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CLUSTER-RANDOMISED CONTROLLED TRIAL (RCT) OF A MULTIDISCIPLINARY INTERVENTION PACKAGE FOR REDUCING DISEASE-SPECIFIC HOSPITALISATIONS FROM LONG TERM CARE (LTC)

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3. School of Population Health
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Introduction
LTC residents have higher hospitalisation rates and longer lengths-of-stay than non-LTC residents (Ingarfield SL, Age & Ageing 2009;38:314-18). Some hospitalisations from LTC appear potentially avoidable (Ingarfield SL, Age & Ageing 2009;38:314-18), and rapid decline may follow acute hospitalisations, hence the importance of preventing unnecessary hospitalisation (Ouslander JG, JAGS 2010;58:627-35.). Considerable literature suggests disease-specific interventions for particular diagnoses (cardiac failure, ischaemic heart disease [IHD], chronic obstructive pulmonary disease [COPD], stroke, pneumonia), impact on LTC care quality and on hospitalisations of older people from the community, but few RCTs show reductions in acute admissions from LTC.

Methods
LTC facilities with higher than expected hospitalisations were selected and recruited for a cluster-RCT of facility-based complex generic (non-disease-specific) intervention over nine months. The intervention comprised gerontology nurse specialist (GNS)-led staff education, facility benchmarking, GNS resident review and multidisciplinary (geriatrician, primary-care physician, pharmacist, GNS, facility nurse) discussion of residents selected using standard criteria. In this post-hoc analysis the outcome was rate of acute hospitalisations for the combined endpoint of acute hospitalisation for cardiac failure, IHD, COPD, stroke or pneumonia over 14 months.

Results
We recruited 36 facilities with 1998 residents (1408 female; mean age 82.9yrs; 1123:875 intervention:control). Although the intervention did not impact rates of acute hospitalisations or mortality (Connolly MJ, Eur Geriatr Med 2013;4 [(Suppl.1]:S171), it resulted in fewer acute admissions for the combined end point (RR=0.73, 95%CI=0.54-0.99; p=0.04), with no significant difference in rate of other acute admissions.

Conclusions
This multidisciplinary, multidimensional intervention had no overall impact on acute hospitalisations or mortality. However, this generic package intervention reduced admissions for common conditions which the literature has shown are impacted by disease-specific strategies to reduce admission, suggesting a potential avenue for further research and clinical application.
USING THE NATIONAL HIP FRACTURE DATABASE (NHFD) TO PROFILE THE IMPACT OF HIP FRACTURE ON THE NHS

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Introduction
The NHFD has collaborated with the Royal College of Surgeons’ Clinical Effectiveness Unit to measure the impact of hip fracture on NHS inpatient bed occupancy.

Methods
For the year from April 2011 we used data on 64,993 patients from national databases: Health Episode Statistics (HES) in England, Patient Episode Database Wales (PEDW), and the Fracture Outcome Research Database (FORD) in Northern Ireland.

Linking acute, post-acute, and rehabilitation elements of each patient’s care allowed us to define ‘super-spell’: their overall length of stay in the hospital to which they presented, and in other trusts or organisations to which they were subsequently transferred.

Results
Combining NHFD data with that from HES, PEDW and FORD gave figures for overall ‘super-spell’, which were used to calculate bed occupancy.

<table>
<thead>
<tr>
<th></th>
<th>Total bed days</th>
<th>Admissions</th>
<th>‘Super-spell’</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>1,335,240</td>
<td>59,344</td>
<td>22.5</td>
</tr>
<tr>
<td>Wales</td>
<td>133,520</td>
<td>3,804</td>
<td>35.1</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>61,439</td>
<td>1,845</td>
<td>33.3</td>
</tr>
<tr>
<td>Overall</td>
<td>1,499,593</td>
<td>64,993</td>
<td>23.1</td>
</tr>
</tbody>
</table>

Cross-referencing with HES, PEDW and FORD suggested the National Hip Fracture Database had captured data on 95% of all presentations, but may have underestimated overall length of stay because of poor access to discharge dates. This was particularly evident when patients moved between organisations during rehabilitation.

