58</td>
<td>58</td>
<td>0.963</td>
</tr>
<tr>
<td>Mobility</td>
<td>94</td>
<td>96</td>
<td>61</td>
<td>66</td>
<td>0.574</td>
</tr>
<tr>
<td>Discharge</td>
<td>75</td>
<td>73</td>
<td>70</td>
<td>60</td>
<td>0.203</td>
</tr>
</tbody>
</table>

Conclusions
Introduction of stickers improves the documentation of care domains within the multidisciplinary team and specifically by doctors, but this is not maintained if the stickers are not in the notes. We will trial a weekly ward round proforma sheet and re-audit.
MANAGING PATIENTS AT END OF LIFE - A SURVEY OF DOCTORS AND NURSES

T Chavan¹, A Matthew²

¹. University Hospital of North Staffordshire; ². University Hospital of North Staffordshire

Objective
Around half a million people die in England each year. Two-thirds are aged above 75. Geriatric units play an important role in caring for people at the end of life. We conducted a survey of geriatricians and nurses across the geriatrics wards of our local hospital.

Our aims were to:
1. Evaluate physicians and nurses with respect to degree of confidence in identifying the end of life.
2. Identify which issues are most often discussed with patients/relatives, e.g. preferred place of death, feeding issues, DNAr, advanced directives, symptom management and their level of confidence in discussing these.
3. Identify the resources respondents use and evaluate their training needs in managing end of life issues.

Sampling Methods
55 Questionnaires were distributed to nursing staff, middle and senior grade doctors across the 4 elderly care wards at University Hospital of North Staffordshire. 40 responses were obtained, half from doctors and half from nurses.

Results
► >80% respondents had more than 5 years experience in elderly care.
► >92% respondents were from acute hospitals.
► 30% respondents never discussed preferred place of death.
► 45% respondents always discussed feeding issues, 27.5% said they sometimes discussed.
► About 55% respondents always discussed DNAr.
► Only a third of respondents enquired regarding the presence of an advanced directive.
► Only 25% of respondents regularly discussed ventilation issues.
► >75% respondents always discussed symptom management and were confident in discussing the same.
► Less than a third had undergone formal training around end of life care and decision making.

Conclusions
All respondents were reasonably confident in identifying end of life. Symptom management was discussed with confidence. Areas such as advanced directives and preferred place of death were less well discussed. There needs to be increased training and emphasis on thorough discussions across the range of end of life issues.
USE OF START/STOPP CRITERIA AS TOOLS TO DETERMINE AREAS FOR IMPROVEMENT IN PRESCRIBING IN A BELFAST ACUTE CARE OF THE ELDERLY UNIT

C P Trolan

Dept of Elderly Care, Belfast City Hospital

Introduction
Older people often have multiple morbidities and often are prescribed multiple medications. They have increased likelihood of drug-drug interactions, drug-disease interactions and adverse drug events (Mangoni AA, Jackson SHD, British Journal Clinical Pharmacology 2003;57:6-14 and Juurlink DN, Mamdami M, Kopp A, et al JAMA 2003;289:1652). Medications review is a central tenet of the “Silver book” and comprehensive geriatric assessment (Ellis G, Whitehead MA, Robinson D, BMJ2011;343:d6553). The START tool can identify potentially inappropriate medications (PIMs) and STOPP tool can identify potential prescribing omissions (PPOs). Inter-rater reliability is good.

Sampling Methods
Before using the START/STOPP tools in all elderly care ward in-patients in Belfast City Hospital (BCH), a pilot audit loop was undertaken in the rehabilitation ward on 18th August 2011. A doctor collected data from medicines reconciliation forms on prescribing at the time of admission and compared with prescribing on the day of the data collection. Data collection was undertaken on 29th March 2012.

Results
On admission, nineteen PIMs were identified and contributed to admission on ten occasions. Fifteen PPOs were identified. Ten patients had one PIM, eight patients had two, one patient had three. Eleven patients had one PPO and four with two.

On day of audit, eight patients had one PIM and two had two, representing a reduction. PPOs were reduced to one patient with one and three with two.

Conclusions
START/STOPP tools are generalisable to patient population in Belfast. In the BCH unit, PIMs and PPOs were being identified and addressed without formal use of START/STOPP tools in medication reviews or medicines reconciliation. Most frequent PIMs and PPOs in the unit were identified to the team.
AGE SPECIALIST SERVICES EMERGENCY TEAM (ASSET): INITIAL RESULTS OF A NEW CLINICAL SERVICE

C Steel, G Ellis

Care of the Elderly Department, Monklands Hospital, Airdrie, NHS Lanarkshire

Introduction
Older patients form a large proportion of the medical take and this is increasing. They are at highest risk of increased length of stay, adverse health events and institutionalisation. Qualitative studies suggest elderly patients would prefer to be treated in their own home than be admitted to hospital. Meta-analysis implies that Admission Avoidance Hospital at Home may be associated with better health outcomes than admission to hospital. We report the first six months of a novel Age Specialist Services Emergency Team (ASSET), multidisciplinary assessment and management in the patient’s own home to avoid hospital admission.

Innovation
Patients referred to a bed bureaux for admission were offered Hospital at Home. This included review in their own home by a multidisciplinary team and consultant geriatrician within one hour. We evaluated the impact of the ASSET team on hospital admission and 30 day outcomes.

Evaluation
Over the course of six months, 448 patients were assessed by the ASSET team. There were between two and six referrals per day.

55% of the referrals were female and mean was age 81 (range 55 – 99). Mean length of stay was 5.1 days. 75.5% were able to be supported at home initially with only 20.1% being admitted to hospital. Six patients died initially and six were admitted for respite care temporarily.

On assessing 30 day outcomes, 74.3% were still supported at home, 6.0% had died and 14.7% had been readmitted (2.7% more than once). Comparison with a retrospective hospital cohort for mortality compares relatively favourably. (ASSET 6.0%, Hospital Controls 9.7% p=0.038).

Conclusions
A Hospital at Home team can significantly reduce the number of admissions to hospital and therefore reduce number of bed days. It allows patients to be treated in their own home. Outcomes at 30 days suggest this intervention could be an alternative to hospital admission. Differences in mortality could potentially be explained by case-mix.
USE OF A QUALITY IMPROVEMENT PROJECT TO IMPROVE BONE HEALTH ASSESSMENT IN THE FALLS CLINIC

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Department of Elderly Medicine, University Hospital of South Manchester

Introduction
Bone Health assessment should be a key component of a Falls assessment (NICE, 2004) but a local Falls Clinic audit showed the existing section of the falls proforma was rarely completed. We conducted a Quality Improvement Project focussing on improving osteoporosis assessment in the Falls Clinic.

Change Strategies
We confidentially interviewed nursing and healthcare assistants about the reason the form was often incompletely filled in. There was a perception medical staff did not read or act on the results. Some staff were unsure of certain terminology (e.g. glucocorticoids, malabsorption) so did not complete fields for fear of providing inaccurate information. A complicated flowchart was omitted and the form changed/simplified in line with this feedback. This was approved by all staff before use. We introduced a routine discussion of osteoporosis at the post-clinic multidisciplinary team meeting, thus raising the profile and becoming a regular source of education.

Change Effects
Following intervention, the proportion of patients with all fields in the FRAX assessment completed improved from 44% to 75%. The percentage of patients already taking anti-osteoporotic agents assessed for compliance and tolerance improved from 0% to 67%. The percentage of patients started on new anti-osteoporotic medication increased from 17% to 25%.

Conclusion
Using an in-depth focussed approach to a specific problem we have improved the quality of bone health assessment. The process has proved enlightening as many of the changes implemented would not have been considered without anonymously interviewing nursing staff. It is likely that a further factor connected to the improved results is that nursing staff felt a degree of ownership in the changes and felt their views were respected rather than changes instituted without any consultation. We would propose the approach of a Quality Improvement Project involving all relevant staff members to improve defined areas of clinical practice.
STRATEGIES TO IMPROVE ASSESSMENT OF URINARY CONTINENCE IN A COMMUNITY REHABILITATION CENTRE: A SUCCESSFUL AUDIT LOOP STORY

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University Hospitals of Leicester NHS Trust

Introduction
Urinary incontinence affects 30-60% of the elderly in long term care settings. The National Audit of Continence Care report suggested that diagnosis and treatment of urinary incontinence was poor and relevant training of healthcare professionals was inadequate. We evaluated the assessment of urinary continence at a community inpatient rehabilitation centre through an audit loop over two years, using the continence care guidance of the British Geriatrics Society as a standard.

Change Strategies
Retrospective data from 38 patients in the first cycle revealed inadequate assessment, classification and management planning even when urinary incontinence was identified in 17 patients. Areas for improvement were identified and targeted interventions were made:

- Continence Care Training delivered by Continence Nurse Specialist
- Supply of Bladder Diaries
- Specialist Nurse referrals pathway provided to staff
- 6 monthly progress tracking and maintaining engagement

<table>
<thead>
<tr>
<th>Domain assessed</th>
<th>Audit 1 (N=17)</th>
<th>Audit 2 (N=19)</th>
<th>p value (Fisher's Exact test)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity</td>
<td>41%</td>
<td>95%</td>
<td>0.001</td>
</tr>
<tr>
<td>Impact</td>
<td>18%</td>
<td>26%</td>
<td>0.695</td>
</tr>
<tr>
<td>Bladder Diary</td>
<td>6%</td>
<td>100%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Documented volumes</td>
<td>6%</td>
<td>53%</td>
<td>0.003</td>
</tr>
<tr>
<td>Documented incontinence episodes</td>
<td>29%</td>
<td>84%</td>
<td>0.002</td>
</tr>
<tr>
<td>Urinalysis</td>
<td>47%</td>
<td>95%</td>
<td>0.002</td>
</tr>
<tr>
<td>Constipation excluded</td>
<td>41%</td>
<td>58%</td>
<td>0.505</td>
</tr>
<tr>
<td>Poor mobility considered</td>
<td>53%</td>
<td>79%</td>
<td>0.158</td>
</tr>
<tr>
<td>Delirium excluded</td>
<td>41%</td>
<td>31%</td>
<td>0.730</td>
</tr>
<tr>
<td>Medical review</td>
<td>59%</td>
<td>32%</td>
<td>0.179</td>
</tr>
<tr>
<td>Specialist referral</td>
<td>0%</td>
<td>10%</td>
<td>0.487</td>
</tr>
</tbody>
</table>

Change Effects
19 out of 39 patients had urinary incontinence in the second cycle of the audit loop. There was a statistically significant improvement in the assessment of severity, maintenance of bladder diaries, documentation of urinary volumes and incontinence episodes, and exclusion of urinary tract infections. There were encouraging improvements in other domains of assessment as well, but classification of urinary incontinence and management planning can be improved further.
IS AN OUTREACH SERVICE INTO NURSING HOMES WITH A MEDICATION REVIEW LEADING TO REDUCED MEDICATION BURDEN AND IMPROVED APPROPRIATENESS OF PRESCRIPTIONS?

G Nicholson, E Nelson, S McNicholl, H McKee, J Cuthbertson

Department of Elderly Care, Antrim Area Hospital, Northern Health and Social Care Trust

Background

Interactions to Reduce Acute Care Transfers (INTERACT II) study proved that early intervention of specialised outreach teams in the community prevents deterioration of residents and reduces hospital admissions. In addition to a reduction in hospital admissions, we wanted to review other interventions and outcome measures that an outreach service could provide. Project aims were to improve appropriateness of medications and residents’ quality of life.

Innovation

In accordance with the Northern trust review of the older people’s pathway an outreach service was created to ensure nursing home residents remain healthy. Clinics are led by a Consultant Geriatrician and a Consultant Pharmacist with a member of nursing home staff. Four nursing homes have been completed so far. All residents care and medications are reviewed. There is liaison with the resident’s general practitioner via letter. Medication review included use of bisphosphonates and iron considering recent guidelines.

Evaluation

Polypharmacy causes a considerable burden on many residents. Medication review in one of the homes noted that 68% of patients were on over 10 medications. We identified common prescription cascades such as iron causing constipation requiring laxative therapy. In those without iron deficiency, iron was stopped in 22 residents in accordance with British Gastroenterology guidance. Review of bisphosphonate therapy, especially in immobile patients where bisphosphonates are contraindicated led to 8 residents having this discontinued. Other medications classes which were reviewed included analgesics, non-steroidals, topical agents and food supplements.

Conclusion

Formal medication review and cessation of inappropriate medication is important in reducing medication burden and side effects, resulting in improved quality of life for residents. In the four nursing homes 172 residents were reviewed. In total we stopped 155 medications. Medication review has improved medication chart standards and increased efficiency for nursing staff. On-going access to the outreach service is supported by nursing home staff.
CAN A NEW OUTREACH CLINIC INTO NURSING HOMES REDUCE EMERGENCY DEPARTMENT ATTENDANCES AND HOSPITAL ADMISSIONS AND RESULT IN FINANCIAL GAIN?

E Nelson, G Nicholson, S McNicholl, H McKee, J Cuthbertson

Department of Elderly Care, Antrim Area Hospital, Northern Health and Social Care Trust

Introduction
We reviewed data for Antrim Emergency Department (ED) attendances from nursing and residential homes. Over twenty-two months (April 2009 - January 2011) there were 3,604 attendances, averaging 5.4 per day. 48% attended out-of-hours. 64% in total were admitted. We introduced outreach clinics into nursing homes in the Northern Trust. The primary aims were to ensure healthy residents and prevent unnecessary hospital admissions.

Innovation
Each nursing home would be reviewed; homes with the most ED admissions were selected first. Weekly clinics were attended by a Consultant Geriatrician, Consultant Pharmacist and nursing home staff. Each resident’s case notes were studied, their care discussed and medication charts reviewed. Residents with unstable chronic disease, high risk medications, recent or frequent ED attendances and a history of falls were prioritised first.

Evaluation
Four nursing homes have been evaluated so far. Our results are in the table below.

<table>
<thead>
<tr>
<th>Nursing Home</th>
<th>ED attendance four months before clinics</th>
<th>ED attendances four months following clinics</th>
<th>Hospital admissions four months before clinics</th>
<th>Hospital admissions four months following clinics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.5</td>
<td>1</td>
<td>2.2</td>
<td>0.5</td>
</tr>
<tr>
<td>2</td>
<td>6.7</td>
<td>6.2</td>
<td>2.5</td>
<td>3.2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>1.5</td>
<td>3</td>
<td>0.5</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>1.5</td>
<td>5.5</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Conclusions
We have reduced ED attendances and hospital admissions. Engagement from nursing home staff was vital and may explain nursing home 2 results. Feedback was positive regarding confidence and support in managing residents. We discussed advanced care planning for a number of residents, preventing future inappropriate hospital admissions. A cost-benefit analysis is available for nursing home 1. Reduction in ED attendances and hospital admissions saved the Trust £15,802. The series of six clinics cost £4,690, a net saving of £11,112. Outreach clinics have expanded with four Geriatric Consultants and four clinics weekly.
ROUTINE PRE-OPERATIVE CHEST X-RAYS IN PATIENTS WITH A FRACTURED NECK OF FEMUR - ARE THEY NECESSARY FOR ALL?

E Lunt, S Lee

Department of Medicine for the Elderly, Norfolk and Norwich University Hospital

Introduction
Guidelines from the British Orthopaedic Association and the British Geriatrics Society – ‘The Blue Book’ – recommend a pre-operative chest X-ray (CXR) in all patients with a fractured neck of femur (NOF), except in younger, fitter individuals. At our hospital, initial audit of this standard found 33% of patients meeting the criteria received a pre-operative CXR. However, waiting for CXRs can delay the operation, thus indirectly affecting mortality. This survey was conducted to assess any detrimental effects in those with fractured NOF not receiving a pre-operative CXR.

Sampling Methods
Data was collected retrospectively from the National Hip Fracture database and computerised notes of those admitted to the Norfolk and Norwich University Hospital with a NOF fracture that underwent surgery over two months.

Results
135 patients were included with no significant difference in the average age between those who had a pre-operative CXR (pre-op CXR group) and those who did not (83.9yrs vs 82.1yrs). On average the pre-op CXR group had significantly more co-morbidities (2.02 vs 1.48; p<0.02) and a significantly greater average time (in hours) from admission to surgery (35.7 vs 23.7; p<0.008).

The group without a pre-operative CXR had lower mortality rates at 15 days (2% vs 11%; p=0.04) and lower rates of re-admission with pneumonia within 30 days (1% vs 14%; p=0.007). However there was no significant difference in average length of inpatient stay or rates of post operative pneumonia.

Conclusions
Pre-operative CXRs are mostly performed on patients with more co-morbidity at admission, and who prove to have poorer clinical outcomes. The results suggest clinical assessment at admission is sufficient for deciding who should have a pre-operative CXR. If CXRs are not necessary for all, adverse outcomes due to delays in operation whilst awaiting a pre-operative CXR can be minimised.
IMPACT OF ALL SINGLE ROOMS WITH ENSUITE FACILITY IN AN ACUTE CARE HOSPITAL IN WALES (UK)

J Okeke, J Daniel, A Naseem, S Ramakrishna, I Singh

Care of the Elderly Department, Ysbyty Ystrad Fawr, South Wales

Background
New hospital design policies favor single rooms over traditional multi-bed wards for greater privacy, infection control and personalized care. However concerns have been raised about higher risk of falls. Ysbyty Ystrad Fawr (new site) is the first local general hospital to be commissioned in UK to provide all single rooms with ensuite facility which could have wider impact on patient outcome and this is not much studied.

Sampling methods
Patients who had documented falls, episodes of protection of vulnerable adults (PoVA) reported to Caerphilly County Council and new hospital acquired Clostridium difficile (C.diff) in the new site over a period of one-year were compared with two-year retrospective standard audit data from old site (single room and multi-bed bays). All Wales fundamental of care audit data was also analyzed for one-year at each site. Patient satisfaction questionnaire (PSQ) on the single room facility was given to 15 randomly selected patients. Patient case mix remained unchanged with move to the new site and individual patient characteristics were not studied.

Results
The incidence of falls, C-diff and PoVA cases at the old and new site is shown as below:

<table>
<thead>
<tr>
<th></th>
<th>Falls*</th>
<th>C-diff*</th>
<th>PoVA*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidence (95%CI)</td>
<td>Old site</td>
<td>New site</td>
<td>Old site</td>
</tr>
<tr>
<td>Incidence rate ratio (95%CI)</td>
<td>6.75 (6.22-7.31)</td>
<td>16.79 (15.72-17.92)</td>
<td>0.84 (0.69-1.09)</td>
</tr>
<tr>
<td>p-value</td>
<td>p&lt;0.001</td>
<td>p=0.006</td>
<td>P=0.07</td>
</tr>
</tbody>
</table>

*1000 patient-bed-days

All Wales fundamentals of care audit showed 94.9% (old site) and 92.5% (new site) compliance with healthcare standards. PSQ (new site) showed 94% satisfaction and all 15 patients agreed that they had received dignified care and privacy was maintained at all times.

Conclusion
Managing frail older people in single hospital rooms will be more challenging considering the observed significant increased incidence of falls. However significant reduction of C-diff and non-significant reduction of reported PoVA episodes without compromising fundamentals of care could support single room facility but, this need further research.
INTRODUCTION OF URINARY CONTINENCE CARE TRAINING INTO THE NORTH WEST GERIATRIC MEDICINE MSC TEACHING PROGRAMME

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¹. Department of Elderly Care, Blackpool Victoria Hospital, Blackpool 2. NHS North Lancashire Continence Service

Introduction
The National Audit of Continence Care highlighted specific areas as key components of initial urinary incontinence assessment. Previously, there was no formal training available for trainees in geriatric medicine in the North-West deanery incorporating these skills. A survey of all North West trainees in geriatric medicine in 2010 revealed few trainees felt competent performing some or all of the key components involved in the assessment of incontinent patients and only 16% had been formally trained in this¹. Following this we introduced a multidisciplinary training day supported by nurse continence specialists on urinary continence care into the regional teaching programme. We re-surveyed trainees after the training regarding their perceived competence and interest in the subspecialty.

Sampling methods
All trainees in Geriatric Medicine (levels ST3-7) in the North West Deanery were asked to complete a short survey regarding their ability to assess patients with incontinence following the training day. The survey was sent out via e-mail and was completed anonymously.

Results
69% (31 of 45) of those surveyed following the training day returned data. 45% (14) felt competent in assessing patients with urinary incontinence (improved from 21% in 2010 survey). 52% (16) reported they performed a PR examination routinely when assessing patients with urinary incontinence (improved from 26% 2010) and 58% (15) routinely used a bladder scanner (improved from 27% 2010). 45% (14) answered that they would be interested in specialising in continence care as a consultant geriatrician (new question).

Conclusions
After introducing a formal training day for trainees on urinary continence care, a greater percentage felt competent performing some or all of the key components involved in the assessments of incontinent patients than when surveyed in 2010. Continence care is generating an interest amongst trainees as a potential consultant subspecialty.

DOES STRUCTURED MENTAL CAPACITY ASSESSMENT TRAINING IMPROVE THE CONFIDENCE AND COMPETENCE OF THE MULTIDISCIPLINARY TEAM?

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¹. Ysbyty Ystrad Fawr, South Wales.  ². Royal Gwent Hospital, South Wales

Introduction
Doctors are usually asked for capacity assessment on older patients if there is a clinical suspicion of lack of capacity by multidisciplinary team (MDT). However Mental Capacity Act (MCA) does not lay down professional roles or require certain qualifications to undertake capacity assessments.

Innovation
MDT training on MCA and the assessment of capacity may be seen as one of the new ways of team working and enhanced multidisciplinary teaching in care of the elderly teams.

We proposed structured MCA teaching over 4 sessions on the introduction of MCA (consultant psychiatrist), routine case discussion (geriatricians), complex case discussion and finally video consultations (both delivered jointly by specialist speech and language therapist & consultant psychologist). MCA online training is not compulsory at present for most MDT members; therefore we also encouraged online training in addition to four teaching sessions. MCA teaching was delivered twice weekly over 8 weeks and each session was repeated 4 times to ensure attendance of all interested MDT members.

Evaluation
Likert 10 centimetre scale was used to assess subjective confidence and competence at beginning and end of 8 weeks teaching. Forty MDT members attended, 95% completed pre-teaching evaluation and post-teaching assessment was completed by 75%. Mean confidence level pre and post-training were 3.06±2.46 and 4.90±2.55 (p= 0.005). Mean competence level pre and post-training were 2.91±2.10 and 4.67±2.42 (p= 0.01). There was also an increase from 18% to 50% in the number of people who completed the health board online MCA training.

Conclusion
MCA training has shown significant improvement in both perceived confidence and competence levels in capacity assessments skills amongst MDT members. Whether improved understanding of the MCA shown by this structured training avoids unnecessary capacity challenges and has impact in preventing delayed hospital discharge due to unanticipated requests for capacity assessment needs further research.
PALLIATIVE DISCHARGE TEAM IN OLDER PEOPLE: DO OLDER INPATIENTS WANT TO DIE AT HOME?