Conclusions
The HES figure for mean super-spell in England was 22.5 days, but this figure may still have understated NHS costs, since HES captures intermediate care provided in acute and community hospitals, but not NHS funded rehabilitation in care homes.

Our analysis shows that patients with hip fracture accounted for 1.5 million bed days in the year. This equates with continuous occupation of 4,106 beds across the NHS at any one time – the equivalent of several district general hospitals catering just for this one condition.
IMPAIRED ORTHOSTATIC BLOOD PRESSURE CONTROL IS ASSOCIATED WITH FALLS IN COMMUNITY DWELLING ADULTS AGED OVER 50: FINDINGS FROM THE IRISH LONGITUDINAL STUDY ON AGEING

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Aim
Homeostatic blood pressure responses to standing play a pivotal role in identifying individuals at risk of syncope and unexplained falls. Here we examine the relationship between beat-to-beat orthostatic blood pressure responses and falls in a nationally representative population sample.

Methods
Participants were recruited from The Irish Longitudinal Study on Ageing, a nationally representative cohort study of Irish adults aged 50+. Beat-to-beat blood pressure records were analysed among those who underwent an active stand test. Individuals were identified as having orthostatic hypotension (OH), if on standing they demonstrated sustained blood pressure drops of ≥20/10mmHg below resting values at 10 second intervals. Relationships with a history of falls were assessed by logistic regression adjusting for age, gender, education, comorbidities and medications.

Results
A sample of N = 4490 older adults was considered. The prevalence of OH is 6.9% (95% CI: 5.9-7.8) being higher in women (8.2% (95% CI: 6.8-9.5) vs. 5.6% (95% CI: 5.9-7.8)) and increases with age to 18.9% (95% CI: 6.21 – 31.60) in older men. Impaired recovery at 40 seconds, affecting 24.5% (95% CI: 18.9 – 30.0) of the sample, is associated with an increased odds of having a history of falls OR: 1.57 (95% CI:1.2 – 2.0); p<0.001).

Conclusions
Using beat-to-beat approaches sustained blood pressure drops at 40 seconds are associated with increased odds of having a falls history. When considering health outcomes in older adults, the time course of blood pressure responses to standing are paramount with impaired recovery at 40 seconds independently associated with falls.
FALL-RISK FACTORS’ PREVALENCE IN HOSPITALISED PATIENTS AND PERFORMANCE OF THE LUCAS FALL-RISK SCREENING

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Introduction
In-hospital falls of elderly patients have considerable impact on health outcome¹ and costs². During 2004-2009, the STRATIFY fall-risk screening was applied in a geriatric hospital to identify high-risk patients³,⁴. As the results left room for improvement the LUCAS Fall-Risk Screening was developed and validated⁵. High-risk patients are classified by ≥ 2/3 risk-factors (insecure mobility, fall-history, mental-status). The objective was to prospectively evaluate the LUCAS-Screening after implementation in 2010.

Methods
The fall-prevention-interventions provided to high-risk patients as identified by STRATIFY and LUCAS have not been changed. Rates of fallers were compared using datasets a) STRATIFY (2004-2006) and b) LUCAS-Screening (2010-2011). Logistic regression analysis accounted for varying distribution of risk-factors. Expected and observed number of fallers was compared in the LUCAS dataset.

Results
The LUCAS and STRATIFY datasets contained 2,337 and 4,735 patients; 66.8% vs. 69.9% females; mean age 82 years in both datasets. Due to changed risk profile the number of fallers increased: LUCAS 291 (12.5%) vs. STRATIFY 508 (10.7%). When adjusting for the risk-factor prevalence the rate of fallers as expected was 14.5%, but the 12.5% rate observed was significantly lower (p=0.038).

Conclusions
In-hospital fall prevention using the LUCAS-Screening was effective in reducing the number of fallers despite increasing prevalence of fall-risk factors.

LREC: Hamburg General-Medical-Council-Ethics-Committee (No.PV-2980).

Funding: Federal Ministry for Education and Research (BMBF), Berlin (No.01ET1002A).

SEDENTARY OLDER PARTICIPANTS WHO VOLUNTEER FOR STRUCTURED EXERCISE PROGRAMMES ARE NOT LIKE OTHER COMMUNITY DWELLING OLDER SEDENTARY PEOPLE

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Introduction
Sedentary behaviour is bad for health, even in those who achieve the recommended levels of moderately vigorous physical activity. Older people are the most sedentary, and sedentary behaviour is associated with gender, age, income, education, falls, co-morbidities and polypharmacy. We aimed to explore the characteristics of sedentary older people enrolled in a health promotion and exercise trial and compare them with sedentary older people in previous epidemiological studies.

Methods
Data collected from participants in the PROACT65+ trial between 2009-2011 were categorised into two groups - sedentary or not. The sedentary group reported sitting for > 4 hours/day on > 5 days per week. Covariates examined were demographic data, health status, self-rated function and physical test performance (including Timed-Up-and-Go, chair stand, falls risk, functional reach). The complete data sets of 918 participants were analysed.

Results
The sedentary were more likely to be underweight (BMI <18.5) or overweight (BMI >25) (OR 1.563, CI 1.109-2.203), to have been smokers (OR 1.488, CI 1.064-2.082) and to be limited in their daily activities on more than 5 days/month (OR 2.217, CI 1.047-4.692). Contrary to previous epidemiological studies, participants’ sedentary behaviour was not associated with gender, age, income, education, falls, number of co-morbidities or polypharmacy.

Conclusion
Community exercise trials can recruit sedentary older people. However, sedentary participants in this large multi-centre structured exercise programme were different from community-dwelling sedentary older people in epidemiological studies. Trial participants are a different, perhaps more motivated cohort, even when habitually sedentary.
# ASSESSMENT OF COGNITION USING COGNITIVE TRAINING APPLICATIONS

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## Introduction
Cognitive training (CT) has been suggested as a treatment to improve cognition in patients with dementia. Given the increased availability and use of smartphone and tablets applications, we investigated the ability of older adults, particularly those with dementia, to engage with these technologies, and whether CT has an alternative role in the assessment of cognition.

## Methods
Patients with cognitive impairment attending a university hospital memory clinic and day hospital, completed a questionnaire (n=40) detailing the frequency and breadth of technology use. Participants were then instructed to use a tablet computer and complete three CT apps. CT scores were correlated with demographics, questionnaire results and total Montreal Cognitive Assessment (MoCA) scores.

## Results
All three CT app tasks were fully completed by 85% (n=34) of participants; 79.4% (n=27) would use them again, and 23.5% (n=8) found using the CT apps ‘easy’. There was a moderate, significant correlation between the number of technology based devices used in the home, and total CT scores (r=0.41, p=0.02). Total CT scores were found to be significantly correlated with total MoCA scores (r=0.78, p < .01). MoCA subtests, apart from delayed recall, were also significantly related to CT scores. After correcting for frequency of technology use, CT scores were found to be significantly predictive of MoCA scores.

## Conclusions
Total CT scores for patients with mild to moderate dementia reflect MoCA scores, thus providing a possible marker of cognitive function. CT applications may represent a combined diagnostic and treatment modality, which can track cognition over time. It also may be more acceptable to older adults than traditional confrontational cognitive testing.
CARDIOMETABOLIC AND SOCIAL DETERMINANTS OF FRAILTY: RESULTS FROM A POPULATION-BASED STUDY OF ELDERLY BRITISH MEN

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Background
Frailty increases the risk of disability, long-term care and hospitalisations in the elderly and is recognised as an important challenge to improving healthy ageing. While frailty is known to be associated with chronic diseases such as cardiovascular disease (CVD), risk factors underlying these associations remain unclear. Our aim was to assess the prevalence of frailty and investigate lifestyle, social and cardio-metabolic risk factors associated with frailty.