J A H Foster¹, C Carmichael¹, C Cawston¹, S Homewood², M Leitch²

¹. Healthcare for Older People, Royal Devon and Exeter NHS Foundation Trust; 2. Palliative Care Department, Royal Devon and Exeter NHS Foundation Trust

Introduction
The majority of deaths in the UK are in ≥75 years, and occur in acute hospitals. UK guidelines (Department of Health, NICE, Silver Book) recommend identifying a preferred place of care (PPC) in advanced care planning, advocate service development to aid rapid discharge and recommend audit of deaths that occur in the PPC. The Silver book recommends that if a PPC is not identified then the PPC is home.

Innovation
The Palliative Discharge Team (PDT) was launched as a pilot across non-cancer wards. This includes a palliative care nurse, specialist discharge nurse and occupational therapist. The intention was to facilitate rapid discharge to PPC for inpatients in the terminal phases.

Evaluation
We evaluated the first 6 months of the pilot. N=110, median age 78 years. Mean reduction of 22 days for direct care home placement compared matched non-terminal patients via social services. Only 2 patients were on the End of Life register prior to PDT involvement. 74% of patients died in their PPC.

We found that the PPC in ≥75 years was different to the ≤75 age-group, with fewer patients preferring to die at home. 60% of ≤75 years wanted to die at home, compared to 27% of ≥75 years. In the ≥75 years group preferred place of care was heterogeneous, with only 8% preferring acute hospital as PPC.

Conclusions
The PDT is able to play a key role in timely discharge of elderly patients with terminal cancer and non-cancer diagnoses to their PPC, reducing length of stay and facilitating deaths in PPC. The PPC in ≥75 years should not be assumed to be home. There is little evidence regarding PPC for non-cancer diagnoses and for ≥75 years, but in the data presented above the majority (73%) did not want to die at home.
AN AUDIT OF FALLS RISK ASSESSMENT IN ELDERLY PATIENTS PRESENTING WITH FALLS TO AN ORTHO-GERIATRIC UNIT IN FORTH VALLEY ROYAL HOSPITAL

J Martin, J McDicken, J Lonnen, J Bishop-Miller

Ageing and Health, Forth Valley Royal Hospital, Larbert, UK

Introduction
Falls are a major cause of disability and the leading cause of mortality resulting from injury in older adults in the United Kingdom (Close, Ellis & Hooper, Lancer, 1999, 353, 93-97). Evidence shows that substantial numbers of falls among elderly people can be prevented through timely multi-factorial risk assessment and appropriately skilled management (Gillespie, Roberson, Gillespie et al, Cochrane Database of Systematic Reviews, 2008, 2, CD007146). NICE Clinical Guideline 21 states that older patients who present with a fall should be offered a multi-factorial falls risk assessment.

This audit assessed, by means of a prospective case notes review, whether patients transferred to the orthogeriatric ward following falls complicated by fractures had undergone a multi-factorial falls risk assessment following NICE guidelines.

Change Strategy
Following Cycle 1, a formal ‘Falls Risk Assessment tool’ was introduced. This was a paper form with domains for completion by different members of the multi-disciplinary team (MDT), based on NICE guideline. It was agreed with the Consultant and MDT prior to implementation. Staff within the MDT were encouraged to use them for each patient.

Change Effects
Following the introduction of the ‘Falls Risk Assessment Tool’, there was an improvement in documentation of 8 of the 12 domains. Documentation of visual assessment increased from 27% to 88%, formal cognitive assessment from 24% to 60%, continence assessment for incontinent patients from 24% to 66%, documentation of number of falls from 0% to 60%, medication review from 80% to 96%, neurological examination from 29% to 44%, prescription of osteoporosis medications from 59% to 68% and physiotherapy assessment from 97.5% to 100%.

Conclusions
Our audit demonstrates that the introduction of a formal risk assessment tool, where each domain can be ‘ticked off’ when completed, is effective at encouraging a change in practice and improving adherence to recommended guidelines.
SHOULD WE TREAT HYPERTENSION IN PATIENT’S WITH DEMENTIA: A SYSTEMATIC REVIEW

L C Beishon¹, J K Harrison¹, S P Conroy¹, J R F Gladman²

¹. Department of Cardiovascular Sciences, University of Leicester & University Hospitals of Leicester NHS Trust; ². Division of Rehabilitation and Ageing, Medical School, Queen’s Medical Centre, Nottingham

Introduction
Hypertension is highly prevalent in the older adult population and is associated with an increased risk of dementia. While the treatment of hypertension is evidence-based in the cognitively-intact population this is not the case for those with dementia, partly because of their exclusion from trials and potential harms such as orthostatic hypotension. Our aim was to establish the evidence for treating hypertension in people with dementia.

Search Methods
Data sources: Ovid Medline(R) 1966 - 2011, EMBASE 1988 – 2011 Week 41, Cochrane Library & National research register archives. One reviewer screened studies for eligibility. Thereafter two reviewers independently assessed for inclusion and graded using the van Tulder criteria. Inclusion Criteria: Randomised-controlled trials of hypertension treatment; Participants >/= 65 years; Diagnosis of dementia (global cognitive decline for >six months affecting function); Cognitive outcomes assessed using validated tools. Exclusion criteria: Poor quality (van Tulder <9/19); Mild cognitive impairment; Insufficient English language content to extract meaningful information.

Results
From an initial return of 1178 papers, 24 were selected for review and seven met full inclusion criteria. The review population was 3190, followed up for 3-47 months. Only the mild-moderate spectrum of dementia was represented. Four placebo-controlled trials were identified, with three more comparing alternative medication regimes. There was reasonable evidence for BP reduction from anti-hypertensives, but no clear evidence of benefit (or harm) on cognition or dependence. The marked heterogeneity of design prevented meta-analysis of the data.

Conclusions
The risk/benefit ratio for the use of anti-hypertensive drugs in people with dementia is not known. Treatment decisions for this group therefore depend on extrapolation from evidence found in cognitively intact populations. This extrapolation may not be valid in those, particularly with severe dementia, at greater risk of adverse drug effects.
OUTCOMES OF GASTROSTOMY INSERTIONS IN STROKE PATIENTS

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Introduction
Dysphagia and subsequent gastrostomy feeding is common in patients post stroke. NCEPOD (2004) expressed concerns regarding patient selection for PEG insertions given 30 day mortality rates of 6% for all indications. The main aim of the survey was to look into mortality, complications post gastrostomy, recovery of swallow and discharge destination following stroke and gastrostomy.

Method
Data was collected retrospectively for all patients admitted to the Royal Liverpool University Hospital with a stroke and subsequent gastrostomy placement, throughout 2010 and 2011.

Results
Of 1220 stroke patients, 53 (4%) had subsequent gastrostomies. Median age was 82, 36% were male. Median time from stroke to gastrostomy was 26 days. Mean length of stay for gastrostomy fed patients was 67 days, significantly higher than for all stroke patients (9.5 days). Mortality was 11% at 30 days post gastrostomy, 30% at 90 days and 34% at 6 months.

Aspiration pneumonia post gastrostomy insertion occurred in 45% of patients. Other less frequent complications were stoma site infection (6%), bleeding (4%), trauma (4%), blocked gastrostomy (2%) and leaking (2%).

At 6 months, 6 patients (11%) had their gastrostomy removed due to an improvement in their swallow. The median time to removal was 107 days.

Seventeen percent died before discharge from hospital, 62% were discharged to nursing homes / 24 hour care, and 19% were discharged to their own home. Of those discharged home, 50% had their gastrostomy removed.

Conclusions
Mortality and length of stay for gastrostomy fed stroke patients was higher compared to the total cohort, which is consistent with previous similar studies (James A, Kapur K, Hawthorne AB, Age and Ageing, 1998, vol 27, pp 671-676). Aspiration was the most common complication post gastrostomy, and the majority of patients were discharged to nursing homes, however half of those discharged home had their gastrostomy removed.
AUDIT OF NUTRITIONAL INTAKE IN PATIENTS WITH HIP FRACTURE PRE AND POST AN INTERVENTION PROGRAMME TO ASSIST WITH FEEDING

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Introduction
Malnutrition contributes to poor recovery from a hip fracture. Feeding difficulty is recognised as a common problem for older patients and is associated with malnutrition. Some patients need complex nutritional support, but most simply need encouragement and assistance to enable them to eat properly. Staff in busy trauma wards may find it difficult to spend adequate time with patients who need mealtime assistance.

Change Strategies
An initial audit of daily energy and protein intake in post-operative patients with hip fracture was conducted on our Hip Fracture Unit (HFU).

A half-day induction and training session was organised for volunteers involving Specialist Dieticians, Consultant Orthogeriatrician, Hip Fracture Nurse Practitioner, Physiotherapists and Occupational Therapists. They attended the HFU daily to assist patients at high risk of malnutrition with feeding. A re-audit post intervention was conducted.

Change Effects
15 patients (3 male, 12 female) pre-intervention, and 15 patients (1 male, 14 female) post-intervention were selected. Pre-intervention mean daily energy and protein intake on consecutive days were 1441.4kcal and 47.3g respectively. Post-intervention were 1918.2kcal and 71.5g respectively.

Energy and protein intake increased on average by 476.8kcal (33%), 24.2g (51%) with interventional feeding assistance.

Food record charts suggested 66% of assisted patients took nutritional supplements vs. 33% in the unassisted group.

No complications were highlighted. Patient and staff feedback were positive.

Conclusion
Energy and protein intake can be improved in post-operative patients with a volunteers intervention programme to assist with feeding. This strategy is worth considering in patients with a hip fracture to improve intake.

Reference

2. Duncan et al., 2006. Using dietetic assistants to improve the outcome of hip fracture: a randomized-controlled trial of nutritional support in an acute trauma ward.
PATTERNS OF ACTIVITY AND RELIABILITY OF AN ACUTE STROKE TELEMEDICINE SERVICE – DUBLIN MIDLEINSTER STROKE NETWORK PARTNERSHIP

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Introduction
Telemedicine is increasingly used as an option for acute ischemic stroke treatment by facilitating immediate stroke-expert consultation particularly out of hours. The Dublin MidLeinster (DML) Stroke Network Partnership initiated a new telemedicine service (RP-7 InTouch Health) in 2009 with the aim of improving the delivery of acute stroke thrombolysis.

Methods
Data was prospectively collected by on-line consultation entry (Stroke Respond – InTouch Health) for consecutive patients who were assessed for acute thrombolysis using the telemedicine system over a period of almost 3 years, across 3 acute hospitals. Data regarding FAST notification, reliability of system, acceptability to patient / carer was also prospectively recorded on-line by post- consultation proforma.

Results
Over the period 157 patients were fully assessed for acute thrombolysis by telemedicine using the RP-7 system. Average age 65.94 (range 19 - 91) with a female: male ratio of 1:1. Average time between symptoms onset and presentation to ED was 107 minutes (0-515 minutes). Majority (90.4%) of patients presented to ED out of normal working hours (including weekends) (n=141). 85 patients (54.5%) presented on weekdays (Monday to Friday): only 15 presented during working hours (9am to 5pm). 49.7% of all patients assessed were thrombolysed (n=78). Main reasons for not thrombolysing were: minor deficits (34.3%), non stroke diagnosis (15.7%); outside thrombolysis window (11.4%).

Post-consultation proforma was completed in 107 cases. Successful log-in was achieved in all cases bar one (99.1%). 5.6% of physicians reported some difficulty logging in and 22.4% reported some loss of signal during the consultation.

100% patients or carers agreed that the telemedicine was an acceptable form of consultation and all bar one reported that the consulting physician was easily understood and seen on the RP-7 system.

Conclusion
The DML Telemedicine assessment of acute stroke patients was associated with high rates of a positive thrombolysis decision. The RP-7 system (InTouch Health) was very reliable regarding log- in. All patients and carers found the system acceptable and clear.
PROLONGED QTc - CLINICALLY IMPORTANT, CLINICALLY UNDER-RECOGNISED

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Evidence Base
A normal QT interval on electrocardiogram, corrected for heart rate, (QTC), is <440ms in men and <460ms in women. Prolonged QTc, particularly >500ms, increases risk of Torsade de Pointes and sudden cardiac death. Previous studies have shown a 35% prevalence of increased QTc in Emergency Departments, with 8% having a QTc >500ms. QTc prolonging drugs are commonly prescribed in acutely unwell elderly inpatients who may also have QTc prolonging electrolyte abnormalities. We wished to review prevalence, staff knowledge, recognition and management of prolonged QTc in this group.

Change Strategies
Part 1: November 2011, correspondence to Greater Glasgow and Clyde clinicians outlining risk of citalopram causing QTc prolongation and highlighting other culprit drugs.

Part 2: April 2012 departmental questionnaire of knowledge of QTc prolongation, n=22.

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<th>QTc Men: &gt;440&lt;500ms</th>
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<tr>
<td>Total Recognised</td>
<td>22</td>
<td>6</td>
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Prescribed QTc prolonging drugs:
- Citalopram-2
- Escitalopram-2
- Trazadone-1
- Amitriptyline-4
- Paroxetine-1
- Domperidone-1
- Clarithromycin-1

QTc prolonging drugs started despite prolonged QTc:
- 0
- 2

Magnesium, calcium, potassium checked:
- 4
- 1

Acted upon:
- Repeat ECG
- Drugs stopped/ dose reduced
- 0
- 2

Part 3: Education session to Department on QTc interval and causes of prolongation. Advised to review electrocardiogram QTc calculation.

Change Effects
Following the above education a snapshot audit of 108 acute inpatients was performed to assess current practice. 68/108 (63%) were female. Mean age was 83 years, (range 67-98).

28/108, (26%), had a prolonged QTc, 6/108 (6%) had QTc >500ms.

Conclusion
Prolonged QTc is common in our patients but poorly documented. Medication, a modifiable risk factor, was a possible contributor in 12/28 (43%), but despite education was only recognised as such in 5/28 (18%). We suggest routine review of the readily available electrocardiogram QTc calculation, documentation of abnormal results and medication and electrolyte review. Further departmental education and audit is required.
AN INPATIENT FALLS AUDIT

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Evidence-Base
Inpatient falls are a common and important patient safety issue. Older patients should have a multi-factorial falls assessment if deemed to be at risk, as per NICE Falls guidance. The National Patient Safety Agency recommends all acute hospitals should have a “Post-Fall protocol” in place to assess and treat patients adequately. Osteoporosis treatment needs to be considered in those at risk. The aim of the audit was to measure the quality of falls prevention and management in our hospital.

Change Strategies
The trust incident reporting database was used to identify adult patients who had an inpatient fall. 50 falls were analysed retrospectively using a proforma prior to introduction of the intervention and again six months later, completing the audit cycle. The intervention consisted of the introduction of a ‘Post Inpatient fall pathway’ and a ‘Falls sticker’ to be placed in case notes. In addition, training sessions were delivered to junior Doctors and Nursing staff.

Change Effects
Following the interventions, there was significant improvement in the number of patients undergoing falls risk assessment, and a greater frequency of care plan updates. Post-fall medical review rates improved from 56% to 90%. Furthermore, more of these occurred within the 4-hour target. The ‘Falls sticker’ was present in 80% of the notes in the re-audit, and resulted in more detailed medical assessment. Medication review improved from 10% to 46%. Neurological examination and observations improved from 50% to 72% and 21% to 38% respectively. In contrast bone protection was overlooked in the majority of cases, and did not improve in the re-audit.

Conclusion
Assessment and management of inpatient falls has improved after introduction of the ‘Falls sticker’ and ‘Post-fall protocol’. The sticker has had a beneficial impact, acting as a template for assessment. Osteoporosis prophylaxis is an area that needs improving.
DOES AN EDUCATIONAL TUTORIAL IMPROVE DOCTORS CONFIDENCE AND KNOWLEDGE IN RECOGNISING AND REPORTING SUSPECTED ABUSE IN OLDER PEOPLE?

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Introduction
The British Geriatrics Society states that specialists working in older people’s health care are in a pivotal position to recognise abuse, work with multi-agency teams to investigate cases of concern and develop strategies for prevention. A systematic review looking at the prevalence of abuse amongst the elderly has shown that in general population studies 6% have reported significant abuse in the past month; however, rates of reporting are only 1% (Cooper C, Selwood A, Livingston G, Age and Ageing, 2008, 37(2), 151-160).

Change Strategies
A tutorial was delivered to doctors of different grades, from different specialities, on how to recognise and report suspected abuse of older adults. 21 doctors completed a questionnaire assessing their knowledge and confidence in managing suspected abuse in the older adult. This was completed before and after the tutorial.

Change Effects
90.48% of doctors questioned had never been educated about protection of older adults. 100% thought the presentation was useful. On a scale of 1 to 5, when asked about how confident they were in recognising abuse (1 being the least and 5 being the most confident), the average score increased from 2.55 to 3.50, after the tutorial. The average scores for confidence with reporting procedures for suspected abuse increased from 1.35 to 3.60. The average score out of 6, when assessing knowledge about recognising abuse, increased from 2.60 to 5.14. The average score, out of 2, when assessing knowledge about reporting abuse, increased from 0.29 to 1.33.

Conclusions
This audit shows that the doctors questioned had improved knowledge and confidence in managing suspected abuse in the older adult following the tutorial. Educating all doctors on this could help narrow the discrepancy between prevalence of abuse and rates of reporting, and tutorials be used as part of prevention strategies.
OPPORTUNISTIC HEARING SCREENING IN ELDERLY INPATIENTS

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Introduction
This study aims to determine prevalence of occult hearing loss in elderly inpatients and to evaluate feasibility of opportunistic hearing screening in elderly inpatients.

Search Methods
Subjects over the age of 70 were recruited from the elderly care wards at the Royal Berkshire Hospital between July and September 2011. A ward based hearing screen was performed to identify individuals with hearing loss. This comprised of a subjective assessment of hearing disability, and a whisper test. Subjects who failed the whisper test or reported hearing difficulties were offered audiological assessment including pure tone audiometry.

Results
Hearing screening was performed on 51 patients, aged between 70 and 95. Twenty-one patients (41%) reported hearing loss, and 16 (31%) failed the whisper test. This resulted in 37 patients (73%) being referred for audiological assessment. Sixteen patients (31%) were found to have aidable hearing loss. As a result of this study, 10 patients were fitted with hearing aids (20%).

Conclusions
This study highlights that there is a high incidence of occult hearing loss in elderly inpatients, and suggests that consideration should be given to opportunistic hearing screening, to address this unmet need.
RE-AUDIT OF COLLATERAL HISTORY TAKING IN PATIENTS PRESENTING WITH CONFUSION

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Introduction
Confusion is a common cause for acute admissions and is frequently misdiagnosed, resulting in increased hospital stay, morbidity and mortality. Collateral history taking is key in identifying how patients differ from their baseline. We audited collateral history taking in patients presenting with confusion to a large teaching hospital in the East Midlands in 2009 and 2012.

Change Strategies
Since the initial audit there have been two main changes. The first was to introduce an acute geriatrician of the day on the emergency assessment unit. This ‘front door’ approach aims to apply comprehensive geriatric assessment before patients are admitted to a base ward. This facilitates early discharge and ensures geriatric services focus on the frailest patients. Secondly, the Medical Mental Health Unit has been established. This is a ward for patients with delirium and dementia, where care is provided by experienced health professionals in an environment that is adapted to reduce disorientation.

Change Effects
Sixty patient notes were audited in 2009 and 41 in 2012. Despite this, more patients were documented as having dementia in the re-audit (55% and 70% respectively). The number of collateral histories taken on the admission wards improved from 53% to 65% and from 76% to 90% once admitted to the geriatric wards. Cognitive testing on admission improved from 48% to 56%, although repetition of these assessments throughout the inpatient stay remains poor at only 10%. The use of sedation has reduced from 17% to 7%.

Conclusion
Admissions of patients with dementia are increasing; either through better diagnosis or admissions per se. Hospitals need to consider measures to meet this demand and we have discussed some ways that this may be achieved. Future work will focus on collateral history taking by other members of the multidisciplinary team, increasing geriatric inpatient capacity and promoting serial cognitive assessments.
CLINICAL EFFECTIVENESS - ABSTRACT 30

APPROPRIATENESS OF NURSING HOME ADMISSIONS TO ACUTE SERVICES IN A DISTRICT GENERAL HOSPITAL: A ONE YEAR RETROSPECTIVE SURVEY

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Introduction
Nursing home residents are often felt to be inappropriately transferred to acute services. The aim of our study was to retrospectively review and determine the appropriateness of all admissions from Nursing Homes to Perth Royal Infirmary (PRI) (a District General Hospital which covers 832 Nursing Home residents) over 12 months.

Sampling
We conducted a case note review for all acute admissions to PRI from 1st April 2009 to 30th March 2010. We recorded timing and source of admission, length of stay, outcome at discharge and at 90 days. Notes were independently reviewed by a consultant and registrar to determine whether admission was appropriate using two criteria: 1. Condition could be safely managed without admission; 2. Condition so poor admission unlikely to change outcome.

Results
167 individual admissions were included in this survey. 95% of case notes were obtained. Mean age was 83 years and mean length of stay 6 days, accounting for 1006 bed days. 12% of admissions (n=20) were admitted to orthopaedics, 17% (n=29) general surgery and 70% (n=116) medicine. 53% of admissions were from A&E or Out of Hours services. 41% of admissions (n=68) were deemed to be inappropriate. Of medical admissions 54% (n=54) were felt to be inappropriate and 30% of these patients died during admission. 43% (n=23) of medical admissions were felt to be in a condition so poor that admission was unlikely to change outcome with a 90 day mortality of 74% (n=17).

Conclusions
Nursing home residents only accounted for a small number of acute admissions. A large number were not considered to be appropriate. Anticipatory care planning and closer liaison between medicine for the elderly, nursing homes and primary care has an important role in reducing unnecessary admissions in this vulnerable population.
**Better Simu-Late than Never: Standardised Simulation Based Medical Education Mapped to the Geriatric Medicine Curriculum**

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*Royal Berkshire Hospital NHS Foundation Trust*

**Introduction**

Care and compassion are virtues not best learned from textbooks. Simulation based medical education (SBME) can allow junior doctors to practice skills, and learn how to manage important medical conditions without potentially harming patients. Simulation has also been shown to improve non-technical skills such as teamwork, leadership and patient-centred care. The Department of Health has issued guidance that SBME should be integrated into training for junior doctors (Framework for Technology Enhanced Learning, 2012).

**Innovation**

We have produced a library of twelve standardised simulation scenarios mapped to the geriatric medicine section of the Core Medical Training curriculum. These scenarios cover the core content of the curriculum (including hypothermia, delirium, stroke, malnutrition, and falls). An algorithmic approach has been used for scenario design, allowing for flexible modification of scenario difficulty. This enables the same scenario to be used for medical students, foundation doctors, core medical trainees and specialist registrars, by a pre-defined change in scenario complexity. The scenarios use simulated patients (actors) and high-fidelity mannequins.

**Evaluation**

The scenarios have been piloted with Foundation doctors and Core Medical Trainees at the Royal Berkshire NHS Foundation Trust. Feedback was positive (100% of participants felt the simulation sessions were an enjoyable and useful part of their training). Trainees stated in their feedback that scenarios mapped to the curriculum helped them to reflect on their learning aims for the sessions.

**Conclusion**

SBME is widely used and accepted for anaesthetic trainees. We have shown that SBME can be used for educating core medical trainees in geriatric medicine, and is well received by them. We have developed a library of scenarios which can be used as an adjunct to traditional teaching for geriatric medicine.
COMPETENCY MAPPING OF THE GERIATRIC 2010 CURRICULUM AS A QUALITY ASSURANCE TOOL: RESULTS, RECOMMENDATIONS AND PROCESS EVALUATION

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Introduction
Curriculum mapping allows examination of a delivered curriculum and is a method of quality assurance. A formative process, it aims to make the curriculum transparent to stake-holders and demonstrate links between curriculum components.

Sampling Methods
The opportunity to achieve each competency within the 2010 UK Geriatric Curriculum was judged by trainers and trainees to be red, amber or green where “red” implies no opportunity to gain a competency, “amber” provides limited opportunities, and “green” represents ample opportunity. This system has been utilised effectively in previous studies by the authors who found it communicates universally and is easily understood. Free text space was included for comments on the process.

Results
Five UK deaneries took part. Perceived opportunities varied between trainers and trainees. The data highlighted common problem competencies throughout the UK; tissue viability, incontinence, community. The newly introduced Higher Speciality grids were universally difficult to achieve. Lack of an understanding of the curriculum became apparent together with the differing degree of curriculum requirements between individual competencies. Comments of the process were positive, confirming ease and practicality of use with four themes identified: survey content/format, user friendliness, definitional drift, curriculum issues.

Conclusions
Curriculum mapping empowers trainees and trainers making the curriculum and local training opportunities transparent, allowing planning of training to meet individual needs, and highlighting competencies that may not be attainable. It should be adopted nationally as a method of ensuring quality assurance of training. It also can be used to influence curriculum design. The process is limited as perception of ease of competency attainment is subjective. We aimed to reduce this by triangulating answers between trainers and trainees. The Competency Mapping process used was well received and is easily transferable across other medical specialities.
At Arms Reach? - Fluid Provision on a Senior Health Ward: A Completed Audit Cycle

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Introduction
Nutrition and dehydration raise important issues about the quality of care given to our patients, and is highlighted in the National Service Framework for Older People and more recently in news articles. It was noticed that in the ward environment elderly, immobile patients were at times left with cups/ fluid out of reach - increasing their risk of dehydration. As part of an SSC project an audit cycle was conducted to assess and improve water provision.

Change Strategies
For 4 days on a single 24 bedded senior health ward measurements were taken from patients’ shoulders to the nearest cup of fluid (n=46). An intervention was then carried out and 2 days of measurements were taken again (n=38). The intervention (led by a medical student) was threefold:

a) Attending the morning handover and highlighting the importance of oral hydration to all staff.
b) Informing everyone that measurements were to be taken again soon/ on that day.
c) Meeting with the ward sisters and medical teams on the ward to encourage best practice from everyone.

Change Effects
The standard was that all patients should have oral fluid no further than 1 arm length (73cm) away (as per RCN guidance).

Prior to the intervention the standard was achieved 64% of the time on the ward (mean=76cm) increasing to 88%(mean=61cm, p=0.09) following intervention.

In the most at risk patients (with red cups or highlighted on the nursing handover) there was also an improvement from 69% to 91%.

Conclusion
Fluid provision is important in unwell older adults and the audit showed a deficiency in the provision of oral fluids on a senior health ward. A simple motivational intervention, highlighting the importance of oral fluid provision by an outside member of the team, improved fluid provision in the short term.
WESTERN ISLES STROKE TELEREHABILITATION (SPECIALIST MEDICAL CONSULTATION) SERVICE

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1. NHS Lanarkshire Stroke Managed Clinical Network; 2. Erisort Ward, Western Isles Hospital; 3. Scottish Centre for Telehealth and Telecare, NHS 24

Introduction
Stroke patients should be managed in a stroke unit incorporating a team which includes, at a minimum, nursing, medical, physiotherapy, occupational therapy and speech therapy staff with specialist training in stroke. In remote and rural areas specialist medical input may not always be available. Western Isles Health Board covers a population of 26,000, with an average of 38 stroke patients per year, with no locally available stroke specialist.

Innovation
A weekly stroke multidisciplinary meeting in the Western Isles Stroke Unit led over an N3 videoconferencing link by a remote Stroke Consultant (0.5 PA per week). This videolink provides the capability for the specialist to “meet” patients and carers, if required, and to remotely review the medical case records and brain imaging. We report a six month pilot of this service with monitoring of length of stay and a focus group (including all members of the stroke team and a carer) to assess acceptability.

Evaluation
During the six month pilot 20 patients were managed by the telerehabilitation service. Average length of stay fell from 26.5 days in the same period in 2011 to 21.5 days in the evaluation period in 2012. No technical failures occurred. Qualitative data will be presented, but feedback from members of the team and from the carer involved in the focus group was universally positive. The cost of running the service (including twice yearly team visits by the stroke physician) is £5600 per annum compared to usual care.

Conclusions
This telerehabilitation service is feasible, acceptable and sustainable. Numbers in the pilot were small but it may have a positive impact on length of hospital stay. It is a model which could be relevant to other remote stroke services and to other speciality areas.
**SUSTAINING THE REDUCTION OF PRESSURE ULCERS IN PATIENTS WITH HIP FRACTURE**

**M Thompson, J Tsang**

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**Introduction**

Pressure ulcers (PU) cause pain and discomfort, reduce quality of life and can prolong hospital admissions. Their debilitating complications have the potential to exacerbate the high mortality and morbidity associated with hip fracture. Introducing innovative and sustainable strategies is vital to promote high quality services for patients.

One of the British Orthopaedic Association six national standards for hip fracture care states that “All patients with hip fracture should be assessed and cared for with a view to minimising their risk of developing a pressure ulcer”.

**Change strategies**

In 2010 we reviewed local incidence of grade 2 and above PU compared to national average using the National Hip Fracture Database. Trust average was 7% and national average 3.9%. In December 2010 a 6 month project was undertaken by a multidisciplinary working team. We undertook root cause analysis of all patients who developed grade 2 and above PU. Utilising these findings a best practice guideline and education session was developed.

**Change effects**

All patients placed on alternating dynamic air mattresses within X-ray immediately following diagnosis. Education session to accompany the best practice guideline delivered to 57 orthopaedic MDT staff. Initial audit 2010 prior to the project 10% of the 191 patients developed a PU. Post-intervention re-audit 2011 showed 4% of the 170 patients developed a PU, demonstrating a reduction of 60%. Fisher’s exact test: P-value=0.041. Two proportion t-test=0.028.

2011-2012 PU development is 0.9% against a national average of 3.7%. This highlights a sustainable and on-going reduction of 87% since the commencement of the project.

**Conclusion**

The development of this local innovation has demonstrated a remarkable reduction in the development of pressure ulcers. The continuous audit cycle has enabled the effects to be closely monitored against local and national standards and its impact sustained.
ASSESSMENT OF ATTITUDES TOWARDS CARE OF THE ELDERLY AMONGST 4TH YEAR MEDICAL STUDENTS AT QUEENS UNIVERSITY BELFAST(QUB) PRE AND POST COMPLETING A GERIATRIC RESIDENTIAL ATTACHMENT

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Introduction
There are many myths and misconceptions around aging. Studies have explored existing attitudes among healthcare professionals involved in caring for the elderly, with varied results. Medical students need to be prepared to care for the rapidly growing elderly population. Yet studies show that working with older adults seems to be the least favoured career choice among graduating medical students. The objectives of this study were to evaluate the prevalent attitudes amongst fourth year medical students towards older people, their perceptions towards the medical speciality of geriatrics and to assess if the residential attachment alters these perceptions and attitudes in any way. In addition the study also assessed the attitudes of students to Geriatric Medicine (GM) as a potential career choice, and whether the attachment has any influence on this.

Sampling Methods
A validated (University of California Los Angeles Geriatric Attitudes Scale) 14-item questionnaire was administered to fourth year QUB medical students at the QUB Geriatrics Department at the start and end of the 3 week clinical attachment.

Results
70 pre-attachment and 70 post-attachment questionnaires were completed by fourth year medical students. Students displayed positive attitudes towards elderly patients and Geriatrics, even prior to the clinical attachment. Following the attachment positive attitudes had increased overall, and this change was statistically significant. In addition the students showed a consistent positive shift towards the consideration of GM as a potential future career choice following the attachment.

Conclusion
This study confirms that medical education has an important role in influencing students’ attitudes positively. This is especially important in the field of GM, as misconceptions around aging can influence attitudes adversely. The valuable contribution of the geriatric attachment in influencing the attitudes of students positively towards the elderly and influencing potential career choice is highlighted by this study.
THE PILOT ‘MEDICINE FOR THE ELDERLY FRONT-DOOR’ PROJECT IN NORFOLK AND NORWICH UNIVERSITY HOSPITAL (NNUH)

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Introduction
In August 2012, the Medicine For the Elderly (MFE) department embarked on a 4 week pilot project in Norfolk and Norwich University Hospital, a 950 bedded teaching hospital in Norfolk, England. Approximately 300 of these beds are occupied by patients under MFE teams, who are divided into short stay, orthogeriatrics, stroke, acute and dementia. The pilot involved having a consultant geriatrician in A+E (9am – 5pm, Monday to Friday), who would review patients identified by A+E as requiring admission. Suitable patients would then be admitted directly by the MFE team; the patients would be moved to directly to one of five specialist wards (bypassing the MAU).

Methods/ Results
During the pilot period of 4 weeks, a total of 143 patients (age > 75) were reviewed and managed by the consultant geriatrician. 72% of patients were seen within 30 minutes of referral by A+E teams. On average, there were 6 patients a day and average time to see a consultant geriatrician was 14 minutes. Average length of stay (LOS) in MAU for patients over the age of 75, dropped from 4.8 days to 2.59 days. The percentage of patients in the MFE wards who were discharged within 24 hours, increased from 15% to 39%. The LOS during the 4 week pilot period was reduced by 1.22 days, and this led to saving of 30.2 beds per day.

Conclusions
During this pilot, elderly patients were admitted to wards more suited to their needs, with plans made early by a specialist. Patients had less moves within the hospital during their stay, communication and forward planning with the whole team and relatives was much clearer from the outset, which we believe enabled a reduction in the length of stay, more same day discharges and improved efficiency.
Introduction
Hospital standardised mortality rates (HSMRs) are used as a proxy measure of quality of care. The reliance on mortality rates has been criticised for several reasons: The risk adjustment process only adjusts for variables that can be measured. There is no ‘coding’ for frailty, despite the fact that this contributes to poorer outcomes. HSMRs vary by 60% across UK hospitals, indicating that it is unlikely this difference can be solely attributed to variations in quality of care. Variations in the “coding depth” may be due to different coding practices, this is open to potential abuse by upgrading risk assessments. A focus on HSMRs may result in clinicians practicing more aggressively, resulting in excess morbidity and more expensive care.

Innovation
We hypothesised that a complementary method could be to express mortality as the number of years added or subtracted to patients' age to give the observed mortality in that population. This method would allow comparison of mortality rates between different teams.

Evaluation
In a geratology unit over a four year period 2467 patients of whom 1528 were female were discharged with 428 deaths (241: female, 187: male). The patients’ average age was 84.9 years (IQR 81 – 90).

The number of deaths that would be expected in a population with this age if they were to experience the average UK mortality was calculated (ONS interim life tables 2007-2009) (162: female, 99 male). By adding five and six years to the age of every female and male to produce an age shifted theoretical population the predicted no deaths are 444 deaths (254: female, 190: male). This matches closely the observed number of deaths in the study population.

Conclusions
These results suggest this may be used to complement HSMRs and give a richer picture to the expected mortality. We suggest that it needs to be validated by further research.
WHEN DO WE DISCONTINUE ANTI-DEMENTIA DRUGS? VIEWS EXPRESSED BY CLINICIANS IN A NATIONAL SURVEY WITHIN THE UNITED KINGDOM

R Ray, R Prettyman

*Mental Health Service For Older People Leicestershire Partnership NHS Trust*

**Introduction**
Aim of this survey was to explore circumstances when clinicians feel it appropriate to discontinue anti-dementia medication and whether their practice will change with the advent of generic alternatives and evidence from the DOMINO-AD¹ study suggesting benefit of continuing these drugs in severe stages of Alzheimer’s Dementia.

**Background**
Eligibility for starting Acetylcholinesterase Inhibitors (AChEIs) and memantine have been scrutinised quite closely within the NHS. However circumstances of discontinuing these medications have not been subjected to the same level of attention. The primary aim was to get an overview of the practice. The response generated provides us with valuable data towards developing a consensus regarding future prescribing of anti-dementia medication.

**Sampling Methods**
An online survey was generated and circulated to clinicians on the Royal College of Psychiatrists Old Age Faculty Register. Questions covered, reasons for discontinuing AChEIs, the impact of cheaper generic alternatives and results of the DOMINO-AD1 trial on future practice.

**Results**
A total of 410 responses were received. Most people (94.9%) highlighted side effects of AChEIs as the main reason for stopping. Combination therapy with memantine was suggested by 76.3% of clinicians. Sixty-five percent will be less reluctant to stop anti-dementia drugs in severe stages of the illness and 43% anticipate a major change with the advent of generic brands. More prescription from GPs and readiness of commissioning groups to support this practice have been suggested.

**Conclusion**
It is clear clinicians will continue to prescribe anti-dementia drugs in advanced Alzheimer’s Dementia irrespective of cognitive decline. A trend towards prescribing in earlier stages of the illness is also indicated. In the light of this evidence there is a need for organisations like NICE² to review their clinical guidelines.

**Reference**
2. NICE technology appraisal guidance 217, March 2011
FALLING RATES OR FALLING FLAT? CAN A MULTI-FACTORIAL ASSESSMENT AND INTERVENTIONAL PROGRAMME DECREASE INPATIENT FALLS IN AN ELDERLY CARE WARD?

R Gibson¹, A Heaney², K Hull³

1. Foundation Doctor, South Eastern Health and Social Care Trust (SEHSCT), Northern Ireland; 2. Consultant, Care of the Elderly, Ulster Hospital, SEHSCT, Northern Ireland; 3. Ward Manager, Care of the Elderly, Ulster Hospital, SEHSCT, Northern Ireland

Introduction
Each year approximately 282,000 inpatient falls are reported to the National Patient Safety Agency (NPSA). A significant number result in death, or moderate to severe injury.¹ Research shows falls can be reduced by 18 – 31% through multi-factorial assessments and interventions.² If a fall cannot be prevented, the patient should receive a prompt and effective response to achieve the best possible recovery and avoidance of further falls.

1. NPSA, 2010.

Change Strategies
Using ‘Plan-Do-Study-Act’ learning cycles, our aims were to decrease the inpatient falls rate in an Elderly Care ward by 20% and to improve post-fall care. A baseline audit reviewed incident report forms to establish the number of falls / 1000 patient bed days for one calendar year; the baseline falls rate was 14.70 falls / 1000 bed days, November 2010 – October 2011. A Falls Care Plan to highlight at-risk patients and allow adaptation of care, a Falls ‘Walking-Stick’ poster to encourage nursing staff, bed/seat alarms and post-fall guidelines were introduced. Feedback sessions with ward staff and a re-audit were organised subsequent to each intervention. Completion of the Falls Care Plan was monitored to improve compliance. A 1 year re-audit was conducted to assess impact.

Change Effects
Feedback was positive regarding the interventions described. Monthly monitoring of Falls Care Plans achieved a compliance rate of 89% and highlighted up to 81% were considered high-risk. The inpatient falls rate, re-audited at 1 year, was 12.44 falls / 1000 patient bed days, November 2011 – October 2012; a 15.4% reduction.

Conclusion
This study demonstrates a 15.4% reduction in falls through use of a multi-factorial assessment and care plan and an incentive poster. Yet to obtain our initial goal of 20%, we continue with implementation and re-auditing as required.
Understanding of Risk of Hypoglycaemia in Older Individuals with Diabetes

M Bhagat, S Bellary

Aston research centre for healthy ageing (ARCHA) Aston University, Birmingham

Introduction
Although older individuals are more prone to hypoglycaemia, it is not known if they have sufficient understanding of the risks of hypoglycaemia or the factors that predispose to it. We evaluated the effectiveness of hypoglycaemia education and examined the factors that increased susceptibility to hypoglycaemia amongst older people with diabetes.

Methods
45 patients (male/female) aged > 65 years and known to have diabetes were identified through outpatient clinics at a secondary care hospital. Information relating to education received, awareness of hypoglycaemia and associated risk factors were collected using a standard questionnaire. Additionally, data regarding demographics, treatment regimes, patient attitudes, hypoglycaemic awareness, and risks and barriers to self-management of diabetes was collected. Patients were categorised as low, moderate and high risk based on their responses. Independent sample t-tests and Analysis of variance (ANOVA) were carried out to identify factors contributing to high hypoglycaemic risk.

Results
Overall, 70% of the patients reported receiving education about hypoglycaemia from health professionals and 95% of them reported good understanding of hypoglycaemia and were able to self test. Proportion of women receiving education was, however, lower than men (52% women v 88% men). Compared with men, women were less likely to recognise (59% v 73%), or act appropriately to a hypoglycaemic episode (59% v 78%). Mean number of hypoglycaemic episodes per year (41 v 12) and duration of hypoglycaemia (9.9 v 6.3 minutes) was also greater amongst women compared to men. Duration of diabetes (p=0.018), female gender, type 1 diabetes (0.002) and lack awareness of medications causing hypos (p=0.006) were strong predictors of hypoglycaemia risk.

Conclusions
There are significant gaps in education around hypoglycaemia in older people with diabetes. Women, people with longer duration and type 1 diabetes in particular, need additional attention and future educational initiatives need to address these issues.
REDUCING INAPPROPRIATE PRESCRIPTIONS FOR URINARY TRACT INFECTIONS

S Ninan, G Chhokar, D Sweeney, W Nivatongs, S Y Wong, T Aung

Hull and East Yorkshire Hospitals NHS Trust

Introduction
Urinary tract infections (UTIs) are commonly overdiagnosed in the elderly. The diagnosis of UTI in the elderly can be difficult as there is a high prevalence of asymptomatic bacteruria, and patients with cognitive impairment or delirium may not be able to volunteer a history of acute urinary symptoms. We defined a UTI as 1) clinical symptoms of a UTI as defined by the Scottish Intercollegiate Guidelines Network or 2) bacteriuria with evidence of systemic inflammation (temperature >37.5C, white cell count >11 or c-reactive protein>25).

Change Strategies
In November 2011, we performed a snapshot audit of 158 drug charts (from 167 beds) for inpatients on elderly wards to identify antibiotic prescriptions for UTIs. We excluded patients with severe sepsis or those on antibiotics for mixed indications. After the initial audit, we presented our findings at microbiology and geriatric departmental meetings and the grand round. We also shared our findings with our antibiotic pharmacist and the infectious diseases department who routinely audit antibiotic prescriptions. In addition, we delivered regular teaching on the assessment of elderly patients to junior doctors. We repeated our audit in July 2012, examining 156 drug charts from 162 beds.

Change effects
The first audit identified 25 patients on antibiotics for a UTI. 6/25 (24%) had either clinical or microbiological evidence of a UTI. The second audit identified 16 patients on antibiotics for a UTI. The proportion of patients, 8/16 (50%), appropriately treated increased, as did the proportion of all patients on antibiotics for a UTI.

Conclusion
Like other audits, we identified that UTIs were overdiagnosed. A multifaceted approach resulted in a reduction in inappropriate prescriptions. This is likely to be of benefit in an era of increasing antimicrobial resistance, and significant morbidity from antibiotic side-effects.
COMPREHENSIVE GERIATRIC ASSESSMENT INFLUENCES ONCOLOGY DECISION-MAKING FOR OLDER PEOPLE WITH CANCER

T Kalsi¹², G Babic-Illman¹, D Harari¹²

1. POPS-GOLD, Dept of Ageing & Health, Guys & St Thomas’ NHS Foundation Trust; 2. Division of Health and Social Care Research, Kings College London

Introduction
There has been little research evaluating comprehensive geriatric assessments (CGA) in relation to cancer treatment decisions. The purpose of this service evaluation was to assess the impact of CGA on oncologist decision-making in the treatment of older people with cancer.

Innovation
Geriatrician-led CGA was performed targeting people aged 65+ with comorbidities, as part of the Geriatric Oncology Liaison Development (POPS-GOLD) research/service innovation pilot. We asked oncologists for semi-structured feedback via email on the influence of the assessment on decision-making for a subgroup of 40 consecutive patients.

Evaluation
Patients had mean age 77 years (range 64-90), 78% male, with colorectal (18), prostate (9), bladder (6) and other (7) cancers. 60% (n=24) of oncologists responded (20.8% consultants, 62.5% registrars, 16.7% clinical nurse specialists). All respondents had read the CGA assessment letter at the patient’s next cancer appointment. 62.5% (n=15) reported the assessment had influenced their decision-making. Of these, 67% (n=10) reported CGA assisted the evaluation of fitness for treatment, more often in favour of active treatment (8 versus 2 patients). Common themes reported as beneficial were medical review (n=5), increased information (n=3), facilitated communication (n=2) and increased confidence (n=3). Symptoms previously attributed to chemotherapy side effects were identified as medications/medical causes in two (“it was so helpful...we thought he might have had a cardiac problem related to the chemo but you have identified the culprit drug. Based on your consultation, we decided to continue chemotherapy without any dose reductions”). Of the 9 who reported no influence on decision-making, 5 found it useful for other reasons (“the reduction in antihypertensives likely to mean he will tolerate radiotherapy”).

Conclusion
Early CGA can influence oncology decision-making. Feedback suggests this relates not only to improved medical support and the information provided, but by increasing confidence to actively treat older people with cancer.
REDUCING THE POTENTIAL HARM FROM THE HIGH SODIUM CONTENT OF SOLUBLE ANALGESIA IN CARE HOME RESIDENTS: A CLINICAL AUDIT

M Aljaizani, A T Pattison

Salford Royal Foundation Trust

Introduction
Salford Care Homes Medical Practice (SCHMP) is a novel GP practice with 921 registered patients all of whom are care home residents. Research has shown that people with advanced dementia often suffer from untreated and undiagnosed pain and treating this can reduce symptoms of agitation. 54% of the practice's patients have a diagnosis of dementia, and as part of the practice’s BPSD (behavioral and psychological symptoms of dementia) pathway pain is assessed and treated. As a result of this and other co-morbidities, approximately half of the practice’s patients are prescribed paracetamol.

There is a high incidence of dysphagia related to stroke and dementia in care home residents so soluble or liquid medication is often required. Soluble Paracetamol and Co-Codamol contain high levels of sodium; a total daily dose of 4g paracetamol contains more than the recommended maximum daily amount of 6g of sodium. This is particularly relevant in care home patients - 23% of SCHMP patients have a diagnosis of chronic kidney disease and 51% hypertension. Studies have shown that withdrawing soluble analgesia reduces blood pressure, leading to a UK medicines information service statement (May 2012) suggesting switching to low sodium alternatives.