Methods
Data come from a socially representative sample of 1622 men from 24 British towns aged 71-92 between 2010 and 2012. Frailty assessment was based on the Fried phenotype comprising weight loss, grip strength, exhaustion, slowness and low physical activity.

Results
Among 1622 men, 19% were frail and 54% were pre-frail. Compared to non-frail men, those with frailty had a higher odds of obesity (BMI ≥30 kg/m²; odds ratio (OR) 2.03, 95%CI 1.38-2.99)), high waist circumference (≥102 cm; OR 2.30, 95%CI 1.67-3.17), and having low social network (OR 2.16; 95%CI 1.46-3.17). Frail individuals also had significantly higher odds of chronic conditions including CVD, diabetes, chronic kidney disease, anaemia, asthma, bronchitis, arthritis, falls, cataract and depression. Frail individuals had a worse cardio-metabolic profile with increased risk of dyslipidemia, increased heart rate, poor lung function (FEV₁), raised white cell count, poor renal function (high creatinine, low estimated glomerular filtration rate), low alanine transaminase (ALT), and low serum sodium; some risk factors were also associated with being pre-frail. These associations remained in men without CVD.

Conclusions
A range of social and cardiometabolic risk factors were associated with frailty, which highlights the burden of metabolic abnormalities in frail elderly individuals. Characterising and managing the social and metabolic profile is important to manage the high risk of cardiovascular disease in frail elderly individuals.
**EXERCISE FOR REDUCING FEAR OF FALLING IN OLDER PEOPLE LIVING IN THE COMMUNITY: A COCHRANE SYSTEMATIC REVIEW**

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**Introduction**

This systematic review examines the evidence to prescribe exercise to reduce fear of falling in older people.

**Method**

Nine bibliographic databases were searched for published or current randomised control trials (RCT) and quasi-randomised trials (QRT) from 1887 to August 2013 (Cochrane Bone, Joint and Muscle Trauma Group Specialised Register, the Cochrane Central Register of Controlled Trials, MEDLINE, EMBASE, CINAHL, PsycINFO, AMED, The WHO International Clinical Trials Registry Platform, and Current Controlled Trials). Trials were included where fear of falling was recorded as a primary or secondary outcome in community dwelling older people aged 65 years and older, not restricted to a specific medical condition, participants were provided with single component exercise interventions and control group included routine care which did not increase exercise. Reference lists of included studies were searched and experts in the field contacted to suggest relevant unidentified studies.

**Results**

Thirty studies met the inclusion criteria (2,578 participants, mean age 70 to 84 years, 70% women). Structured exercise programmes were associated with a significant reduction in fear of falling immediately post-intervention (SMD 0.24, 95% CI 0.14 to 0.34). There was no significant effect of exercise interventions on fear of falling beyond the end of the intervention period (three studies included data up to six months and two included data at six months and beyond). Structured exercise programmes were associated with a significant reduction in the rate of falls (pooled rate ratio 0.70, 95% CI 0.56 to 0.89); however, there was no significant effect on depressive symptoms (four studies), self-reported physical activity levels (four studies) or adherence rates (16 studies).

**Conclusions**

Exercise is an effective means to reduce fear of falling in older people living in the community whilst the exercise is being prescribed but there is a lack of evidence on the duration of the effect.
REDUCING INAPPROPRIATE USE OF PROTON PUMP INHIBITORS IN OLDER PATIENTS

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Evidence-base
Proton pump inhibitors (PPIs) are commonly prescribed for dyspepsia and peptic ulceration. Safety concerns of long-term use, particularly in older patients, include increased risk of *Clostridium difficile* infection, pneumonia, osteoporosis, hypomagnesaemia and drug interactions. Evidence recommends minimising inappropriate prescribing of PPIs, and local policy guidelines reflect this.