Change strategies
A search was carried out in July 2012 of all patients on soluble analgesia using the electronic patient record. 34 patients were identified and 33 switched to alternative liquid preparations. Clinicians were educated on the problems associated with soluble analgesia.

Change effects
A reaudit was carried out in November 2012. One patient was on soluble analgesia who had been identified in the initial audit and had a specific clinical need.

Conclusion
Care home residents commonly require analgesia in a liquid form. Prescribers should take into consideration the high sodium concentrations with soluble analgesia in this vulnerable group and switch to alternatives.
CARE HOME RESIDENTS HAVE AN INCREASED PREVALENCE OF COMMON CO-MORBIDITIES THAT MAKE UP QUALITY OUTCOMES FRAMEWORK (QOF) POTENTIALLY CAUSING HARM TO PATIENTS AND FINANCIALLY DISADVANTAGING PRIMARY CARE SERVICES

A T Pattison¹, M Aljaizani¹, J Fox¹, S Reilly²

1. Salford Royal Foundation Trust; 2. University of Manchester

Introduction
Care home residents are frail, have multiple co-morbidities, experience polypharmacy and have limited life expectancy. The Quality Outcomes Framework (QOF) provides financial incentives for adhering to guidance for chronic disease management but does not usually account for multi-morbidity. In frail older people with multiple medical comorbidities this may result in polypharmacy despite the risks of some treatments in a cohort with limited life expectancy often outweighing the benefits.

Salford Care Homes Medical Practice (SCHMP) is a novel GP practice with 921 registered patients all of whom are care home residents. Patients are registered on an electronic general practice record (Vision™) and placed on QOF registers as below.

<table>
<thead>
<tr>
<th>QOF domain</th>
<th>QOF data England 2011/2012</th>
<th>Salford Care Homes Practice 2012</th>
<th>Ratio SCMHP : England</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atrial fibrillation</td>
<td>1.5%</td>
<td>12.42%</td>
<td>8:1</td>
</tr>
<tr>
<td>Chronic kidney disease</td>
<td>4.3%</td>
<td>23.23%</td>
<td>5:1</td>
</tr>
<tr>
<td>COPD</td>
<td>1.7%</td>
<td>9.42%</td>
<td>6:1</td>
</tr>
<tr>
<td>Coronary heart disease</td>
<td>3.4%</td>
<td>22.81%</td>
<td>7:1</td>
</tr>
<tr>
<td>Dementia</td>
<td>0.5%</td>
<td>53.85%</td>
<td>108:1</td>
</tr>
<tr>
<td>Diabetes</td>
<td>5.5%</td>
<td>16.49%</td>
<td>3:1</td>
</tr>
<tr>
<td>Heart failure</td>
<td>0.7%</td>
<td>5.78%</td>
<td>8:1</td>
</tr>
<tr>
<td>Hypertension</td>
<td>13.6%</td>
<td>51.07%</td>
<td>4:1</td>
</tr>
<tr>
<td>Mental health</td>
<td>0.8%</td>
<td>8.67%</td>
<td>11:1</td>
</tr>
<tr>
<td>Palliative care</td>
<td>0.2%</td>
<td>29.55%</td>
<td>148:1</td>
</tr>
<tr>
<td>Stroke</td>
<td>1.7%</td>
<td>21.95%</td>
<td>13:1</td>
</tr>
</tbody>
</table>

Sampling methods
The SCHMP QOF database was interrogated and prevalence rates were compared to the national averages for GP practices in England (2011/12). The percentage of patients on each QOF register is presented below.

Results
See table.

Conclusions
This survey demonstrates that care home residents are at higher risk of being on QOF registers than the general population potentially leading to inappropriate polypharmacy. Practices with high numbers of care home residents (or specialist services that deal only with care home residents) may face financial disadvantages or high levels of exception reporting as found in other studies (Shah BMJ 2011;342:912). Commissioners should be aware of this and forthcoming NICE guidance incorporating multi-morbidity should be incorporated into future QOF targets.
A TRAINING PACKAGE TO IMPROVE THE MANAGEMENT OF IN-PATIENT FALLS BY FY1 TRAINEES

V Chauhan, M Azad, J Youde

Royal Derby Hospital

Introduction
In-patient falls are an important cause of mortality, morbidity and increased length of stay in hospital and the most commonly reported in-patient safety issue with approximately 152,000 falls reported in acute hospitals every year in the UK. Junior doctors are often asked to review patients after an in-patient fall but often lack the confidence and knowledge as to how to approach and manage the patient.

Change Strategies
An initial audit found Foundation Year 1 (FY1) trainees’ awareness of the trust falls policy is not universal, confidence in assessing a person who has fallen is variable and medication reviews are poorly understood. As a result, it was suggested that training needs to be improved at both undergraduate and postgraduate level. At induction for FY1, training via a presentation on the trust inpatient falls guidelines was delivered. An audit was repeated a month after the teaching had been delivered.

Change Effects
Prior to the training 55% of the responding FY1’s had received no training in the assessment and management of inpatient falls, this subsequently decreased to only 7% post-intervention. Confidence levels had improved with 58% of individuals rating themselves with average confidence in assessing a falls inpatient compared to the 39% previously. 42% were now able correctly identify 5 or more important areas of assessment compared to the previous level of 22%. 90% recognised a medication review as important, compared previously to 72%, however 80% could not correctly identify all medication related to falls. Following this it is planned that the training will continue in the local trust induction and rolled out to other trainee groups. A post-falls Proforma has been developed and is being piloted at present, a junior doctor guide to falls in has been produced and a medication review process is being developed.

Conclusion
Training on inpatient falls has improved knowledge and confidence in the assessment and management of inpatient falls in FY1 trainees.
MULTIPLE READMISSIONS AND THE END OF LIFE

J Lagan, H Cooper, D Komrower, V Price

Aintree University Hospitals NHS Foundation Trust

Introduction
Patients in the last year of life on average attend hospital 3.5 times. We looked at the patients recurrently attending hospital to establish how many had died within twelve months and whether it was recognized they were in the last year of life.

Sampling Methods
Retrospective analysis of case notes and electronic records were carried out for all recurrent attenders aged 70 or over during 2010. A recurrent attender is defined as someone who was admitted to acute medical services for overnight stay for ≥ 4 times in 12 months.

Results
There were 128 patients, 50% were male. The average age was 80 (range 70-93).

Summary of results

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Average number of admission per person</td>
<td>6.21 (range 4-26)</td>
</tr>
<tr>
<td>Average bed stay per person per year</td>
<td>63.5</td>
</tr>
<tr>
<td>Failure by admitting team to recognise patient had had multiple recent admissions</td>
<td>72%</td>
</tr>
<tr>
<td>Died within 6 months</td>
<td>53%</td>
</tr>
<tr>
<td>Died within 12 months</td>
<td>62%</td>
</tr>
<tr>
<td>Died within 12 months from causes other than cancer</td>
<td>59%</td>
</tr>
<tr>
<td>Known to palliative care</td>
<td>2%</td>
</tr>
</tbody>
</table>

Conclusions
Our data shows that 62% of the over 70’s recurrently attending hospital are in the last year of life but are poorly recognised as such. Interestingly the majority of patients died of causes other than cancer. By identifying the 1% of the population who are in the last year of life and including them on the Gold Standards Framework (GSF) register they are more likely to receive high quality co-ordinated care (NHS QIPP EOL Workstream 2010). This facilitates advance care planning including discussions with patients about their future care. If each patient had one less crisis admission, the NHS could save £1,350,000,000.

Recrurrently attending may be a marker that a person is in the last year of life and therefore recognition of re-attendance is vitally important to improve patient care.
CALLING OUT FOR HELP! IMPROVING CALL-BELL PLACEMENT ON THE GERATOLOGY WARD

C B von Stempel¹, B Gilbert², N Bouwmeester³, H W Jones¹

1. Dept of Geriatric Medicine, John Radcliffe Hospital Oxford, 2. Oxford University, 3. University of Utrecht

Introduction
Call-bells are often unreachable. The geriatric patient has complex functional needs and are dependent on their call-bell for assistance with toileting, analgesia and repositioning. Prompt help leads to falls reduction.

Innovations
Cartesian plots were used to represent call-bell placement distribution for geratology staff education. Computer modeling demonstrated a clip at 25cm from the handset mapped onto patients’ preferred call-bell positions. A clip was developed to tether the bell within reach of the patient.

Evaluation
Call-bell positions were recorded in 38 side rooms in Wards A and B over one month. Education did not significantly improve the number of accessible handsets (p=0.135) whilst clustering of call-bells was demonstrated. Use of the prototype clip on Ward B improved call-bell positioning: Ward B data matched patient preferences (p<0.05) with significant improvement in number of accessible call-bells (86%; p<0.001), compared to Ward A (46%).

Conclusions
Cartesian plots are a novel method for displaying data. Increasing mindfulness may improve call-bell handset positioning. A simple addition can significantly increase the proportion of accessible call-bells.
PROTECTING OLDER PATIENTS’ DIGNITY IN THE DISCHARGE LOUNGE SETTING: AUDIT OF THE DISCHARGE LOUNGE AT QUEEN ELIZABETH HOSPITAL

T Win, C Weekes, R Hodgkinson, S Walker, K Le Ball

Queen Elizabeth Hospital, South London Healthcare NHS Trust

Introduction
Hospitals are under pressure to meet the ‘four-hour target’ for acute admissions. Achieving this can depend in part on bed availability; waiting for beds causes delays. Consequently discharge lounge facilities (where patients can wait for transport on discharge) have been created to improve patient flow. There are no guidelines for discharge lounge care. Due to concerns about older patients’ potential loss of dignity in our discharge lounge we developed local standards guided by the Preventing Abuse and Neglect in Institutional care of Older Adults (PANIcoA) study. W Tadd et al. Department of Health 2011.

Change Strategies
Using observations and clinical notes, 39 random discharge lounge users were audited between January and March 2011. As a result of our findings the lounge was moved to an alternative setting. Staff were issued with guidance regarding the expected level of care and information for patients was produced. Following this a further 40 users were audited in 2012 using the same parameters.

Change Effects
For the 2012 cohort: assumed dependency levels, age and referrals from the Emergency Department the same. However, the 2012 cohort were better dressed: 87% clothed (77% in 2011), 80% wearing shoes (41% in 2011). 5 waited over 210 minutes for transport (10 in 2011), 20 waited under 90 minutes (15 in 2011). Cognition was assessed more frequently: only 10% were found to be cognitively impaired (29% in 2011).

Conclusion
The audit showed some improvements in discharge lounge care. The majority of users are still older people, over 70 years. Many needed mobility aids and required care at home. Patients were more appropriately dressed and less cognitively impaired. There was improvement in waiting time to discharge though this remains long for some. There are still areas to address. We plan to review standards and re-audit next year.
SIMPLE GUIDANCE CAN IMPROVE THE ASSESSMENT OF FAECAL INCONTINENCE IN GERIATRIC REHABILITATION

Z N Muir

Royal Victoria Hospital, Edinburgh

Introduction
Faecal incontinence (FI) affects approximately 3% of community dwelling adults over 65 years and 10-30% of those living in care homes. Research has shown that when assessed and managed appropriately the number of episodes can be reduced and in some cases continence restored in the elderly. NICE guidance exists to guide our assessment and management of faecal incontinence. Sadly it remains an area of care which is poorly managed.

Methods
The TRAK care system was used to review the printed nursing handover to identify patients with documented faecal incontinence in a Geriatric Rehabilitation Hospital. The multi-disciplinary meeting sheets were reviewed to determine if faecal incontinence had been highlighted at these meetings. If so then case notes were reviewed. Following the first audit cycle results were presented at a lunchtime meeting and simple written guidance was developed for junior staff in the department. The audit was then repeated 6 months later with new junior staff who had been given the written guidance only at induction.

Results

<table>
<thead>
<tr>
<th></th>
<th>Cycle 1 No. of patients</th>
<th>Cycle 2 No. of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>FI on nursing handover (% of in-patients)</td>
<td>22 (15%)</td>
<td>38 (27%)</td>
</tr>
<tr>
<td>Documented FI at MDTs</td>
<td>19 (13%)</td>
<td>28 (20%)</td>
</tr>
<tr>
<td>History/examination (% of FI patients)</td>
<td>7 (37%)</td>
<td>22 (79%)</td>
</tr>
<tr>
<td>Cause documented</td>
<td>7 (37%)</td>
<td>18 (64%)</td>
</tr>
<tr>
<td>Management plan</td>
<td>6 (32%)</td>
<td>18 (64%)</td>
</tr>
</tbody>
</table>

Conclusion
In both audit cycles the management of faecal incontinence was sub-optimal. However following the intervention approximately twice the number of patients had their faecal incontinence assessed, cause documented and management plan formed. The simple written guidance given at induction is likely to have had a significant impact on this as the majority of assessments and management plans were performed by the junior doctors.
AGEISM AND SEXISM IN CLINICAL RESEARCH: ARE WE MAKING ANY PROGRESS?

P Gupta¹, R Shekhar², M S O'Mahony¹

¹. Care of the Elderly Department, University Hospital Of Llandough, Penarth, Wales ;
². Stroke Physician, Queen Elizabeth Hospital, King's Lynn, England, PE30 4ET

Introduction
Ageism is prevalent in clinical practice and research. Unjustified exclusion of older people and women from clinical trials occurs, despite political and legislative reform. This limits the generalisability of evidence.

Methods
We examined clinical research published in New England Journal of Medicine (NEJM), Circulation, British Medical Journal (BMJ), & Heart in 1981, 1991, 2001 and 2011. We excluded research on children and pregnancy. All original research papers were examined for- mean age of study population, unjustified exclusion of older people and women recruited.

Results
Mean age of study participants
The mean age of study subjects included in research has increased significantly for all four journals in the last four decades (p< 0.001).

<table>
<thead>
<tr>
<th>Mean Study Age in Years (n=No of Papers)</th>
<th>1981(n)</th>
<th>1991 (n)</th>
<th>2001 (n)</th>
<th>2011 (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMJ</td>
<td>52.5 (70)</td>
<td>49.6 (86)</td>
<td>53.9 (60)</td>
<td>56.6 (64)</td>
</tr>
<tr>
<td>NEJM</td>
<td>50.7 (49)</td>
<td>49 (112)</td>
<td>55.7 (136)</td>
<td>62.6 (111)</td>
</tr>
<tr>
<td>HEART</td>
<td>51.2 (39)</td>
<td>57.3 (57)</td>
<td>57.7 (99)</td>
<td>58.9 (164)</td>
</tr>
<tr>
<td>CIRCULATION</td>
<td>50.7 (146)</td>
<td>50.9 (196)</td>
<td>55.2 (416)</td>
<td>61.6 (178)</td>
</tr>
</tbody>
</table>

Expectancy of Life at Birth-UK (Yrs)

<table>
<thead>
<tr>
<th>Expectancy of Life at Birth-UK (Yrs)</th>
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<tbody>
<tr>
<td>1981 (n)</td>
</tr>
<tr>
<td>BMJ</td>
</tr>
<tr>
<td>NEJM</td>
</tr>
<tr>
<td>HEART</td>
</tr>
<tr>
<td>CIRCULATION</td>
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</table>

Unjustified Exclusion of Older People and Women
Percentage of studies with unjustified exclusion of older people and women shows a variable trend.

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<thead>
<tr>
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<tbody>
<tr>
<td>BMJ</td>
<td>10%</td>
<td>26%</td>
<td>27%</td>
<td>15.6%</td>
</tr>
<tr>
<td>NEJM</td>
<td>33%</td>
<td>6%</td>
<td>7%</td>
<td>22.5%</td>
</tr>
<tr>
<td>HEART</td>
<td>26%</td>
<td>23%</td>
<td>24%</td>
<td>9.8%</td>
</tr>
<tr>
<td>CIRCULATION</td>
<td>17%</td>
<td>6%</td>
<td>5%</td>
<td>15.7%</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>BMJ</td>
<td>22%</td>
<td>30%</td>
<td>47%</td>
<td>51.2%</td>
</tr>
<tr>
<td>NEJM</td>
<td>29%</td>
<td>43%</td>
<td>53%</td>
<td>44%</td>
</tr>
<tr>
<td>HEART</td>
<td>29%</td>
<td>10%</td>
<td>28%</td>
<td>36.4%</td>
</tr>
<tr>
<td>CIRCULATION</td>
<td>17%</td>
<td>44%</td>
<td>47%</td>
<td>37%</td>
</tr>
</tbody>
</table>

Conclusion
The mean age of research participants in published research is gradually increasing. Progress in including women in research has been variable and unjustified use of upper age exclusions persists.
EVALUATION OF BUPRENORPHINE TRANSDERMAL SYSTEM (BTDS) AMONG ELDERLY SUBJECTS WITH CHRONIC, MODERATE TO SEVERE OSTEOARTHRITIS PAIN OF THE HIP AND/OR KNEE

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Introduction
BTDS provides a suitable option for pain relief compared to other low potency opioids in the elderly patients due to the pharmacokinetic profile and the transdermal route of administration. However, specific data on the use in elderly subjects is limited.

Methods
Subjects divided into two age groups, 50-60 years and ≥75 years, with osteoarthritis (OA) of the hip and/or knee and moderate to severe chronic pain confirmed by an average Box Scale-11 (BS-11) score ≥ 4 during the previous week, were enrolled. The subjects had a history of inadequate pain relief from previous treatment with 2000-4000mg paracetamol daily. All subjects started the treatment with BTDS 5µg/h with subsequent titration to a maximum of BTDS 40µg/h to achieve a stable pain control during the study period of 3 months.

The primary end-point was the difference in BS-11 pain score from baseline to completion of the study. Safety was assessed via adverse events (AEs) and laboratory parameters.

Results
In total, 80 patients completed the study per protocol (PP). Both age groups showed a significant reduction in pain from baseline to completion. The reduction in mean BS-11 scores for the PP population was 2.05 (CI: -1.30 to 2.80) vs 2.49 (CI: -1.78 to 3.20) for the young and the elderly, respectively. The difference in change in mean BS-11 between the two age groups was -0.44 (CI: -0.55 to 1.42). The lower limit was >-1.5 which was within the pre-specified non-inferiority parameters and therefore demonstrates that the efficacy of the elderly subjects is not inferior to the younger subjects. Patients with at least one adverse event (AE) was similar for both age groups.

Conclusion
The BTDS is an effective and well-tolerated analgesic in the elderly in the treatment of chronic joint pain associated with osteoarthritis.
DOES THE EUROPEAN WORKING GROUP ON SARCOPENIA IN OLDER PEOPLE ALGORITHM DETECT ALL THOSE VULNERABLE?

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Introduction
The European Working Group on Sarcopenia in Older People (EWGSOP) has developed a working definition of sarcopenia that can be widely used in clinical practice and research. They defined sarcopenia as a condition associated with loss of both muscle mass and muscle function. Severity of the condition was graded as: Pre-sarcopenia (poor muscle mass alone); Sarcopenia (poor muscle mass + either poor muscle strength or poor physical performance) and Severe sarcopenia (loss of muscle mass + both poor muscle strength and poor physical performance). The EWGSOP also developed an algorithm to screen and identify people with sarcopenia. We aimed to determine the effectiveness of this algorithm in detecting people with different stages of sarcopenia.

Methods
In a cross-sectional study, 79 community dwelling older people >65 years underwent DEXA scanning for body composition. Appendicular skeletal muscle mass/height² was measured. Gait speed over 4 meters and hand-grip strength using a hand-held dynamometer were recorded. Low hand-grip strength was defined as <20kg for women and <30kg for men as per the EWGSOP. The EWGSOP algorithm was used to screen for sarcopenia.

Results
Mean participant age was 72 (SD 6) years. 44% were female. 8/79 participants had low gait speed, 34/79 had poor grip strength, 3/79 had both poor gait speed and poor strength. Using the EWGSOP algorithm, 31/79 (39.2%) would have undergone measurement of muscle mass. 13/79 (16.4%) had sarcopenia. No participant had severe sarcopenia. 27/79 (34.2%) had low muscle mass. 14/79 (17.7%) participants had presarcopenia but were not detected using the algorithm.

Conclusions
The EWGSOP algorithm detected all participants with sarcopenia. Even though the algorithm resulted in measurement of body composition of almost 40% of those screened, it is not designed to detect those with presarcopenia who may be the ideal target for preventive measures.

Acknowledgement: Funded by TENOVSUS Scotland.
POSITIVE VERSUS NEGATIVE ADENOSINE TESTS IN UNEXPLAINED SYNCOPE PRESENTING TO ACUTE MEDICAL SERVICES

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Introduction
Adenosine testing is used to investigate neurally-mediated and unexplained syncope. Adenosine induced asystole for > 6 s or AV block > 10 s defines a positive test. Debate surrounds the significance of a negative test and the diagnosis in a positive test - cardio-inhibitory neurally-mediated syncope or bradycardia pacing indications. No previous study has examined adenosine testing in the acute setting.

Methods
Adenosine testing to DEtermine the need for Pacing Therapy with the additonal use of an implantable loop recorder (ADEPT-ILr) is a randomised double-blind placebo-controlled trial that uses a positive adenosine test to prompt pacemaker implantation and a negative test to prompt ILr insertion in unexplained syncope presenting to acute medical services. Those that receive a pacemaker have the device switched "on" or "off" for six months before crossing over for a further six months and vice versa. Those with an ILr are followed for 12 months. The primary outcome is syncope burden.

Results
Twenty-one adenosine tests have been conducted; baseline clinical characteristics are outlined. Clinical characteristics of individuals with positive and negative adenosine tests.

<table>
<thead>
<tr>
<th></th>
<th>POSITIVE</th>
<th>NEGATIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>Mean age</td>
<td>68.6 ± 11.8 years</td>
<td>56.5 ± 8.3 years</td>
</tr>
<tr>
<td>Male</td>
<td>6 (40%)</td>
<td>4 (67%)</td>
</tr>
<tr>
<td>Median number of syncopal episodes in last 12 months</td>
<td>2 (IQ range 1.75)</td>
<td>2 (IQ range 0)</td>
</tr>
<tr>
<td>Sinus rhythm</td>
<td>15 (100%)</td>
<td>6 (100%)</td>
</tr>
<tr>
<td>First degree AV block</td>
<td>3 (20%)</td>
<td>1 (17%)</td>
</tr>
<tr>
<td>Mean PR interval</td>
<td>172 ± 31 ms</td>
<td>164 ± 33 s</td>
</tr>
<tr>
<td>Hemiblock</td>
<td>2 (13%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Bundle branch block</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Mean asystole duration</td>
<td>8.0 ± 4.2 s</td>
<td>2.7 ± 1.7 s</td>
</tr>
<tr>
<td>Mean AV block duration</td>
<td>16.0 ± 5.4 s</td>
<td>4.7 ± 3.8 s</td>
</tr>
</tbody>
</table>

Conclusion
Those with unexplained syncope that are adenosine test positive are older (68.6 ± 11.8 vs. 56.5 ± 8.3 years p=0.033) adding weight to the suggestion that the test identifies bradycardia pacing indications.
WITHDRAWN
PREVALENCE OF MOST VASCULAR RISK FACTORS INCREASES BUT END-ORGAN DISEASE REMAINS CONSTANT OVER 10 YEARS FOLLOW UP IN A COMMUNITY DWELLING COHORT OF OLDER PEOPLE

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Introduction
Guidelines for the management of vascular disease recommend treatment of modifiable risk factors in all age groups. It is unclear whether risk factors for vascular disease are increasing in prevalence in community living older people and how rates of end-organ disease parallel changes in these risk factors. Our aim is to compare burden of vascular disease and its risk factors in community dwelling older people over 10 years of follow up.

Methods
In 2002 104 community dwelling people aged 65 and over (median 70 range 65-83) underwent clinical history and physical examination. Identical protocol was repeated 10 years later.

Results
Reported smoking status was comparable between baseline and follow up (current; 8% v 7%, past; 65% v 63%), there was no difference in the proportion at each time point of older people consuming alcohol. There was a significant increase in BMI [median BMI (IQ range) 26 (24, 29) v 27 (24, 31); p=0.02] Rates of hypertension and diabetes had significantly increased (hypertension 32% v 51%; p=0.005) (diabetes 4% v 15%; p=0.005) nevertheless rates of ischemic heart disease, cerebro- and peripheral vascular disease had not significantly increased. Hyperlipidaemia rates had significantly decreased (35% v 16%; p=0.003) in line with an increase in prescription of HMG co-A- reductase inhibitors (20% v 50%; p<0.001). The number of individuals taking antihypertensives (46% v 68%; p=0.001) and any cardioactive medication (49% v 71%; p=0.001) had increased. The use of ACE inhibitors and calcium antagonists had significantly increased with a non-significant decrease in beta-blockers.

Conclusion
Over the last decade modifiable risk factors for vascular disease have increased in a community cohort of older people. Effective management of these risk factors might account for the stable rates of age-related end-organ vascular disease.
LIVING THE DREEM: STUDENT PERCEPTIONS OF MEDICINE IN THE COMMUNITY, UNIVERSITY COLLEGE DUBLIN (UCD)

D Ní Chróinín1,2, W Cullen3, L Kyne1, C Carberry1, J Last1, A Molphy1, E Nevin1, M Steele1, G Bury1

1. School of Medicine and Medical Science, University College, Dublin; 2. Beaumont Hospital, Dublin; 3. Graduate Entry Medical School, University of Limerick

Introduction
Recognising potential advantages of community-orientated education, and responding to reforms in medical education policy, our medical school developed a community-focused module (Ní Chróinín et al, 2012). In partnership, Medicine for the Elderly and General Practice deliver the module in a combination of primary and secondary care settings. As students' perceptions of the educational environment may affect learning outcomes, the Dundee Ready Educational Environment Measure (DREEM), a reliable, validated tool, specific to healthcare education, was used to assess participants' views of the environment in which this module was delivered.

Methods
All medical students complete the module in Years 5/6 of the undergraduate MB programme; 155 students undertook the module in 2010. The DREEM questionnaire comprises 50 statements assessing features of the education climate, using a 5 point Likert-type scale, with an overall maximum score of 200 (150-200 excellent), with separate ranges for individual subscales of the questionnaire.

Results
Response rate was 98/1% (152/155), mean age 23.99 (SD 3.9 years), 58.8% were female, 67.5% Irish. Overall mean score 135.5 (SD 20.1), indicating a generally positive environment. For specific subscales, mean scores with interpretations were: Learning- 31.6/48 (SD 6.1) (more positive perception); Course Organisers 32.1/44 (SD 4.9) (moving in the right direction); Academic Self-Perceptions 21.7/32 (SD 3.9) (more positive feelings); Atmosphere 32.4/48 (SD 5.6) (a more positive attitude); Social Self-Perceptions 17.7/28 (SD 3.6) (not too bad). All areas ranked in the 2nd highest of 4 possible categories. 68.6% of respondents agreed or strongly agreed with statements reflecting positive perceptions of the environment.

Conclusion
Students' perceptions of the educational environment in which the module was delivered were largely positive, although there is room for continued development and improvement. A cooperative care model involving Medicine for the Older Person and General practice, with combined delivery in the community and hospital settings, offers a learning environment that is generally perceived positively by students.
CAPACITY ASSESSMENT AS A THRESHOLD CONCEPT IN GERIATRIC MEDICINE

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Introduction
Threshold Concepts (TCs) as an educational theory were first described in 2003. They describe the potential educational portals to be passed through in order to become proficient in a given area. As such within each area of education these ‘core’ concepts will need to be learnt in order to become ‘expert’.

The Mental Capacity Act highlights the importance of being able to assess capacity and thus relates to the work of being a Geriatrician. The assessment of capacity is included in the learning objectives for higher training in Geriatric Medicine.

Methods
A qualitative study was performed to look for the existence of potential threshold concepts in Geriatric Medicine. 14 semi-structured interviews were conducted with trainers (consultants) in the South-East region. The interviews were transcribed and then with a method rooted in grounded-theory a discourse analysis was performed. Capacity was identified as a potential TC and was then assessed against the proposed characteristics of threshold concepts (they are: transformative, irreversible, integrative, bounded and troublesome).

Results
Trainers feel that capacity assessment is ‘troublesome’ to learn. The assessment may at first appear counter-intuitive and it seems that to fully understand capacity an ontological change to some degree is needed.

Whilst not specific to Geriatrics there is a feeling that, within hospital medicine, Geriatricians often take the lead on capacity assessment. Once learnt there is little evidence that trainees can unlearn the concept (irreversible). Finally capacity once understood integrates a number of different areas of the speciality.

Conclusions
The assessment of capacity is highly likely to be a threshold concept for trainees in Geriatric Medicine. Full understanding of this concept may prove difficult for some trainees and trainers should be aware of this. Once understood, capacity assessment involves all areas of the patient pathway through hospital.
THE SPECTRUM OF ORTHOSTATIC BLOOD PRESSURE CONTROL IN OLDER COMMUNITY DWELLING ADULTS: SHOULD WE REFINE OUR DEFINITION OF ORTHOSTATIC HYPOTENSION?

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Introduction
Homeostatic blood pressure responses to standing play a pivotal role in identifying individuals at risk of syncope and unexplained falls. To date no study has examined the spectrum of beat-to-beat blood pressure responses and prevalence of orthostatic hypotension (OH) at a population level.

Methods
Participants (n=4463) were recruited from The Irish Longitudinal Study on Ageing, a nationally representative cohort study of Irish adults aged 50 and over. Analysis was applied to beat-to-beat blood pressure records from those who underwent an active stand test using continuous non-invasive photoplethysmography (Finometer™). Individuals were identified as having orthostatic hypotension according to ESC guidelines. The spectrum of blood pressure profiles and prevalence of orthostatic hypotension was reported across age, gender and at each time point following standing after reweighting for non-response.

Results
Drops in systolic blood pressure increase with age and are higher in females. Males: (50-59) 36.5mmHg vs. (80-89) 48.1mmHg; Females: (50-59) 42.8mmHg vs. (80-89) 49.1mmHg (p<0.05). The proportion of those with drops of >20mmHg systolic and/or >10mmHg diastolic within 3 minutes of standing was 97.8% of males and 98.3% of females. The proportion of those with a sustained drop after 40 seconds of standing increased with age from 6.3% in males and 10.8% in females aged 50-59 to 32% of males and 29% of females in the over 80s.

Conclusion
The proportion of those with OH using beat-to-beat technology is high according to the 20/10 definition. Timing of the response is important with over a quarter of oldest adults aged >80 demonstrating a sustained blood pressure drop after 40 seconds. The definition of OH requires refinement to include timing and response morphology to explicitly define a sustained drop.
THE ASSOCIATIONS OF INSOMNIA AND DAYTIME SLEEPINESS IN COMMUNITY DWELLING ELDERS IN THE IRISH LONGITUDINAL STUDY OF AGEING (TILDA)

C Finucane, H Cronin, R A Kenny, J Harbison

The Irish Longitudinal Study on Ageing (TILDA), Trinity College Dublin

Introduction
Sleep disorders are reported associated with increased risk of cardiovascular disease and institutionalisation and reduced quality of life in older people. We analysed data from TILDA to determine the prevalence and associations of sleep disorders in a large, randomly selected, community sample of people >50 Years.

Methods
Three questions assessing sleep quality were included in the TILDA dataset. Daytime sleepiness was assessed by ‘How likely are you to doze off or fall asleep during the day?’ (Never, Slight, Moderate or High Risk?) Insomnia at sleep initiation by ‘How often do you have trouble falling asleep?’ and Insomnia for sleep maintenance by ‘How often do you have trouble with waking up too early and not being able to fall asleep?’ (Most of the time, Sometimes or Rarely or Never).

Results & Conclusions
Responses were obtained from 8504 subjects (4724 female).

Significant daytime sleepiness (‘Moderate’ ‘High risk’) was commoner in men (35.4% vs 24.7% p<0.0001 chi sq). On multivariate analysis associations were found with age (Odds Ratio 1.031 p<0.0001), frailty (Pre-Frail: O.R. 1.42, p<0.0001, Frail 2.242, p<0.0001)), polypharmacy (1.251, p=0.005) and heart failure (1.767, p=0.043). Female gender was associated with reduced risk (0.583, p<0.0001).

Significant insomnia at sleep onset (‘Most of the time’) was commoner in women than men (13.4% vs 7.4%, p<0.0001). It was associated with increasing frailty (pre-frail: 1.429, p<0.0001, frail 2.179, p<0.001), female gender (2.42, p<0.0001), education (2nd level: 0.841, p=0.018, 3rd level: 0.697, p<0.0001) and polypharmacy (1.617, p<0.0001).

Significant insomnia for sleep maintenance (‘Most of the time’) was also commoner in women (17.8% 13.4%. p<0.0001) and was associated with frailty (Pre-Frail: Odds Ratio 1.425, p<0.0001, Frail 2.242, p<0.0001)), female gender (1.414, p<0.0001), polypharmacy (1.281, p=0.001) and 3rd level education (0.874, p<0.0001).

Insomnia and daytime sleepiness are common and are associated more with increasing frailty than age.
DEMOGRAPHICS OF CENTENARIANS ADMITTED THROUGH MEDICAL RECEIVING IN RAIGMORE HOSPITAL

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Introduction
Over the last 30 years the number of centenarians has increased 30 fold from 2,500 in 1980 to 12,640 in 2010 and expected to rise further to 95,000 by 2047. Over one third of babies born this year will live until at least their 100th birthday. In view of this we decided to look at the demographics of the centenarians admitted to medicine and how these differ from people aged 85.

Method
We completed a retrospective audit of the notes of all admissions aged >=100 admitted through medical receiving over a 2 year period between 2009 and 2011. We then compared this cohort to a group of 85yr olds.

Results
11 people aged over 100 were admitted over this period, ranging from 100-107yrs of age.

On average they were on a smaller number of medications (mean 8.9 vs 5.9) than the 85yr olds despite a larger number of co-morbidities (mean 6.36 vs 4.6). They also had a lower number of hospital admissions in the past 20yrs. Length of admission was longer in the group of centenarians (15days vs 7.4days).

5/11 of the centenarians did not survive hospital admission. All of the 85yr olds survived to discharge.

The centenarians had a higher level of care both pre and post discharge. 3/11 were independent prior to admission and nil on discharge. This compares to 7/15 85 year olds dropping to 6 on discharge. The centenarian population spent, on average, only 1.15% of their total life ‘unhealthy’ or ‘dying’ with one of the older group only scoring 0.06%

Discussion
This highlights the differing demographics between these groups. The centenarians appear to have less contact with hospital services and less polypharmacy, Centenarians, however, who are admitted have a higher level of dependency, mortality and need for ongoing care. The most striking finding however is how little of our centenarians life’s are spent ‘unhealthy’.
A SIGNAL PROCESSING FRAMEWORK FOR OBJECTIVE SLEEP AND PHYSICAL ACTIVITY MEASUREMENT USING ACCELEROMETRY IN POPULATION STUDIES OF OLDER ADULTS

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Introduction
Introduction: Physical activity (PA) and sleep monitoring provide valuable information about health, especially in the older adults. Population studies often use subjective questionnaires, which have only average accuracy and reliability. Accelerometry provides an objective measurement, but requires automated signal processing and classification to be clinically useful. Current processing measures do not take into account the heterogeneity and scale of population samples.

Methods
In this pilot study, 46 participants wore a GeneactivTM accelerometer for seven days. An automated signal processing framework was developed to classify the accelerometer data as sleep/activity, and quantify these periods. The algorithm was designed for scaling to large numbers. Total variance of the accelerometer data was measured, along with per-day and per-night variance, and waking and sleep period lengths. Classification was compared against a non-automated manufacturer-provided scheme (not validated in older adults). The output measures were compared using variables with established relationships to PA and sleep quality (Pearson’s correlation coefficients and two-sample T-tests).

Results
Valid data was available from 36 participants. Agreement of the proposed framework with the manufacturer’s method was good (95% CI 80.25-85.92%). Correlations were found between median daily waking activity and BMI (r=-0.334, p=0.035) and weight (r=-0.394, p=0.018). Trends of PA against gender, age and gait speed were visible, but did not reach statistical significance (p>0.05). Processing time was 5 minutes per file.

Conclusion
Use of accelerometer measurement in studies of older adults appears to be feasible and avoids subjectivity. Population studies should be cognisant of the significant analysis overhead and use validated databases when developing and validating in-house algorithms. The developed algorithm enables scaling to larger numbers for use in population studies without need for manual processing. Further validation is required before scaling to population level.
DISPARITIES IN LIFE EXPECTANCY IN FRAILTY STATES BETWEEN EUROPEAN COUNTRIES

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Introduction
It is well known that older European women live longer than men, but spend more years and a larger proportion of life expectancy with disability. Whether this also applies to frailty is unknown. We aimed to compare life expectancy (LE) in frailty states (non-frail, pre-frail and frail) at older ages between European countries.

Methods
Age and sex-specific prevalence of frailty states based on the Frailty Instrument for primary care of the Survey of Health, Ageing and Retirement in Europe (SHARE-FI) were calculated from SHARE wave 4 for the 15 participating countries (Austria, Belgium, Czech Republic, Denmark, Estonia, France, Germany, Hungary, Italy, Netherlands, Poland, Portugal, Slovenia, Spain, Sweden). These countries represent 86% of the non-institutionalised population aged 50+ of the EU27 in 2010. LE in each frailty state for each country and sex were calculated using Sullivan’s method with 2010 life tables obtained from Eurohex (www.eurohex.eu).

Results
Sweden had the longest LE non-frail at age 75 in men (8.6 years) whilst Hungary had the shortest (3.4 years). Danish women had the longest LE non-frail (6.8 years) and Polish women the shortest (2.2 years). Significant sex differences in LE non-frail were found in the Netherlands, Poland, Portugal, Spain, and Sweden and in LE frail in all countries except Denmark and Sweden. Overall EU27 women spent more absolute years and a greater proportion of LE frail and pre-frail at every age. For EU27 men LE frail was constant (2.3 years) up to age 80. By age 80 LE frail exceeded LE non-frail but only for women.

Conclusions
In most European countries women spend significantly more years pre-frail, as well as frail, at all ages. We found substantial disparities in LE in frailty states between countries. Exploring the factors associated with these disparities could aid the design of interventions to prevent frailty.
TIMED UP AND GO VERSUS 10 METERS WALK IN PATIENTS WITH FALLS

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Introduction
Timed up and go (TUG) & 10 meters walk (10 MW) are frequently used to assess patients with falls. In this study we compared the patients’ performance in the TUG and 10 MW as a predictor of the number of falls.

Methods
A retrospective observational study of consecutive patients who attended the falls clinic. The tests were timed using a digital stopwatch. Patients were classified into four groups based on the number of falls in the previous 6 months.

Results
There were 90 females and 52 male; mean age was 79.9 and 80.6 years respectively. Results are summarised in tables. There was a trend in both tests that patients who had more falls took longer to do the test, walked more steps however this did not reach statistical significance.

<table>
<thead>
<tr>
<th>Table 1: TUG[n = 109]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Falls</td>
</tr>
<tr>
<td>None</td>
</tr>
<tr>
<td>Number of patients</td>
</tr>
<tr>
<td>17</td>
</tr>
<tr>
<td>Time (seconds)</td>
</tr>
<tr>
<td>25.8</td>
</tr>
<tr>
<td>Number of steps</td>
</tr>
<tr>
<td>21.4</td>
</tr>
<tr>
<td>Number of Steps/seconds</td>
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<tr>
<td>0.83</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Table 2: 10MW[n = 110]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Falls</td>
</tr>
<tr>
<td>None</td>
</tr>
<tr>
<td>Number of patients</td>
</tr>
<tr>
<td>17</td>
</tr>
<tr>
<td>Time (seconds)</td>
</tr>
<tr>
<td>26</td>
</tr>
<tr>
<td>Number of steps</td>
</tr>
<tr>
<td>20.8</td>
</tr>
<tr>
<td>Number of Steps/seconds</td>
</tr>
<tr>
<td>0.8</td>
</tr>
</tbody>
</table>

Conclusion
Neither the TUG nor 10 MW tests discriminated precisely between those patients who fell occasionally and those falling more frequently. However, clinically, TUG allow evaluation of more aspects of gait compared to 10 MW.
CONTRAST SENSITIVITY BUT NOT VISUAL ACUITY IS ASSOCIATED WITH GAIT IN OLDER ADULTS

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Introduction
Thirty percent of older adults have a gait disorder associated with falls and reduced mobility. The relationship between vision and gait has not been conclusively confirmed. The aim of this paper was to investigate the relationship between measures of vision and gait in older adults.

Methods
Participants were recruited as part of the Irish Longitudinal Study on Ageing. Visual acuity was measured using LogMAR charts and contrast sensitivity using the Functional Acuity Contrast Test (FACT). Gait was assessed using the GAITRite system to capture gait speed (m/s), cadence (spm), stride length (m) and double support phase (%). Multivariate associations were examined using linear regression and all analysis was performed after reweighting for non-response and controlling for covariates: age, gender, education, body mass index, number of medications, cardiovascular and chronic conditions, behavioural health factors, diseases which effect vision and mental health.

Results
Data from 4641 participants was available for analysis. In the multivariate models, better contrast sensitivity was found to be independently associated with faster gait speed (0.05, 95% CI: 0.02-0.09), reduced cadence (-0.02, 95% CI: -0.04--0.0024), increased stride length (0.04, 95% CI: 0.014-0.07, p<0.01) and reduced double support phase (-0.01, 95% CI: -0.02--0.001) (p<0.05). 49% of the variance in stride length was explained by the model. Visual acuity was not independently associated with any of the gait variables considered (p>0.05).

Conclusion
Higher contrast sensitivity but not visual acuity, is independently associated with better gait. This is intuitively satisfying given the role of contrast sensitivity in spatial awareness. Visual acuity assessment is currently included in the AGS/BGS guidelines for assessment of falls. Future studies should examine the role of contrast sensitivity in routine geriatric assessment of gait disturbances especially in the context of falls.
EFFECTIVENESS OF FALLS PREVENTION PROGRAMME! A FIVE YEAR STUDY

T Bhutta, K Musarrat, D Lakhani

University Hospitals of Leicester

Introduction
Falls prevention programme is an important part of management of patients presenting with fall. The NICE guidelines (2004) recommend the participation of all older fallers in Falls Prevention Programmes. We assessed the effectiveness of falls prevention programme in improving mobility and balance in patients presenting to falls clinic in University Hospitals of Leicester (UHL) over a period of five years.

Method
The UHL falls prevention programme has been running since June 2005. The programme involves six weeks of falls education and exercise training totalling 12 hours of exercise per participant. We compared a number of parameters before the start of the programme and after the completion. These included Ten metre walk test, Timed Get up and go, 180 degree turn and the Performance Oriented Mobility Assessment (Tinetti).

Results
Total numbers of patients included were 163. Out of these 71% were female and 29% were male. Mean age of the patient was 81 years. Data analysis was conducted using T-tests for the parametric data and Wilcoxon tests for the nonparametric data. There was statistically significant improvement in all the parameters as mentioned in the table below:

<table>
<thead>
<tr>
<th>Domains assessed</th>
<th>Pre-FPP mean</th>
<th>Post-FPP mean</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ten metre walk test (in seconds)</td>
<td>26.69</td>
<td>22.26</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Timed Get up and go (in seconds)</td>
<td>22.04</td>
<td>19.38</td>
<td>0.008</td>
</tr>
<tr>
<td>180 degree turn (steps)</td>
<td>5.76</td>
<td>4.89</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Performance Oriented Mobility Assessment (Tinetti) (out of 28)</td>
<td>19.85</td>
<td>21.95</td>
<td>&lt;0.05</td>
</tr>
</tbody>
</table>

Conclusion
Significant improvement in falls assessment measures can be achieved through 12 hours of exercise in six weeks via falls education programme which in theory reduces the risk of further falls. Although the overall effect on falls is difficult to measure therefore further studies are needed to evaluate it.
IS THERE A DIFFERENCE OF ASSESSMENT OF POLYPHARMACY BY
GERIATRICIANS AND NON-GERIATRICIANS IN PATIENTS PRESENTING WITH
FALL?

K Musarrat, T Bhutta, M Kumar, D Bridge, A Patel, D Lakhani

University Hospitals of Leicester

Introduction
Polypharmacy is a major problem in patients presenting with falls. Assessment of polypharmacy is of vital importance in these patients. It is an important part of NICE guidelines on falls. We assess the difference of assessments of polypharmacy in falls patients presenting to medical admission unit run by non-geriatrician and emergency frailty unit run by geriatrician in University Hospitals of Leicester.

Method
It is a retrospective study. Case notes were reviewed. We included patients who were on 4 or more drugs. A total of 80 patients are included in the study. 40 were reviewed by non-geriatric consultants (acute physicians, gastroenterologist, endocrinologist and infectious disease consultants) in medical admission unit and 40 were reviewed by geriatrician in emergency frailty unit. We reviewed the case notes to see if there is documented evidence of drug review.

Results
Average age of the patients was 83 in medical admission group and 85 in emergency frailty unit group. 45% of patients were on psychotropic medication and 87% were on antihypertensives. 65% of patients have documented evidence of drug review by geriatrician. On the other hand 40% of patients have documented evidence of drugs review by non-geriatrician consultant grade. This was a statistically significant difference (p-value 0.043 calculated by Fisher’s Exact Test).

Conclusion
Geriatricians are more likely to address polypharmacy issue as part of comprehensive geriatric assessment in patients presenting with falls. However there is still room for improvement. There is a need for increasing awareness to review medications in patients presenting with fall to minimise the risk of future falls and to avoid repeated hospital admissions. A vast number of patients are on potentially harmful medications which contribute enormously in fall especially in frail elderly patients.