Change Strategies
A baseline audit of appropriateness of PPI use in 58 older hospitalised patients was completed in September 2009. Findings were presented at a grand-round. An editorial on inappropriate PPI use was published in *Age and Ageing*. Local guidelines for reducing and stopping PPIs were developed and education on PPI side effects, appropriate prescribing and PPI reduction was delivered to primary care and secondary care staff as part of polypharmacy education sessions from 2010 to 2012. A repeat audit was completed in December 2013 of 55 inpatients.

Change Effects
PPI use at admission was studied on 58 admissions to our acute Medicine for the Elderly unit in 2009, and 55 were sampled in 2013. Appropriateness was evaluated by comparison with the local PPI prescribing guidelines. Mean age was 86 years for both samples. There was no significant difference in the proportion of admissions taking PPIs (26/55 vs 30/58; p=0.63). The proportion of patients taking PPIs inappropriately was significantly lower in 2013 (9/26 vs 23/30; p=0.002). Of those receiving PPIs for appropriate indications in 2013, 11/17 (65%) were taking a dose higher than that recommended by the local guidelines. Reasons for inappropriate use in 2013 were lack of appropriate investigations (5/9; 56%) and no valid indication despite appropriate investigation (4/9, 44%).

Conclusion
The change package did not reduce frequency of PPI use, but did reduce inappropriate prescribing of PPIs. There is further scope for dose reduction and improved appropriateness of PPI prescribing.
British Geriatrics Society 2014 Spring Meeting

CLINICAL EFFECTIVENESS

'DEMENTIA TAB' AUDIT: DOES A COMPUTER-BASED PROMPT INCREASE ACCURATE SCREENING FOR AND ASSESSMENT OF COGNITIVE IMPAIRMENT?

A Hollington, R Sahemey, A Green, Z Wyrko

Queen Elizabeth Hospital Birmingham

Evidence-base
The prevalence of dementia and delirium in acute admissions to hospital and their impact on patient outcomes is substantial (E. Sampson, BJP 2009, 195:61-66). On two general medical wards, we audited the accuracy of responses to a new computer-based prompt, the 'Dementia Tab', aimed at increasing the screening, assessment and appropriate referral of patients aged 75 years and above for memory problems. We reviewed responses to the Dementia Tab as well as clinical notes for evidence of cognitive impairment. The Dementia Tab was often answered inaccurately with 31% of patients who had 'no' or 'unknown' as the response to the screening question having evidence of cognitive impairment.

Change Strategies
Responses to the Dementia Tab have been monitored. Junior doctors with low positive response rates to the screening question have been 'flagged' and invited to a meeting with two consultants to identify and address any possible learning needs.

Change Effects
A repeat audit has shown the Dementia Tab frequently continues to be completed inaccurately (36% of patients with 'no' or 'unknown' to the screening question had evidence of previous or current cognitive impairment). However, the percentage of patients receiving no cognitive assessment had fallen from 30% to 16%.

Conclusion
An increase in basic cognitive assessment was seen. Reasons for this are unclear, but could be linked to the increased profile of dementia and delirium amongst hospital staff. The accuracy of responses was, however, not improved. This information is being used to support proposals to changes in the computer system to help increase the accuracy of responses. Work aimed at clarifying the usefulness of 'screening' programmes like this, and education of medical students and doctors in all specialties regarding the prevalence and importance of cognitive decline on patient outcomes, is needed.
CLOSING THE GAP IN SECONDARY PREVENTION WITH A FRACTURE LIAISON SERVICE - THE ST PETER'S EXPERIENCE

T Larcombe, R A Lisk, K F Yeong
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Introduction
Osteoporosis is an increasing problem in our aging population. Over 50% of patients presenting with a hip fracture have had a previous fragility fracture. Comprehensive implementation of NICE guidance for secondary prevention of osteoporosis following these “sentinel” fractures will prevent 50% of all future hip fractures.

Method
In 2010, we assessed the effectiveness of a “postal” FLS service whereby patients over the age of 50 with fragility fractures and their GPs were sent letters prompting osteoporosis assessment +/- treatment, following their fracture clinic appointment. Data was gathered between 12/04/10 to 23/07/10. Follow up phone calls were then made to assess whether these patients were assessed or treated for osteoporosis.