Reference
OSTEOPOROSIS MANAGEMENT FALLING THROUGH THE CRACKS

R Marchetti, N Bullman, W Srikusalankul, R Varendran

Rehabilitation Aged and Community Care, ACT Health

Introduction
Fractures associated with the presentation of falls to hospitals offer an opportunity for the treatment of osteoporosis in older adults. This group of patients are at a high risk of recurrent fractures (Kanis JA, Jonell O, De Lancet C et al, Bone 2004; 35:375-82).

Methods
Retrospective analysis of those discharged with a fracture following a fall from January to June 2011 was carried out. Data collected included demographics, investigations and medications.

Results
This study analysed 331 patients with fractures. There were 180 episodes of lower-extremity (LL) fracture, 92 of upper-extremity (UL), 11 combined and 48 other fracture. Age and length of stay were significantly greater for LL than UL fractures (82 v 79 yrs p=0.002; 12.1 v 6.4 days p=0.0001). The sex distribution was similar. A significantly greater proportion of those with LL fractures had further investigation with electrolytes (93.9% v 73.9%; p=0.000) including calcium (86.03% v 63.04% p=0.000). Those with LL fracture were more likely to be on comprehensive anti-osteoporotic medication (51.1% v 26.7% p=0.000). Only 50% of those requiring osteoporotic medication received the appropriate medication.

Conclusions
Post-fracture osteoporosis treatment is suboptimal in this group. The treatment of those with non-LL fractures is a key issue to address as they are typically more ambulant and at a higher risk of re-fracture. Multiple strategies including Fracture Liaison Service, case-based management and notification systems have assisted with closing this gap and these should be considered in our patient group (William LD, LaBaine L, Klassen P et al, CMAJ 2012; 184 (3) 290-6; Cooper MS, Palmer AJ, Seibel MJ, Osteoporosis Int (2012) 23: 97-107).
DECREASED GRIP STRENGTH, SLOWER WALKING SPEED AND INABILITY TO STAND FROM CHAIR WITHOUT USING ARMS PREDICT FALLS IN A LARGE EUROPEAN AGEING COHORT

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¹. University of Southern Denmark; ².Nottingham University Hospitals NHS Trust

Introduction
Falls in older people are a major public health problem associated with marked morbidity and reduced quality of life. Ability to predict future fallers should allow targeting of falls prevention measures. The Survey of Health, Ageing and Retirement in Europe (SHARE) is a cross-national database in >45,000 individuals aged ≥50 years in 11 countries established in 2004. Successive follow up waves of data collection have been performed every 2 years.

Methods
We investigated if three commonly used functional tests: grip strength [Gs], ability to perform chair stand test (rising from chair without using arms) [Cs], and walking speed [Ws] which were performed in wave 2 could predict falls after 4 years (wave 4) [self reported fall in last 6 months].

Results
Median age was 64.7 years (IQR 58.5-72.5). Falls at follow-up were reported by 5.8% (881/15221). Women (55.5% of population) had an increased falls risk (OR 1.9;95%CI=1.7-2.2;p=<0.001). Those unable to perform the CS (2.6%) had a significantly increased risk of falling (OR 2.5;95%CI=2.2-2.8;p<0.001). Compared to the highest quartile of GS, those with lowest quartile GS were at increased falls risk (OR 3.3;95%CI=2.7-4.2;p<0.001). WS test was only performed in those ≥76 years. Compared to the highest WS quartile, those with the lowest quartile WS (cut-off 0.5m/s) were at an increased falls risk (OR 1.8;95%CI=1.1-2.8;p=0.012). Multivariate analysis (including adjustment for age, body mass index and gender) showed that CS, GS, and WS remained independent significant predictors of falls.

Discussion
Decreased grip strength, slower walking speed and inability to stand from chair without using arms predict falling in an ageing population across Europe and therefore could potentially allow targeting of fall prevention strategies.
COMPARISON OF THE SAFETY PROFILE OF PRUCALOPRIDE FOR CHRONIC CONSTIPATION IN ELDERLY AND ADULT PATIENTS

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Introduction
Prucalopride is a selective, high-affinity 5-HT4 receptor agonist for the treatment of chronic constipation (CC) in women in whom laxatives fail to provide adequate relief. The recommended once-daily starting dose is 2 mg for adults (18–65 years), but 1 mg for elderly (>65 years) patients. This study aimed to compare the adverse event (AE) profiles of prucalopride in adults and elderly patients with CC.

Methods
Data were integrated from all 14 phase 2/3 double-blind, placebo-controlled trials of prucalopride in patients with CC (4–12 weeks’ duration; prucalopride 0.5–4 mg once daily). AEs, serious AEs and AEs of particular interest were compared in adults and elderly patients with CC.

Results
In total, 1369 patients were treated with placebo and 2717 with prucalopride. Of patients taking prucalopride, 564 (20.8%) were elderly, 938 (34.5%) were exposed to prucalopride 2 mg (203 [21.6%] elderly) and 308 (11.3%) were exposed to prucalopride 1 mg (113 [37%] elderly). The most common AEs with prucalopride, for elderly and adult patients, were gastrointestinal symptoms and headache, which usually occurred on the first treatment day. Elderly patients more commonly had a history of cardiac ischaemia and atrial arrhythmia, and these AEs (mostly considered unrelated to study medication) were more frequent in elderly patients than in adults. Serious AEs were more frequent in elderly patients (placebo: 9 [4.2%]; prucalopride: 18 [3.2%]) than in adults (placebo: 17 [1.5%]; prucalopride: 40 [1.9%]) but comparable in placebo- and prucalopride-treated groups. Three elderly patients died, one placebo and two prucalopride treated (considered unrelated to study medication). Overall, in elderly patients AE incidence was similar in placebo- (113 [52.8%]) and prucalopride-treated (331 [58.7%]) groups, and lower than in adults (placebo: 712 [61.6%]; prucalopride: 1534 [71.2%]).

Conclusions
This analysis shows that prucalopride AE profiles are similar in adult and elderly patients with CC.
TRANSLATING EVIDENCE INTO PRACTICE FOR MEDICINES MANAGEMENT OF OLDER PATIENTS IN ACUTE CARE

J T Y Soong, M Reyholds, S Jamil, K Thakkar, A Jacklin, E Dickinson

Imperial College Healthcare NHS Trust

Introduction

Adverse drug reactions (ADR) account for 6% of hospital admissions, 1 in 25 hospital bed days and cost over £450 million/year. Older patients are particularly vulnerable as age-related physiology changes, multiple morbidity and functional dependancy make prescribing complex and challenging. The STOPP tool is a validated research instrument developed to identify potentially inappropriate medications (PIMs) in older patients. There has been little work to translate this methodology (65 criteria) into practice in the time-pressured high turnover environments of acute hospital care.

Methods

Process mapping on three acute care hospital sites (Imperial College Healthcare NHS Trust) was employed to gain a detailed understanding of medicines management processes, subsequently validated by patient shadowing. Modified Driver Diagrams (Action Effect) suggested the need for a user-friendly medication review form for use on the Acute Medical Unit for all patients > 70 years. To gain expert consensus on content and usability of the form, a modified Delphi process was delivered via electronic questionnaire. The results of each round were feedback to participants of successive rounds to assess agreement and facilitate consensus. Clinicians and allied health professionals caring for older patients in primary and secondary care (Northwest London) were invited to participate.

Results

Response rates over three successive rounds were 50%(9/18), 86%(56/65) and 67%(56/84). By round three, there was 100% agreement on the 5 most common ADR presentations (falls/postural instability, bleeding, confusion, metabolic disturbances, constipation) and drug classes with PIMs (Opiates, Benzodiazepines > 1 month, diuretics, NSAIDS/warfarin, Antihypertensives) observed in acute care, thus the Delphi was halted. Top suggestions for usability include brevity (no longer than one (A4) page), documentation of drug change (including reason) and ease of use (tickboxes).

Conclusions

We have employed QI methodology to gain expert consensus opinion to develop a structured medication review form, translating evidence to practice for acute care.
IMPROVING PRESCRIBING FOR THE ELDERLY (IMPE): TRANSLATING EVIDENCE INTO CLINICAL PRACTICE FOR MEDICINES MANAGEMENT IN THE OLDER PATIENT FOR ACUTE CARE

J T Y Soong, M Reyholds, S Jamil, K Thakkar, A Jacklin, E Dickinson

Imperial College Healthcare NHS Trust

Introduction
Adverse drug reactions (ADR) account for 6% of hospital admissions. Older patients are particularly vulnerable as age-related physiology changes and multimorbidity make prescribing challenging. The STOPP tool is a validated research instrument (65 criteria) developed to identify potentially inappropriate medications (PIMs) in older patients. The IMPE structured medications review form was developed as a means of translating this evidence to practice on the busy time-pressured environment of the Acute Medical Unit (AMU).

Methods
Between 06/12/2010 – 28/06/2012, 1177 medication reviews were undertaken using IMPE tool on:
- Medical patients > 70 years
- Post take ward round
- 3 AMUs

The number of medications on admission and the other drug classes listed above was not significant at P<0.05

Multivariate logistic regression for observation a potential ADR

<table>
<thead>
<tr>
<th>P value</th>
<th>Odds Ratio (95% C.I.)</th>
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<tr>
<td>Age &gt; 80</td>
<td>.008</td>
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<tr>
<td>Diuretics</td>
<td>.018</td>
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</table>

Results
Mean number of medications on admission 8.38 (95% CI 8.18-8.61), range 0-25. Mean age 82.2 (95%CI 81.75-82.64), range 70–102

Conclusion
The IMPE tool is a novel methodology to translate evidence based structured medication into clinical practice.
DOES THE ANTICHOLINERGIC RISK SCORE PREDICT DEATH IN OLDER PEOPLE AFTER DISCHARGE FROM INPATIENT REHABILITATION?

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¹. Department of Medicine for the Elderly, NHS Tayside; 2. Ageing & Health, University of Dundee; 3. Division of Applied Medicine, University of Aberdeen

Introduction
Medications with anticholinergic effects are associated with increased mortality. Previous analyses could not differentiate between specific anticholinergic effects or the associated occurrence of comorbidity and reduced functional status. We therefore investigated whether the Anticholinergic Risk Score predicted death in older patients discharged from rehabilitation, in whom data on comorbid disease and functional status was available.

Methods
Data on sex, age, admission, discharge, length of stay, statin use, antiplatelet therapy (a surrogate marker of cardiovascular disease), measures of functional ability including 20-point Barthel score on admission and discharge, and time to death after discharge were recorded from a single inpatient rehabilitation service between 1999 and 2008.

Total anticholinergic risk score for each patient was calculated based on previously published weightings for strength of anticholinergic effect. Cox regression analysis was used to test the effect of quartiles of anticholinergic risk score on survival, with adjustment for the above variables.

Results
3,355 patients were included in the analysis. Mean age was 81.6 (SD 7.6) years and 1316 (39%) were male. Mean follow up time was 5.2 years. 1300/3355 (39%) died during follow up. Anticholinergic risk scores for each quartile were: 0 to 1, 2 to 3, 4 to 5 and 6 or more. Cox regression analysis demonstrated an increased risk of death for those in the highest quartile compared to the lowest quartile (hazard ratio 1.20, 95% CI 1.02 to 1.41); the association remained significant after adjustment for other baseline variables (hazard ratio 1.31, 95% CI 1.09 to 1.58, p for trend <0.001).

Conclusion
Anticholinergic risk score independently predicted mortality after discharge from rehabilitation even after adjustment for function and comorbidity.
COMPLAINTS ABOUT HOSPITAL CARE IN ELDERLY PATIENTS AND WHAT WE CAN LEARN FROM THEM

M Williams¹, B Fitzjohn², M MacMahon¹

¹. Department of Elderly Medicine, University Hospitals Bristol; 2. Directorate Management Team, University Hospitals Bristol

Introduction
Complaints are used by healthcare organisations to monitor the quality of clinical practice. Although stressful for staff involved, they can motivate change and improve care standards. The elderly represent a major section of healthcare users, however there is little published data about complaints regarding their hospital care. We therefore reviewed our Trust complaints to examine what proportion specifically related to elderly patients, and to determine the main findings from these complaints.

Methods
Retrospective review of all formal complaints registered in the Medical & Surgical Directorates over 12 months noting age, their source, the key issues raised and method of resolution.

Results
184 complaints were lodged, of which 47% related to patients >65yrs. This proportion was higher in Medicine (56%) than in Surgery (37%). Of the elderly cases, 75% complained regarding more than one problem and 66% were communicated by external parties. The allegations raised related to poor communication (30%), medical treatment (28%), nursing care (21%), professionalism (11%), environmental issues (9%) and others in 1%. Of complaints regarding medical treatment, the most frequent issues related to delayed procedures, missed fractures and medication errors. Resolution was achieved in writing in 83% and by reconciliation meeting in 14%. Only 1% of cases proceeded to litigation.

Conclusions
Most complaints regarding elderly patients involved several issues and the majority were made by external parties on their behalf. Almost all achieved resolution. Complaints regarding medical care may highlight safety issues that need addressing. Staff education about areas such as communication failure and professionalism may reduce the burden of complaints and improve standards of healthcare amongst elderly patients.
UNDERSTANDING HELP-SEEKING IN OLDER PEOPLE WITH URINARY INCONTINENCE

N Vethanayagam1, S Orme1, A Orrell2, K McKee3, L Dahlberg1,4, H Marsh1, J Harland2, G Smith1, M Gilhooly5, S G Parker1,2

1. Barnsley Hospital NHS Foundation Trust, Barnsley; 2. University of Sheffield; 3. Darlarna Research Institute, Sweden; 4. Karolinska Institute, Sweden; 5. Brunel University, UK

Introduction
Continence services can be based in hospital or community settings and provide a general or specialised service and support for patients. We explored the views of older people with urinary incontinence (UI) on the process of seeking help in three different settings.

Methods
Older people with UI were recruited via purposive sampling from three continence services in the north of England including: a geriatrician-led hospital outpatient clinic (n = 18), a community based nurse led service (n = 22) and a consultant gynaecologist-led service specialising in the surgical treatment (n = 10). Data generated via semi-structured interviews were analysed using framework analysis.

Results
Patients delayed seeking help for their UI due to a number of reasons. Recurring themes included: embarrassment; tolerating UI by developing coping mechanisms; perceiving UI as a normal part of the ageing process; and patients' ignorance that help was available.

The majority of patients sought help only when their UI had significantly impacted on their quality of life. Identified themes for help seeking included: experience of being unable to control the bladder in public; being prompted by a loved one; or if patients perceived the cause to be life threatening.

When patients did seek help some found that general practitioners did not prioritise or recognise their concerns and did not respond with treatment. In contrast a number of patients identified that their incontinence had been picked up during a comprehensive assessment by a geriatrician.

Conclusions
This study provides a valuable insight into help-seeking in older people with UI. Comprehensive geriatric assessment appears an important trigger for referral and treatment in our participants, some of whom had already experienced a reduced quality of life due to UI.

Disclaimer: This abstract presents independent research by the National Institute for Health Research Collaboration for Leadership in Applied Health Research and Care for South Yorkshire (NIHR CLAHRC SY). The views and opinions expressed are those of the authors, and not necessarily those of the NHS, the NIHR or the Department of Health. CLAHRC SY would also like to acknowledge the participation and resources of our partner organisations. Further details can be found at www.clahrc-sy.nihr.ac.uk.
ORTHOSTATIC BLOOD PRESSURE BEHAVIOUR IN PEOPLE WITH MILD COGNITIVE IMPAIRMENT: DOES IT PREDICT CONVERSION TO DEMENTIA?

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1. The Irish Longitudinal Study on Ageing, Trinity College Dublin; 2. Mercer’s Institute of Successful Ageing, St James’s hospital, Dublin; 3. Institute of Neuroscience, Trinity College Dublin

Introduction
An association between orthostatic blood pressure (BP) and cognitive impairment has been found previously. This paper will determine the patterns of BP behaviour during an active standing test in individuals with mild cognitive impairment (MCI) compared with controls and investigate if there is a difference in baseline orthostatic BP behaviour between the MCI group who convert to dementia and those who do not.

Methods
Orthostatic BP was examined using active standing tests with a beat-to-beat continuous monitoring device in 112 MCI participants and 63 controls recruited from a memory clinic between 2007 and 2012. Neuropsychological testing was carried out at assessment and repeated annually for three years. Logistic regression analyses were used to determine whether conversion to dementia was independently associated with baseline orthostatic BP variables.

Results
MCI participants were more likely than controls to have a deficit in systolic BP (SBP) >30% from baseline BP at 30 seconds post-active standing (22% compared to 8%, p<0.05). Thirty-five percent of MCI participants converted to dementia within the 3 year follow-up period. The SBP variables were associated with conversion to dementia following adjustment for all other variables, and while initial orthostatic hypotension at 15 seconds post-active standing was protective of conversion to dementia (OR 0.24, 95% CI 0.06 – 0.92), MCI participants with a deficit in SBP >30% from baseline at 30 seconds post-active stand were 7 times more likely to convert to dementia than those who didn’t (OR 7.41, 95% CI 1.32 – 41.63) and those MCI participants with a mean deficit in SBP >20% from baseline at 60-90 seconds were 5 times more likely to convert to dementia (OR 4.73, 95% CI 1.02 – 21.96).

Conclusions
Orthostatic BP variables were associated with conversion to dementia. Further research into interventions for orthostatic hypotension in the context of MCI and dementia is needed.
COGNITIVE FUNCTION IS ASSOCIATED WITH IMPAIRED HEART RATE VARIABILITY IN AGEING ADULTS- THE IRISH LONGITUDINAL STUDY OF AGEING WAVE ONE RESULTS

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Introduction
Studies examining the association between heart rate variability (HRV) and cognition are few and report conflicting results. Paced breathing during HRV protocols controls for respiratory sinus arrhythmia, which alters HRV parameters. We investigate for the first time the association between cognitive performance and HRV recorded during different breathing protocols, in a large nationally representative population study of older adults.

Method
Cross-sectional analysis of wave 1 data from the Irish longitudinal study on ageing (TILDA) was performed. TILDA is a prospective cohort study of community dwelling adults aged 50 years and older. A subset of 4763 participants who underwent 10 minute electrocardiogram (ECG) recording during resting and paced (0.2Hz) breathing were analysed. Time and frequency domain HRV indices were divided into quintiles and cognitive performance was defined using the Montreal cognitive assessment (MOCA) score. Multivariate linear regression was used to model the association between HRV and cognition, adjusting for demographics, clinical profile, mental health, cardiovascular disease and medications.

Results
The mean age was 61.7 years and 2618 (55%) were female. Lower quintiles of standard deviation of NN intervals (SDNN) (P<0.001 resting; P<0.01 -paced), low frequency (P<0.001 resting; P=0.001 -paced), and low frequency: High frequency ratio (P<0.001 resting; P=0.049 -paced) were significantly associated with lower MOCA scores (during both recording periods), independent of confounders. Sub-domains of MOCA responsible for the association were predominantly memory recall and language.

Conclusion
Reduced HRV is associated with poorer cognitive performance. Reduced HRV may be associated with reduced baroreflex sensitivity or central autonomic dysfunction which may lead to or be caused by cerebral hypoperfusion. Hypoperfused states are associated with both white matter lesions and cognitive impairment. Inflammatory markers are elevated in states of reduced HRV and cognitive disorders, suggesting involvement of the immune system. The causality of the relationship between autonomic dysfunction and cognitive disorders warrants further investigation.
**Introduction**

The Frontal Assessment Battery (FAB) is a widely used brief cognitive test of executive functioning. However, few studies have evaluated normative cut off values for the FAB in an older population making interpretation difficult. We aimed to investigate FAB scores in a well defined control group of community dwelling older adults.

**Methods**

Study subjects were participants of the bone cohort in the TUDA (Trinity, University of Ulster, Dept of Agriculture) study. This is a large cross sectional study of community dwelling adults aged over 60. Those in the bone cohort have a DXA proven diagnosis of osteoporosis or osteopaenia. Subjects with current depression (Center for Epidemiological Studies Depression Score, CES-D > 16), a history of self reported stroke and with Mini Mental State Examination (MMSE) scores below 27/30 were excluded in the analysis. This group was considered to be a relatively healthy control group.

**Results**

790 participants met the inclusion criteria. Median age was 69.6 years (range 60-92). 85.4% were female. Mean years of education was 13.1 ± 4.1 and mean MMSE score was 28.6 ± 1.0. FAB scores were 18,17,16 and 14 at the 75th, 50th, 25th, and 10th percentile respectively. Higher FAB scores were associated with lower age (<0.001) and higher education (<0.001) but not gender.

**Conclusion**

Findings suggest that a FAB score of 14 or above may be considered to be within normal range in older adults. This is similar to the results of a previous study (n=364, age range 20-94, MMSE>23/30) who concluded that > 14 indicates normal performance (Appollonio et al., Neuro Sci. 2005;26:108-116). However, interpretation of score also needs to factor in educational level and age as well as clinical presentation.
OMETRIC HEALTH AND COGNITIVE OUTCOMES WITHIN THE BMI CATEGORIES

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1. Endocrinology and Obesity Immunology Research Group, St Vincent’s University Hospital, Dublin; 2. Department of Medicine for the Elderly, St James Hospital, Dublin; 3. Department of Medicine for the Elderly, St Vincent’s University Hospital, Dublin; 4. The Irish Longitudinal Study on Ageing, Trinity College Dublin

Introduction
The metabolic syndrome and its individual components are known to have a negative impact on cognitive function in older persons.¹ Recently published work from the Whitehall II cohort found no difference in a cognitive score between the MH and MU obese subjects in early old age but did find a difference for the normal and overweight groups.² We investigated the TILDA cohort to determine the association between metabolic health and cognitive outcomes within each BMI category.

Methods
Sampling and data collection for TILDA has previously been described. Metabolically 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, BMI, educational level and smoking status were identified as confounders for inclusion in the regression model.

Results
The cohort consisted of a stratified clustered sample of 8175 individuals representative of the community-living Irish population aged 50yrs and over. The MH and MU groups had no significant differences in cognitive outcomes within the underweight, normal weight or overweight categories. For the obese group, the MH group had significantly better recall outcomes compared to their MU counterparts.

Conclusions
Our results suggest that metabolic health does not have a significant effect on baseline cognitive outcomes when analysed by BMI category, except in the obese. Longitudinal data will provide information of the cognitive trajectories of these groups.

References
INTRODUCTION

Previous studies of frequent attenders (FAs) to emergency departments (ED) have examined all age-groups. However, with changing demographics older people account for increasing ED attendances. The characteristics of older FAs are poorly understood.

METHODS

A retrospective study evaluating ED attendance data over a 3-year period (2009-2011) to the ED of a university teaching hospital. FAs were defined as 4 or more attendances within a 12-month period. Re-attendance or return patients (for same complaint) within a 24-hour period were not included. Patient demographics, presenting complaint and disposition were compared to a cohort of non-FAs. Chi-square tests and logistic regression were used to compare frequent and non-frequent attenders.