In this study, we compared the effectiveness of this service compared to our recently established Fracture Liaison Service (FLS), which has been in operation since November 2012. Data was collected from 12/11/12 – 11/05/13 (6 months)

Results
In 2010, we managed to contact 99 patients, of which 73% acknowledged the receipt of the letter from the Trust. From this population, 43 (60%) patients subsequently contacted their GP for an appointment and a further 13 patients were contacted by their GP. Total 56 patients had contact with their GP, of which 45 either had an osteoporosis assessment or were initiated on bone protective agents. Total assessed or treated = 45% (45/99)

In 2012-2013, 279 out of a possible 285 (97.79%) outpatients with fragility fractures were assessed by our Fracture Liaison Service and 98% (232/236) of patients were appropriately treated and assessed.

Conclusion
Capture rate for fragility fracture outpatient assessment and investigation has significantly improved with the introduction of a FLS. These figures are comparable to Glasgow data where 95-97% of their patients are assessed by an FLS.
ARE PATIENTS WITH SUSPECTED HIP FRACTURES SUITABLE FOR EARLY MRI SCANS?

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Background
NICE (National Institute for Health and Clinical Excellence) guidance published in 2011 recommends the use of MRI (magnetic resonance imaging) as the imaging of choice for suspected hip fractures with negative anteroposterior pelvic and lateral hip radiographs (occult hip fractures).

Search methods
To assess the suitability of this patient group for MRI we prospectively assessed all patients presenting to our department with a suspected hip fracture over a six-week period.

Results
A total of 58 patients presented to our department. 76% of the patients were female. The median age was 82 years (range 32-100). The mean abbreviated mental test on admission was 7.5 (range 0-10). Of the 58 patients, 24 (41%) were not suitable for MRI.

Conclusions
Delay in imaging and consequential delay in surgery has a detrimental effect on patient outcomes. Our prospective study of all proven and suspected hip fractures presenting to our department over six weeks has demonstrated that a substantial proportion of this group are not suitable for MRI. We suggest that future guidance on the management of occult hip fractures should reflect these findings.
### EVALUATION OF AN ACUTE PERI-OPERATIVE BAY FOR HIP FRACTURE PATIENTS ON A TRAUMA WARD

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¹. Department of Trauma and Orthopaedics, Nottingham University Hospitals
². Department of Health Care of Older People, Nottingham University Hospitals

#### Background

Hip fracture in the older patient carries high morbidity and mortality. A significant complication in these patients is the development of acute kidney injury (AKI), which can increase length of stay (LOS) and mortality. Closer monitoring and better care in the initial period of admission may reduce AKI and improve outcomes.

#### Innovation

From February 2013, we created an acute peri-operative bay on one of the three trauma wards. It constitutes: 1 staff nurse & 1 nurse assistant for 6 beds, all new hip fracture patients up to 48hrs post-surgery remain here (longer if unwell), catheterised and fluid balance closely monitored, daily blood tests, pressure relieving mattress for all, peri-operative nutritional drinks provided and encouraged. At 48hrs post-surgery, catheter is removed and patient stepped down to a general bay.

#### Evaluation

We retrospectively analysed development of AKI (using Acute Kidney Injury Network criteria), LOS and mortality from March to July 2013 (n=104) compared to the same months in 2012 (n=99). Frailty score on admission were similar. There were 11 fewer cases of AKI in the intervention group with a relative risk reduction of 52% (P=0.02) and number needed to treat of 9. CKD to AKI conversion halved (5/56 vs 11/54). Mean LOS reduced by 2.5 days in patients who survived the hospital stay. 30 day mortality was unchanged. For entire ward, there was reduction in pressure ulcers (36 to 18) and falls (32 to 21). Anonymised staff satisfaction scores improved from 7/10 to 9/10.