RESULTS

There were 137,150 ED attendances between 2009-2011. 21.6% were aged >65 years (n=29,635). Of those eligible for the study (n=19,310 with 28,602 attendances) 4.4% were FAs. FAs accounted for 16.6% of all attendances by patients over 65 years (n=4744). The mean age was 77.2 years (SD, 7.7), with no statistical difference by age. Men were more likely to be FA than women (p=0.003). FAs were significantly more likely to attend with dyspnoea, chest pain and abdominal pain (p<0.0001) than non-FAs. Analysis by referral source showed no significant difference.

Fewer FAs (n=2415) were admitted than non-FAs (n=13234) (51% vs 55.5%, p=0.0001). 15% (n=709) versus 12% (n=2831) were discharged to self-care. There were similar rates of referral back to GP (12% vs 12%) or referred to OPD 7% (n=330) v 9.9% (n=2355)

CONCLUSIONS

A small amount of patients contributed disproportionally to overall ED activity in the over 65-year age group. Complaints differ from younger frequent attenders where psychosocial issues and alcohol related presentations predominate. Further prospective study to fully characterise this cohort would be important to inform interventions to reduce ED attendance in the older frequent attenders.
INTRODUCTION
Approximately 40% of the population will experience a faint; commonly due to vasovagal syncope (VVS). Syncope peaks between 17-25 and again later in life when cardiac causes are common. VVS is considered benign - a physiological response to orthostatic or psychological stress rather than a pathophysiological condition. This study examined clinical correlates of syncope and explored whether syncope in youth affects the relationship between recent syncope and current health outcomes - self-reported health (SRH), disabilities, quality-of-life (QoL), depression, anxiety, memory and fear of falling.

METHODS
Data are from a population based sample (the Irish Longitudinal Study on Ageing-TILDA) of community dwelling adults aged 50 and older (N =8,149). Syncope was assessed with the self-reported history: ‘have you ever fainted’ (3.9%); number of episodes in past year (range 1-83); and fainters were asked to recall whether they fainted in youth (22.3%). Multivariate regression models were used controlling for; sex, education, age and comorbidities.

RESULTS
The majority of lifetime fainters were female (72.9%), did not differ in age (non-fainters (mean =62.0) vs. lifetime fainters (mean =63.5) and half (52.9%) had at least one comorbidity. Multivariate regression results suggested adults with recent syncope had worse depression, SRH, day-to-day memory, lower QoL, were more fearful of falling, absent minded, and more limitations (IADLs and ADLs). Youth syncope was associated with worse anxiety. Finally, syncope in youth moderated the relationship between recent syncope, SRH and depression in relation to multiple syncopal episodes. Multiple fainters with no youth syncope had worse depression (B=-6.72, p<0.001) and worse SRH (B=0.19, p=0.001), than multiple fainters with youth syncope.

CONCLUSION
Results suggest that the effects of syncope on health outcomes are detrimental and syncope in youth can have lifelong impact. When designing interventions to improve health outcomes, both syncope history and number of recent episodes should be considered.
WITHDRAWN
CONCURRENT USE OF MEDICATION AND FOOD SUPPLEMENTS IN GENERAL POPULATION AGED 50 YEARS AND MORE IN IRELAND

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Introduction
Despite easy access to various food supplements, little is known about the prevalence of concurrent use and potential interactions with medicines in older people in Ireland.

Methods
Data was obtained from the first wave of the nationally representative The Irish Longitudinal Study on Ageing (TILDA), which included 8081 community dwelling participants aged ≥50 who were assessed for socioeconomic and health aspects of their lives. Their prescription, non-prescription medicines and other health products taken “on a regular basis” were recorded. Concurrent medication and food supplement use was compared across gender and age groups (50-64, 65-74, ≥75 years). Prevalences including 95% confidence intervals (CI) were weighted to the population. Group differences were assessed using Pearson’s chi-square test and associations between concurrent medicine-food supplement use and covariates were assessed using logistic regression. Potential major interactions were assessed with two databases: Micromedex and Lexi-Comp.

Results
Concurrent use of medicines and food supplement was reported by 8.2% (95% CI 7.3-9.3%) of men and 19.5% (95% CI 18.2-21.0%) of women and was significantly higher in women in all age groups. Independent associated factors related to concurrent use were being ≥75 years of age, women, retired, well educated, a non-smoker and having chronic disease and private medical insurance. Potential major medicine-food supplement interactions were detected in 53 instances or 4.5% (95% CI 3.4-5.8%) of concurrent users of medicine and food supplements. Most adverse reactions involved increased risk of internal bleeding.

Conclusions
Concurrent medicine-food supplement use is prevalent, especially in elderly where risk of adverse reactions is highest. Typical users have many factors associated with increased risk of medicine-food supplement interactions and concurrent use should be assessed and monitored regularly.
MORBIDITY AND MORTALITY FOLLOWING RELOCATION OF HIGHLY DEPENDENT LONG TERM CARE RESIDENTS: A RETROSPECTIVE ANALYTICAL STUDY

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Introduction
In the 2010 census, 11.9% of the Irish population were aged over 65 and nearly 5% of this group reside in long term care facilities (LTCFs). In the past eighteen months 1,200 LTCF beds have been closed for various reasons resulting in residents being transferred between facilities. Our aim was to examine morbidity and mortality in residents relocated between LTCFs.

Methods
We studied the outcomes for residents from two LTCFs that care for the most highly dependent residents in our region. One LTCF closed completely and the second unit partially closed. We used the residents of the second unit who did not transfer as controls. A retrospective analysis was done recording: demographic data; cumulative illness (CIRS-G), dementia (CDR), mobility and functional level. As a measure of morbidity, we examined new antidepressant and antibiotic usage. Mortality at 30 and 90 days was recorded.

Results
We studied 76 transferred residents (mean age 82.1, male 38.2%) and 62 controls (mean age 82.4, male 33.9%). Both groups were highly dependent (modified Barthel index: control group 1.7 versus transfer group 2.6). Both groups had a high 90 day mortality (18.4% vs 17.7%). However, there was an increased early mortality in the transfer group, with two thirds of deaths in the first 30 days. There was higher prescription rate of antibiotics among the relocated residents prior to transfer (59.2% vs 27.4%, p=0.017). After transfer residents had a greater number of new antidepressant prescriptions than non-movers (19.7% vs 8.1%, p=0.05).

Conclusions
Our results show an increased early mortality and increased mood disturbance in highly dependent residents that transfer LTCFs. The increased antibiotic use prior to relocation could relate to increased stress before transfer as demonstrated in other studies. Proper planning and vigilance by staff is essential to minimise any distress caused to patients during relocation.
THE PREDICTIVE PROPERTIES OF FRAILTY-RATING SCALES IN THE ACUTE SETTING

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Introduction
Older people are at an increased risk of adverse outcomes following attendance at acute hospitals. It has been proposed that using screening tools may help identify those most at risk. The objective of this study was to compare the predictive properties of five frailty-rating scales to assess whether they play a role in risk stratification.

Methods
This was a secondary analysis of a cohort of participants aged 70 years and above attending two acute medical units in the East Midlands, UK. Five different frailty-rating scales were created and the participants were dichotomised as frail or non-frail. The predictive properties of each scale were assessed for 90-day mortality, readmissions, institutionalisation, functional decline and a composite outcome using area under a receiver operating characteristic curve (AUC).

Results
667 participants were included in this study. Frail participants according to all scales were associated with a significant increased risk in mortality (relative risk (RR) range between: 1.6-3.1), readmission (RR range between: 1.1-1.6), functional decline (RR range between: 1.2-2.1) and the composite (RR range between 1.2-1.6). However, the predictive properties of the frailty-rating scales were poor for all outcomes assessed (AUC: 0.44-0.69).

Conclusions
The results highlight that frailty-rating scales play a limited role in risk stratifying the older population in the acute hospital setting.
MEDICAL AND DENTAL FACTORS INFLUENCING THE DYNAMICS OF ORAL COLONISATION WITH POTENTIAL RESPIRATORY PATHOGENS IN OLDER PATIENTS WITH LOWER LIMB FRACTURE

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Introduction
Oral colonisation with potential respiratory pathogens (OCRPs) is both a risk factor and a potential target for intervention for hospital acquired pneumonia (HAP). However little is known about colonisation dynamics nor patient factors contributing to OCRP. We investigated OCRP in patients with lower limb fracture with novel real-time PCR assays and used generalised linear modeling to investigate associated patient factors.

Methods
Tongue/throat swabs were taken at days 0-2, 3, 5, 7 and 14 from patients admitted with lower limb fracture. Demographic data, comorbidities, drug history, recent antibiotic use, number of teeth, presence of dentures, deprivation score and functional indices were recorded. Plaque was scored at days 0-2, 7 and 14 using the modified Quigley Hein index. Novel multiplex real-time PCR assays were used to detect S. pneumoniae, H. influenzae, E. coli, S. aureus, MRSA, P. aeruginosa and A. baumannii. The relationship between OCRP and dental/demographic variables were investigated using generalised linear modelling (binomial). All analyses were undertaken in R (R: A language and environment for Statistical computing, Vienna, Austria).

Results
Samples were collected from 91 patients. Of 73 patients with positive samples, 17 had transient acquisition of a single pathogen, and 56 had single (n=26) or mixed pathogen colonisation (n=30). S. pneumoniae was detected most frequently, followed by H. influenzae. Carriage began within 72 hours of admission in the majority of cases, even with E. coli. S. pneumoniae carriage was highly significantly (**p<0.01) associated with being “fit” (increased tooth number**, decreased frailty* and comorbidity*) while H. influenzae was associated with increased deprivation**, denture wearing** and frailty**. S. aureus was associated with recent antibiotic use**, increased comorbidity** and increased dental plaque at admission*.

Conclusions
Interventions to prevent HAP by oral disinfection should commence within 72 hours of hospital admission. The hospital environment may not be the source of these organisms.
USING ‘NUTRITIONAL NARRATIVE’ AND FOCUS GROUPS TO UNDERSTAND HOW NUTRITIONAL CARE CAN BETTER PRIORITISED FOR OLDER PEOPLE IN HOSPITAL SETTINGS

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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.
IMPACT OF DATSCAN IN THE CLINICAL EVALUATION OF PATIENTS WITH DIAGNOSTICALLY UNCERTAIN PARKINSONISM

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Introduction
Functional imaging of presynaptic dopamine transporter using DaTscan defines the integrity of dopaminergic system in the niagrostriatum. It is considered to be a valuable diagnostic adjunct to supplement clinical findings in diagnosing clinically uncertain parkinsonian syndrome. We studied the role of DaTscan in the diagnosis and management of patients with clinically uncertain parkinsonism in our clinical practice.

Methods
We conducted a retrospective audit with case note review. Details of patients undergoing DaTscan over a period of 2 years (April 2009 - April 2011) were obtained from nuclear medicine department. We looked for indications of requesting DaTscan, any change in the diagnosis and management following DaTscan and complications related to it.

Results
62 patients had DaTscan over this period and majority were elderly male (63%). Main source of referral for DaTscan was neurology clinics (55, 88.7%). Only five (8%) were referred from elderly medicine. All but one patient presented with features of parkinsonism. Tremor was the predominant symptom (67.7%). Commonest indication for requesting DaTscan was to confirm or exclude a diagnosis of Parkinson’s disease (47, 75.8%). DaTscan was inappropriately requested in 8% cases. DaTscan was abnormal in 37(60%) cases. Commonest pre-DaTscan diagnosis was Parkinson’s disease (16, 25.8%), followed by Essential Tremor (12, 19.3%) and Drug Induced Parkinsonism (10, 16.1%). DaTscan confirmed the pre-DaTscan diagnosis in thirty-seven (59.6%). There was a change in post-DaTscan diagnosis in 22(35.4%) and the increase in diagnosis of Parkinsonian Syndrome was by 12.9%. DaTscan led to a change in management in 39 cases (62.9%). No minor or major side effects related to DaTscan were noted.

Conclusion
DaTscan proves to be an important objective tool in the clinical evaluation of diagnostically uncertain parkinsonism which could support a clinical diagnosis and rationalise the appropriate management. It seems to be an under-utilised tool in elderly medicine.
GREY MATTER CORRELATIONS OF COGNITIVE IMPAIRMENT IN EARLY PARKINSON’S DISEASE: THE INCIDENCE OF COGNITIVE IMPAIRMENT IN COHORTS WITH LONGITUDINAL EVALUATION - PARKINSON’S DISEASE (ICICLE-PD) STUDY

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Introduction
With a cumulative incidence approaching 80%, Parkinson’s disease dementia (PDD) is a common complication of Parkinson’s disease (PD). Earlier in the disease, subtle cognitive impairments are frequent. In patients with PDD, magnetic resonance imaging (MRI) demonstrates extensive grey matter (GM) loss, however, the temporal course of such change is poorly understood. We aimed to determine whether GM atrophy was present in early PD with mild cognitive impairment (PD-MCI) compared to patients with normal cognition (PD-NC); and if it correlated with neuropsychological testing.

Methods
Attention, executive, memory, language and visuospatial functions were assessed and MCI was determined using Movement Disorder Society (MDS) criteria. Patients were considered impaired if they scored 1.5SD below age-adjusted scores. GM volume differences were evaluated using voxel-based morphometry of GM segments from T1 weighted 3T MRI.

Results
125 patients with early PD and 50 controls participated. Mean age and disease duration of the PD patients was 66±10 years and 6.2±4.7 months respectively. There were no differences in age, gender or education with controls. PD patients performed more poorly in all cognitive tests. Frequencies of impairments were: memory (17.6%), executive (13.6%), attention (10.4%), visuospatial (9.6%) and language (0%). Impaired semantic fluency (SF) correlated with GM loss, there was no association between impairments in other domain-specific tests and GM volume. 39.2% of patients were classified as PD-MCI. After correcting for age and intracranial volume, there was no significant difference in GM loss compared with PD-NC or controls.

Conclusion
GM atrophy is not prominent in early PD, either in patients with MCI or normal cognition, suggesting that GM loss occurs with disease progression. This neurodegenerative process may be quantifiable using MRI, and its utility as a biomarker for observational and therapeutic studies warrants further investigation. The association with SF is interesting; impaired SF has been found to predict subsequent PDD.
ASSESSING ADR RISK IN OLDER PATIENTS: DO THE PREDICTION MODELS AGREE?

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Introduction
As older people are seven times more likely to suffer an adverse drug reaction (ADR) requiring hospitalisation, prediction models have been developed to identify those at the highest risk. A recent systematic review identified four risk prediction models (RPM).¹ (Stevenson. European geriatric medicine 2012;3:S129) The BADRI (B), GerontoNet (G) and Trivalle (T) might be applicable in practice.²,³,⁴ (Tangiisuran B. PhD Thesis 2009) (Onder. Arch Intern Med 2010;170(13):1142) (Trivalle. European Geriatric Medicine 2011;2:284) The aim of this study was to apply these risk models to an inpatient population to compare their ability to stratify patients by risk of experiencing an ADR.

Methods
The three RPMs were applied retrospectively to patients discharged from the Older Persons Unit at St. Thomas’ Hospital over a 3 month period. Clinical data was used to determine the risk score for each patient according to the 3 RPMs. Risk of experiencing an ADR was stratified into low (≤10%), medium (10-20%) and high (≥20%).⁵ (BJS2. Heart 2005 Dec;91 Suppl 5:v1-52).

Results
Data was collected for 270 patients (60% female), mean age 82 (range 65 - 104) years. Mean number of medications on admission and discharge was 6.8 (SD 3.7) and 9.3 (SD 4.0) respectively, mean number of co-morbidities was 8.9 (SD 4.6). RPMs B and G predicted a similar proportion of high risk patients (10% and 14% respectively) whilst T predicted 53%. Agreement was only slightly greater than chance between B and G (κ = 0.187, p<0.000), G and T (κ = 0.182, p<0.002). Any agreement between B and T was not significant (κ = 0.052, p=0.380). Only 2 patients appeared in the high risk category for all 3 RPMs.

Conclusions
Poor agreement was seen between the 3 validated RPMs in their ability to categorise patients by risk of experiencing a future ADR. The discriminant capability of these tools needs further investigation by linking the risk score to the actual ADRs experienced.
THE FACTOR STRUCTURE OF THE LONG AND SHORT FORMS OF THE CES-D SCALE AND THE VALIDITY OF POSITIVE AFFECT IN OLDER IRISH ADULTS

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Introduction
To investigate the structures of the long and short formats of the Center for Epidemiological Studies Depression Scale (CES-D) and validate the impact of the positive affect factor on physical function and psychological stress.

Methods
Data were obtained from 6,537 respondents from WAVE 1 of The Irish Longitudinal Study on Ageing (TILDA), a representative sample of community-dwelling adults aged ≥50 years. Respondents completed the 20 item CES-D. Confirmatory factor analysis was performed to determine the factor structure of the 20, 10 and two 8 item formats of the CES-D. The positive affect factor from each format was then validated against physical disability (instrumental/activities of daily living-I/ADLs) and perceived stress (4-item perceived stress scale-PSS-4).

Results
Mean and median scores on all formats of the CES-D, ADLs and IADLs were marginally lower than previously reported in other adult populations aged over 50 years. PSS-4 scores were consistent with previous studies. All four versions of the CES-D showed good internally consistency (0.87 - 0.72). The four factor structure of the CES-D achieved good model fit for the 20 and 10 item versions, with the inclusion of three and two residual covariances respectively. Both 8-item formats, also displayed good model fit for the expected three factor structure when one or two of the same residual covariances were included respectively. The positive affect factors from the long and short forms of the CES-D were closely representative of each other and were negatively correlated with disability and perceived stress.

Conclusion
This study supports the factor structure of the long and short forms of the CES-D in the older adult population of Ireland. We also confirm the reliability and validity of using these forms of the scale to measure Positive Affect, a construct of growing importance to the physical and psychological well-being of older adults.
POOR GAIT AND BALANCE PREDICT POOR COGNITIVE FUNCTION AND COGNITIVE DECLINE TEN YEARS LATER

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Introduction
Cross sectional studies have shown associations between impaired gait and balance and poorer cognitive function, particularly executive function. Gait speed is a good predictor of cognitive decline in later life. Impaired gait, balance and cognitive function have been associated with brain atrophy and white matter hyper-intensities. In this study, we examine whether performance orientated assessments of gait and balance predicts future cognitive function and decline.

Methods
In 2002, 99 people [(median age 70 years (IQ range 67, 74)] underwent cognitive assessment using the CAMCOG and assessment of gait and balance using the Tinetti POAM scale. Repeat cognitive assessment was performed in 2012.

Results
Median total CAMCOG score fell from 98 to 94 (P<0.007) over ten years. Median memory score fell from 24 to 23 (P<0.001) and executive sub-score from 22 to 20 (P<0.001). Poorer balance scores were associated with lower total CAMCOG score (r=0.24, P<0.05) and CAMCOG memory sub-score (r=0.23 P<0.05) at follow-up and with greater decline in total CAMCOG score (r=0.28, P<0.01) and CAMCOG memory subscore (R=0.38, P<0.001). Similarly, poorer gait scores were associated with lower total CAMCOG score (r=0.20, P<0.05) and CAMCOG memory sub-score (r=0.25 P<0.05) at follow-up and with greater decline in total CAMCOG total score (r=0.25, P<0.05) and CAMCOG memory subscore (R=0.24, P<0.05). These associations remained significant after adjusting for; age, sex, baseline cognitive function, history of cardiovascular disease, cerebrovascular disease, diabetes, depression, smoking status, alcohol consumption, BMI and psychoactive medication.

Conclusion
Poor gait and balance are associated with poorer cognitive function ten years later and greater cognitive decline. In contrast to other reports, our study showed an association with memory but not executive function. Impaired gait and balance may be an early marker of “brain aging”. Cognitive assessment should form part of the evaluation of patients presenting with gait and balance problems.
EXPERIENCES OF HEALTHCARE SERVICES IN PEOPLE WITH MILD COGNITIVE IMPAIRMENT AND THEIR CARERS

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Introduction
Mild cognitive impairment (MCI) is a state between normal cognition and dementia. It is common, with a prevalence of ~3%. Whilst there is a growing body of evidence regarding the healthcare experiences of people with dementia and their carers, little is known about this area in MCI. We set out to investigate the experiences of people with MCI (PWMCI) and their carers (‘advocates’) within healthcare services, including changes they would like to see made to these services.

Methods
Semi-structured interviews about experiences of healthcare services were carried out with 23 PWMCI and 20 advocates; the data was analysed qualitatively (using a grounded theory approach) and the results used to design a two surveys of healthcare experience (one for PWMCI and one for advocates). The surveys were administered by post to 280 PWMCI and their linked advocates.

Results
146 completed questionnaires were received from PWMCI and 98 from advocates. A number of issues and suggested improvements were identified, the most important of which were: Both groups reported low rates of receiving ‘formal’ support from health or social care services (6%) despite the fact that ~75% respondents in both groups felt they needed more help and support. Both groups requested provision of more information on a wide variety of topics. PWMCI wanted to be assessed with ‘more appropriate’ tests and advocates commonly requested that communication from the memory service be improved.

Conclusions
PWMCI and their advocates felt inadequately supported by healthcare services. Specific complaints related to being cared for within a service that appeared to be designed principally to meet the needs of people with dementia and that communication and information provision was suboptimal.
CONTROL ORIENTATION AS A MEDIATOR OF THE SOCIAL GRADIENT IN DEPRESSION: A ROLE FOR LEARNED HELPLESSNESS?

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Introduction
Individuals from more disadvantaged social backgrounds are significantly more likely to suffer the burden of depressive illness. Social causative frameworks postulate that low socio-economic status (SES) exposes individuals to more stressors which may lead to negative emotional states. This study examines whether Seligman’s concept of learned helplessness, which has loss of individual control as its defining feature, has theoretical utility for understanding group differences in rates of depressive illness.

Sampling Methods
The sample comprised 7,193 respondents aged 50 years+ who were participating in the first wave of the Irish Longitudinal Study on Ageing. Depression was indexed using the Centre for Epidemiological Studies Depression scale (CES-D) and SES was operationalised using household income quintiles. Psychosocial stressors included traumatic life events, number of chronic diseases, functional limitations, sensory impairment, and unmarried status. Psychosocial control was indexed using the control subscale of the CASP19 quality of life measure.

Results
There was a clear social gradient in the prevalence of depression. Those in the lowest income quintile were 4.14 times [CI=2.89, 5.93] more likely to have a depressive profile compared with those in the highest income quintile. Household income was found to be inversely associated with the likelihood of experiencing a range of psychosocial stressors that are known to be damaging to mental health; and experience of these stressors was in turn associated with lower scores on the control subscale of the CASP19 measure. Statistical adjustment for intra-personal control explained up to 46% of the social gradient in depression, while simultaneous adjustment for control scores and the psychosocial stressors explained up to 65% of the association.

Conclusions
That control functions as a mediator of the effect of income on depression is an encouraging finding and suggests avenues for intervention. The implications of this work for theory and practice will be discussed.
PREFERENCES OFOLDERPEOPLE REGARDING EARLY DIAGNOSIS OF ALZHEIMER’S DISEASE - BEFORE AND AFTER A BRIEF DISCUSSION OF THE BENEFITS AND RISKS

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Introduction
Although early diagnosis of Alzheimer’s disease (AD) has many benefits, there are also potential hazards. We examined preferences of people aged 65y or more regarding early diagnosis of AD before and after a discussion of the benefits and risks.

Methods
Hospital inpatients (59) and community residents (47) were asked, using a 7-point Likert scale ranging from (1) ‘strongly disagree’ to (7) ‘strongly agree’: (a) would you want to be assessed for AD if you had a problem like forgetfulness that might be due to early dementia (Assessment); (b) would you want to be told if you have AD (Disclosure); and (c) would you want to be assessed for possible AD even if you or your family had not reported any problems (screening). The questions were repeated after subjects were presented with brief information on the benefits (availability of treatment, knowing what is wrong, support from family and can plan for the future) and risks (psychological impact, risk that others might be overprotective) of an AD diagnosis and asked to rank the relative importance of these factors.

Results
Subject preferences for Disclosure (mean (SD) 6.0 (1.2) and Assessment (5.6 (1.2)) were significantly (p<0.001) more positive than for Screening (4.7 (1.8)). Following discussion of benefits and hazards, there were slight decreases in mean Disclosure (-0.1, p=0.1)) and Assessment (-0.1, p=0.4) preferences and a significant reduction (-0.5, p<0.0001) in Screening preference. Subjects rated all potential benefits as of greater significance to them than the potential risks. However, concern that others might be overprotective was the only independent predictor of a reduction in preferences for Screening for AD in multivariate analysis.

Conclusions
Although most older people are positive about assessment and disclosure of AD, there is less enthusiasm for screening and this is further reduced by considering the potential risks of diagnosis.
IS DELIRIUM A MARKER FOR UNDETECTED CHRONIC COGNITIVE IMPAIRMENT?

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Introduction
Dementia and delirium are common, important and underdiagnosed in elderly medical inpatients. Screening for dementia in patients presenting with delirium may represent an important opportunity to improve low levels of dementia diagnosis and ultimately patient care. This pilot study aims to address this by identifying how many patients with delirium also have undetected chronic cognitive impairment.

Methods
Admissions to two medical wards were screened for delirium as best practice using the CAM assessment, MMSE and CLOX1 and diagnosed using DSM-IV criteria. Those patients with delirium were then recruited to form the subject group. Consent was given by the patients or if they lacked capacity a consultee declaration given by a nominated next of kin (NOK).

The presence of chronic cognitive impairment in those subjects with delirium was investigated by a structured interview with a carer or NOK and supported by the Informant Questionnaire of Cognitive Decline in the Elderly (IQCODE). We excluded those who couldn’t speak English or too acutely unwell to assess. Our protocol was approved by Bradford research and ethics committee (ref. 10/H1302/84)

Results
49 patients aged over 70 years (mean age 83, range 70-95) were screened for delirium. Delirium was identified in 17 (35%).

Of those with delirium we recruited 9 (no proxy available in 4 and 4 excluded due to palliative care).

Of the 9 recruited using interview and the IQCODE we identified chronic cognitive impairment in 7 with mean IQCODE scores of 3.96 (Range 3.5-4.43). This was undetected in 5 (56%).

Conclusion
We have demonstrated a large proportion of patients presenting with delirium also had chronic cognitive impairment with the majority being previously undetected. This demonstrates that an admission to hospital with delirium is a clear and neglected opportunity to diagnose undeclared chronic cognitive impairment and subsequently dementia.
BORDERZONE LACUNAR INFARCTION AND BLOOD PRESSURE VARIABILITY

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Introduction
White matter infarction is caused by small vessel disease, however, blood pressure variability may also contribute. White matter is perfused by narrow blood vessels and is vulnerable to sudden flow changes, particularly in the border-zone regions (corona radiata). We investigated whether patients with border-zone infarcts (BZI) demonstrated more blood pressure (BP) variability than those with basal ganglia infarcts (BGI).

Method
All patients between October 2011 and May 2012, in sinus rhythm, that exhibited an acute DWI positive lacunar infarct on MRI, were prospectively recruited. All underwent 5-minute phasic beat-to-beat BP during supine rest, 6 weeks after their stroke. By software processing of blood pressure through sequential baroreflex sensitivity (BRS) analysis, up-events and down-events were evaluated, as was total baroreflex sensitivity. Through spectral analysis low-frequency and high-frequency components of BP variability were analysed.

Results
In total, 23 acute lacunar infarcts were recruited, 10 border-zone and 13 basal ganglia. The mean age in the BZI group was 71.6 years and in the BGI group was 66.4 years, p=0.3. The baseline BP was equal in both groups 151/76 and 147/76 mmHg, p=0.6. Baroreflex sensitivity was impaired in the BZI group, compared with the BGI group (4.27 and 8.31, p=0.02). In addition the down component of the systolic BP slope, the BRS_down, was impaired in the BZI group (3.88 and 9.0, p=0.005), suggesting hypotension uncompensated by heart rate. BP low-frequency variability was higher in the BZI group (2335 and 1446, p=0.05). BP high-frequency variability was equal in both groups.

Conclusion
It appears that baroreflex sensitivity is blunted in patients with borderzone lacunar infarcts and there is evidence for hypotension without heart-rate response (BRS_down). Susceptibility to such BP variation would preferentially damage the borderzone regions in accordance with Poiseuille’s law and so these infarcts may arise from BP variability in addition to small vessel disease.
SUBOPTIMAL LIPID MANAGEMENT AT PRESENTATION AMONGST ISCHAEMIC STROKE AND TIA PATIENTS - THE NORTH DUBLIN POPULATION STROKE STUDY


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Introduction
Hyperlipidaemia is a risk factor for cardiovascular disease. Evidence-based guidelines, NCEP III (2002) and ESC/EAS (2011), provide clear recommendations for goals according to predicted risk. However, existing evidence suggests that lipid-management amongst stroke and TIA populations is suboptimal.

Methods
The prospective North Dublin Population Stroke Study captured all strokes and TIA over one year. Individual lipid targets, based on pre-event risk profile, were calculated, and lipid profiles and lipid-lowering therapy (LLT) use at presentation assessed for adherence to targets.

Results
Lipid data were available for 76.9% (489) of 636 ischaemic stroke and TIA patients; 49.2% (180/366) had LDL levels within NCEP target, 25.5% (96/376) within ESC/EAS targets (Table). Using NCEP guidelines, 81.6% (197/239) who should, prior to their stroke/TIA, have been initiated on LLT were on treatment at presentation, and 61.3% (195/318) of patients in whom LLT could have been considered. Applying ESC guidelines, 55.9% (195/349) of patients requiring LLT, and 41.1% (195/474) in whom LLT should have been considered, were on LLT. LLT users were more often within target, but a considerable proportion (32% NCEP, 67% ESC) were still above target.

Conclusions: The suboptimal lipid control in this large population-based cohort highlights the need for improved lipid management in patients at risk of stroke and TIA, and particularly those who have established vascular disease, or multiple risk factors.
PLATFORM PRESENTATIONS

Session L 09.00 - 10.30  ABSTRACT BOOK NOS  99-102
Session M 09.00 - 10.30  103-106
THE IMPACT OF MOTOR AND NON-MOTOR SYMPTOMS UPON HEALTH-RELATED QUALITY OF LIFE IN EARLY PARKINSON’S DISEASE: THE INCIDENCE OF COGNITIVE IMPAIRMENT IN COHORTS WITH LONGITUDINAL EVALUATION - PARKINSON’S DISEASE (ICICLE-PD) STUDY

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Introduction
Non-motor symptoms (NMS) are common in patients with established Parkinson’s disease (PD). We aimed to determine the frequency and impact of NMS upon health-related quality of life (HRQoL) in early PD.

Methods
Patients with newly diagnosed PD attending neurology and geriatric medicine clinics in Newcastle and Gateshead were invited to participate. NMS were assessed with the Non-Motor Symptom Questionnaire. HRQoL was measured with the Parkinson’s Disease Quality of Life Questionnaire (PDQ-39). Additional assessments included: Movement Disorders Society revised Unified Parkinson’s Disease Rating Scale part 3 (MDS-UPDRS-3); Geriatric Depression Scale-15; Mini-mental State Examination, Montreal Cognitive Assessment; Epworth Sleep Scale and Pittsburgh Sleep Quality Index.

Results
158 PD patients and 99 controls participated. Mean age of the PD patients was 66.5±10.3 years, 105 (66.5%) were male, and disease duration was 6.3±5.9 months. There were no differences in age, gender or education level between groups. PD patients reported more NMS than controls (mean total = 8.4±4.3 vs 2.8 ± 2.5, p<0.001). Hypersalivation (56%), urinary urgency (47%), hyposmia (45%), anxiety (43.8%) and constipation (42%) were most frequent. Patients with tremor-dominant disease reported fewer NMS than patients with nontremor-dominant disease (6.3 vs. 9.3, p<0.001).

Patients reported poorest HRQoL in PDQ-39 domains assessing bodily discomfort, mobility and activities of daily living (ADL). There was a significant correlation between total NMS reported and PDQ-39 score (p<0.001). Depression (p<0.001) and anxiety (p<0.001) had greatest negative impact upon PDQ-39. Greater motor disability predicted higher PDQ-39 scores (p<0.001). Patients with non-tremor dominant disease reported reduced HRQoL in mobility (p<0.001), ADL (p=0.036) and bodily discomfort (p=0.044) compared with tremor-dominant patients.

Conclusion
Motor and non-motor symptoms have a negative impact upon HRQoL in patients with early PD. NMS, particularly anxiety and depression are common and should not be ignored by clinicians caring for those with early PD.
PREDICTING OUTCOME AFTER HIP FRACTURE – USING FRAILTY INDEX TO INTEGRATE COMPREHENSIVE GERIATRIC ASSESSMENT RESULTS

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Introduction
Hip fracture is expensive in terms of mortality, hospital length of stay (LOS) and consequences for independence. Poor outcome reflects the frailty of the patients who typically sustain this injury, but the impact of different comorbidities and impairments is complex to understand. We consider this in a prospective cohort study designed to examine how patients’ Frailty Index (FI) predicts outcome.

Method
We assessed sequential patients admitted with low trauma hip fracture, excluding only those unfit for surgery. National Hip Fracture Database data was supplemented with a 51 point FI derived from Comprehensive Geriatric Assessment (CGA) findings.

Results
We describe 178 patients; mean age 81 years, 73.5% female. Mean FI was 0.34 (SD=0.16), and logistic regression identified AMT score and FI as the strongest predictors of poor outcome. When patients were stratified by FI, 56(31.5%) were in low frailty group (FI≤0.25), 58(32.5%) in intermediate (FI>0.25-0.4), and 64(36%) in high FI group (FI>0.4). All patients in low FI group returned to their original residence, 80% by 30 days (mean 21.6 days) with no inpatient deaths. Mean LOS for intermediate group was 36.3 days compared with 67.8 days in the high FI group (p<0.01). 30-day mortality was 3.4% for the intermediate group, compared with 17.2% for the high FI group (p<0.001).

Conclusion
Individual CGA findings proved disappointing as outcome predictors, while the FI proved effective in integrating assessment results to make useful predictions of LOS, of the likelihood of successful return home, and of mortality in the first 30 days.
MANAGEMENT OF HYPERTENSION IN COMMUNITY DWELLING OLDER PEOPLE HAS IMPROVED OVER THE LAST DECADE AND IS NOT ASSOCIATED WITH INCREASE RISK OF FALLS, DIZZINESS OR SYNCOPE

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Introduction
Over the last decade it has been recognised that effective blood pressure (BP) control reduces morbidity and mortality in all ages. Nevertheless, BP management in older people is often suboptimal. Twenty-four hour ambulatory BP monitoring (ABPM) helps correctly diagnose hypertensive patients and avoids over medication, particularly among older people. Recent NICE guidelines recommend routine use of ABPM and intervention where mean daytime BP is >135/85.

Aim
To examine how the management of hypertension in older-people has changed over the last decade and if there have been associated changes in rates of falls, dizziness or syncope.

Methods
In 2002, 122 community-dwelling people aged ≥75 years were recruited from a GP surgery in the North of England. Clinical history was recorded and consenting individuals underwent ABPM. Ten years later a further cohort of 104 individuals aged ≥ 75 from the same general practice underwent identical assessment.

Results
The groups were age matched [median age 79 years (IQ range 76, 83)]. Significantly more participants had recognised hypertension at the 2012 assessment (58%) than in 2002 (41%), P=0.027. ABPM recordings showed significantly fewer undiagnosed hypertensive individuals in 2012 (14%) that in 2002 (28%), P<0.001. Significantly more hypertensive individuals were optimally treated in 2012, (44%) versus (19%), P<0.001. Minimum and mean systolic BP were significantly lower in the 2012 cohort but maximum systolic BP and diastolic BP did not differ. Use of ACE inhibitor, angiotensin receptor blockers and diuretics had significantly increased over the ten year interval. Patient reported rates of falls, dizziness and syncope had not risen significantly. Ischaemic heart disease was significantly less common in the 2012 cohort, P<0.05.

Conclusion
Hypertension in older people is better recognised and more effectively managed now than ten years ago. This has not been associated with a significant change in rates of falls, dizziness or syncope.
RCT OF SPECIALIST GERIATRIC MEDICAL ASSESSMENT FOR HIGH RISK PATIENTS DISCHARGED FROM HOSPITAL ACUTE MEDICAL UNITS

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Introduction
Many older people presenting to Acute Medical Units (AMU) are discharged after only a short stay (< 72 hours), yet many re-present to hospital or die within 1 year. Specialist geriatric medical assessment may improve patient outcomes for older patients who have been identified as being at high risk of readmission, functional decline or death.

Methods
Patients aged >/=70, discharged from two UK AMUs and scoring >/=2 on the Identification of Seniors at Risk tool were randomised to receive specialist geriatric medical assessment and after care, or usual care. Follow up was by postal questionnaire 90 days after randomisation. Outcomes included mortality, institutionalisation, dependency in activities of daily living (ADL), mental well-being, quality of life and falls.

Results
433 participants were recruited: 217 control and 216 intervention. At 90 days there was no difference in mortality (6% control v 7% intervention) or the proportion of participants moving to care homes (3% both groups). There were also no differences in dependency in ADL (median Barthel ADL: 16, IQR 11 to 19 in each group, n=313), psychological well-being (median General Health Questionnaire 12: 12.5, IQR 9 to 18 control and 12, IQR 9 to 17 intervention, n=267), quality of life (mean EQ-5D 0.45, SD 0.32 both groups, n=285) or the proportion of participants who fell (43% control v 41% intervention n=311) at 90 days.

Conclusions
Specialist geriatric medical input to high risk patients discharged from AMUs made no difference to measures of dependency in ADL, psychological well-being, quality of life or the proportion of participants with a fall during the follow-up period.
VITAMIN D SUPPLEMENTATION TO REDUCE BLOOD PRESSURE IN OLDER PATIENTS WITH ISOLATED SYSTOLIC HYPERTENSION – A RANDOMISED CONTROLLED TRIAL

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Introduction
Observational data links low 25-hydroxyvitamin D levels to both prevalent blood pressure and incident hypertension. Although existing trial data suggest a possible antihypertensive effect of vitamin D supplementation, no trial has examined the effect of vitamin D supplementation in isolated systolic hypertension, the commonest pattern of hypertension in older people.

Methods
Parallel group, double blind, placebo controlled, randomised trial. Patients aged 70 and over with isolated systolic hypertension (supine systolic >140mmHg, supine diastolic <90mmHg) were recruited from clinics and primary care. Participants were randomised to receive either 100,000 units oral vitamin D3 or matching placebo every 3 months for a year. The primary outcome measure measured every 3 months was office blood pressure; secondary outcomes included 24 hour blood pressure, arterial stiffness measured using applanation tonometry, endothelial function measured using flow-mediated dilatation of the brachial artery, cholesterol, insulin resistance, B-type natriuretic peptide levels, falls and six minute walk distance.

Results
159 participants were randomised, mean age 77 years. Mean baseline office systolic blood pressure was 163/78 mmHg, and mean baseline 25-hydroxyvitamin D level was 45 nmol/L. 25-hydroxyvitamin D levels rose in the treatment group compared to the placebo group (+20nmol/L at 1 year, p<0.001). No significant effect was evident on the primary outcome of change in office blood pressure (-0.7 / -1.6 mmHg for vitamin D compared to placebo at 3 months; +1.1 / +0.3 mmHg overall treatment effect). No effect was evident on any of the secondary outcomes (24 hour blood pressure, arterial stiffness, endothelial function, cholesterol, glucose, walk distance). There was no excess of adverse events in the treatment group; total number of falls was non-significantly lower in the vitamin D group (36 vs 46, p=0.24).

Conclusion
Vitamin D supplementation did not improve blood pressure or markers of vascular health in older patients with isolated systolic hypertension.
A POPULATION BASED STUDY OF DOSING AND PERSISTENCE WITH ANTI-DEMENTIA MEDICATIONS

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Introduction
Persistence with anti-dementia medications at maximum dosages optimises their clinical efficacy. This study assessed the adequacy of dosing and persistence with anti-dementia medications and the predictors of these variables in the real-world setting.

Methods
The Irish Health Service Executive-PCRS national prescription claims database contains prescription information for 1.6 million people. Patients over 70 years who received at least two prescriptions for donepezil, rivastigmine, galantamine and memantine between January 2006 and December 2010 were included. Rates of dose-maximisation and non-persistence (and predictors of these variables) were analysed.

Results
Between January 2006 and December 2010, 20,729 patients over 70 years received a prescription for an anti-dementia medication. Rates of non-persistence were 30.1% at 6 and 43.8% at 12 months. Older age (75+ v. <75 years; HR=1.16, 95% CI 1.06, 1.27) and drug type (rivastigmine v. donepezil; HR=1.15, 95% CI 1.03, 1.27) increased the risk of non-persistence. Non-persistence was lower for those commencing therapy in more recent years (2010 v. 2007; HR=0.81, 95% CI 0.73, 0.89) and for those on multiple anti-dementia medications (HR=0.59, 95% CI 0.54, 0.65, p<0.001). Persistence was significantly higher when memantine was co-prescribed with donepezil (p<0.0001). Despite most patients on donepezil and memantine receiving a prescription for the maximum drug dose, this dose was maintained for two consecutive months in only two-thirds of patients. Patients were significantly more likely to have their doses of donepezil (HR=2.16, 95% CI 1.98, 2.34, p<0.001) and memantine (HR=6.88, 95% CI 5.35, 8.85, p<0.001) maximised, if prescribed in more recent years.

Conclusion
There is room for improvement in the dosing and persistence with anti-dementia medications in the community. Strategies should be implemented to overcome this.
EFFECT OF ACE INHIBITORS ON PHYSICAL FUNCTION IN OLDER PEOPLE UNDERGOING EXERCISE TRAINING

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Introduction
The loss of muscle mass and function with ageing is a major cause for falls, disability and morbidity in older people. We have previously shown that angiotensin converting enzyme inhibitors (ACEi) improve physical function in older people and evidence suggests that ACEi may potentially improve the response to exercise training. We therefore designed a study to examine the effects of ACEi therapy in older people undergoing exercise training.

Methods
In a double-blind trial community dwelling functionally impaired older people (age ≥65 years) were randomised to receive either 4mg perindopril daily or matching placebo for 20 weeks. Additionally all participants received 20 weeks of exercise training (10 weeks of supervised hospital-based progressive resistance training followed by 10 weeks of unsupervised training). The primary outcome measure was 6 minute walk distance; secondary outcomes included Short physical performance battery, hand-grip and quadriceps strength, self reported quality of life using the EuroQol-5D and the Functional limitation profile.

Results
170 participants were randomized, mean age 75.7 (SD 6.8) years. 42% were male. Baseline six minute walk distance was 306m (SD 99). Both groups increased their walk distance (by 29.6m in the Exercise+ACEi group and 36.4m in the Exercise only group) at 20 weeks, but the treatment effect between groups was not statistically significant (between group difference at 20 weeks -8.6m (95% CI: -30.1, 12.9, p=0.43). Short Physical Performance Battery scores improved by a similar amount in both groups (1.0 in Exercise+ACEi group, 1.1 in Exercise only group), with no significant treatment effect (between group difference at 20 weeks: -0.09, 95% CI -0.74 to 0.57, p=0.79). There were no significant treatment effects in any of the other outcome measures between groups.

Conclusion
ACEi for 20 weeks did not improve measures of physical function beyond that achieved by exercise training in functionally impaired older people.
INSIGHTS INTO THE CLINICAL MANAGEMENT OF THE SYNDROME OF SUPINE HYPERTENSION–ORTHOSTATIC HYPOTENSION (SH-OH): THE IRISH LONGITUDINAL STUDY OF AGEING

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Introduction
Our previously proposed morphological classification of orthostatic hypotension (MOH) is an approach to the definition of three typical orthostatic hemodynamic patterns using non-invasive beat-to-beat monitoring. In particular, the MOH pattern of large drop/non-recovery (MOH-3) resembles the syndrome of supine hypertension–orthostatic hypotension (SH-OH), which is a treatment challenge for clinicians. The aim of this study was to characterise MOH-3 in the first wave of The Irish Longitudinal Study of Ageing, with particular attention to concurrent symptoms of orthostatic intolerance (OI), prescribed medications and association with history of faints/blackouts.

Method
The study included all TILDA wave 1 participants who had a Finometer® active stand (N=5068). Characterisation variables included demographics, cardiovascular and neurological medications (WHO-ATC classification), and information on comorbidities and disability. Multivariable analyses were based on Generalized Linear Models (GLM).

Results
Of the 5068 cases, 1144 (23%) were classified as having an MOH-3 pattern. In the GLM to predict MOH-3 membership, statistically significant factors were: peripherally acting antiadrenergic agents (OR=2.06, 95% CI: 1.24–3.42, P=0.005), antidepressants (OR=1.44, 95% CI: 1.08–1.93, P=0.013), beta blockers (OR=1.34, 95% CI: 1.05–1.70, P=0.018), history of hypertension (OR=1.23, 95% CI: 1.02–1.49, P=0.031), and age (OR=1.03, 95% CI: 1.03–1.04, P<0.001). MOH-3 was an independent predictor of OI after full adjustment (OR=1.40, 95% CI: 1.22–1.61, P<0.001). OI was an independent predictor of history of falls/blackouts after full adjustment (OR=1.25, 95% CI: 1.08–1.45, P=0.003).

Conclusion
Alpha blockers, antidepressants and beta blockers were significant contributors to an impaired orthostatic hemodynamic response, and should be used judiciously in older patients with SH-OH. Several trials (e.g. SYST-EUR, CONVINCe, VALUE) have demonstrated the benefits of treating older hypertensive patients with cardiovascular medications that were not associated with adverse outcomes in our study. Therefore, the evidence of benefit does not necessarily have to conflict with the evidence of potential harm.