#### Conclusion

We demonstrated a significant improvement in the outcome of hip fracture patients and improved staff satisfaction. In an age of austerity, we were able to show an improvement in patient care and hospital flow with a minimal level of investment. It is being rolled on to our other two wards and can easily be adopted elsewhere.
A RETROSPECTIVE SURVEY OF ELDERLY PATIENTS’ DISCHARGE SUMMARIES: ARE INPATIENT MEDICATION CHANGES COMMUNICATED TO GPS?

R Gracie, E Randall, H Alexander

Gloucestershire NHS Foundation Trust

Background
80% of over 75s take a prescribed medication, yet approximately 50% of these are taken incorrectly (M Zhang et al, BMJ, 2009, 338, pp a275)). Adverse drug events (ADE’s) were the fourth most commonly reported type of incident to the National Patient Safety Agency. Patient discharge from secondary to primary care has been highlighted as a key ‘transition point’ in which prescription errors occur, with almost half of patients experiencing an error. The Care Quality Commission have identified that the quality of discharge summaries needs improvement.

Sampling Methods
A retrospective case note analysis of medical patients, aged over 75, discharged home from an acute hospital trust in a given week was performed to identify medication changes, and to ascertain if these changes were communicated to GPs.

Results
64 patients and 438 admission medications were identified, giving a mean number of drugs per patient of 6.81. At discharge the average prescription had undergone 1.43 changes. 49 patients had their prescriptions changed during admission (77%). Of these, 50 were cardiac drugs (54%). Only 21 discharge summaries were accurate (43%). When accurate, a reason for the changes was given on 18 summaries (86%). 3 patients were identified who had anticoagulation either started or stopped during admission. None of these were fully communicated to their GPs.

Conclusions
Despite long standing recognition of the problems associated with polypharmacy, the number of medications prescribed to individuals is increasing by 3.5% a year (Department of Health statistics, June 2004). The causes are multi-factorial, but may reflect too much emphasis on target driven prescribing rather than individualised treatment goals. Hospital admission represents an opportunity to review medication, but this necessitates a seamless transition of care. This study highlights there is still work to be done before this is fully realised.
SUPERVISED SELF-ADMINISTRATION PILOT SCHEME ON AN ELDERLY REHABILITATION WARD

S H Jama, G Wright, S Reynolds

Charing Cross Hospital, Imperial College Healthcare NHS Trust

**Background**

Our rehabilitation patients receive a comprehensive geriatric assessment; however, their ability to manage their medicines is not routinely assessed. The aim of this pilot study was to assess the feasibility of a supervised self-administration (SSA) scheme in detecting and addressing barriers to adherence, and to measure the impact on nursing staff and patient satisfaction.

**Innovation**

Patients admitted to the rehabilitation ward were assessed to identify those who previously managed their medicines independently at home and were suitable to self-administer under nursing supervision whilst in hospital. The pharmacy team reviewed eligible patients, counselled them on their medicines and ordered medicines ready for discharge. During nursing drug rounds, the nurse supervised patients self-administering their medicines and recorded all observations including patients’ ability to identify the correct medicines, access containers, remove the correct dose and take the medicine at the correct time/dosing interval. Nursing staff intervened as necessary. If significant errors were observed, the scheme ended; the patient would either have a full assessment of adherence by pharmacy staff or an increased package of care considered. Patients and staff were asked to complete questionnaires to determine the success of the scheme.

**Evaluation**

Of the 23 participants, SSA identified 5(22%) patients who were not coping with self-administration and would have previously been assumed to be managing. The patient survey (n=21) suggested that there was an increase in patients’ knowledge of their medicines and confidence in taking their medicines. SSA enabled patients to ask healthcare professionals questions about their medicines, and to understand reasons for changes to their medicines, which may have improved adherence. The staff survey (n=15) showed staff were highly supportive of the scheme and its perceived benefits.

**Conclusion**

SSA enabled detection of barriers to adherence, which could otherwise have been missed or not addressed prior to discharge from hospital.
HAS STAFF EDUCATION AND TRAINING RESULTED IN SIGNIFICANTLY BETTER ADHERENCE TO NICE GUIDANCE ON ADULT HIP FRACTURE ANALGESIA; ESPECIALLY IN PATIENTS WITH MODERATE/SEVERE DEMENTIA? A TALE OF TWO AUDITS!

L Izzard¹, E Aitken²

1. Kings College Hospital, 2. University Hospital Lewisham

**Evidence-base**
A retrospective notes audit conducted in August 2011 to assess University Hospital Lewisham’s adherence to NICE guidelines on hip fracture analgesia (GC124, 2011) in patients over the age of 65, demonstrated suboptimal analgesic provisions; particularly in dementia patients.

**Change Strategies**
A second audit was completed in January 2014 following a programme of change introduced in the emergency department in 2012, namely:

- 89% of nurses trained to prescribe/dispense analgesia
- modified universal pain assessment tool posters placed in all cubicles
- pain section included on observation charts
- paracetamol printed on drug charts

Additionally, ward nursing staff (n=41) undertook online training modules regarding pain recognition in dementia patients.

**Change Effects**
Several statistically significant improvements in analgesic provision are observed in audit 2; especially in cognitively impaired (dementia) patients, as depicted in the Table opposite.

**Conclusion**
Ongoing staff education, training and regular audit is needed to continue driving up standards to improve the quality of care delivered.
Background
The ageing UK population means that Geriatricians will be increasingly in demand in the coming years. Despite more training posts in Geriatric Medicine being created, increasing numbers of these posts remain unfilled and competition ratios are dropping. The Royal College of Physicians has suggested that the role of the medical registrar may be dissuading junior doctors from applying to medically-based higher specialty training.

Innovation
We organised a national one-day conference for Foundation and Core Medical Training doctors, called ‘Geriatrics for Juniors’. It contained several focused presentations covering the main subspecialties of Geriatric Medicine, and was attended by over 100 delegates from around the UK. The aims were to provide practical, clinically-orientated teaching on Geriatric Medicine, to showcase the variety and rewarding nature of the specialty and to inspire junior colleagues to consider a career in Geriatrics. A Q&A session with a panel of medical registrars was also included.

Evaluation
All individual sessions were highly rated by delegates using 5-point Likert scales (mean score 4.5). Free-text feedback indicated that the conference had been well-received and was of high educational value.

A pre- and post-conference online survey explored attitudes towards the specialty and career choices. Statistical analysis showed that after the conference, delegates were significantly less likely to be deterred from application to Geriatric Medicine due to concerns regarding the medical registrar role (Wilcoxon; p=0.01).

In the post-conference survey, 77% of respondents agreed that they had applied knowledge acquired at the conference to their clinical practice.

Conclusions
‘Geriatrics for Juniors’ provided highly-rated teaching to a junior medical audience. The positive feedback and the relative popularity of the conference highlight a potentially unmet educational need for junior doctors interested in geriatric medicine. This event also addressed some of the concerns trainees have regarding the role of the medical registrar.
FALLS ASSESSMENT IN AN ACUTE AND REHABILITATION HOSPITAL. HOW WELL ARE WE PERFORMING?

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¹ University Hospital of Wales, Cardiff, ² Ysbyty Ystrad Fawr, Caerphilly (ABUHB Wales)

Evidence base
Falls in hospital account for almost two-fifths of the patient safety incidents reported to the National Reporting and Learning System. Hospital patients are at a greater risk of falling than people in the community and immediate annual healthcare cost is over £15 million for England and Wales. Multifactorial interventions could produce an 18 percent reduction in the number of falls. We evaluated the local multifactorial falls risk assessment (FRA) tool completed by nurses in an acute and rehabilitation hospital through an audit cycle.

Change Strategies
Point prevalence audit from 4 medical wards (n=105) revealed inadequate assessment and low completion rates of FRA tool. These findings were presented at the audit meeting and interventions introduced were:

- Formal nurses teaching on completing FRA tool
- Raised awareness by discussing completing FRA tool at handover
- Reminder on handover board to prompt FRA tool completion

Second audit was undertaken 9 months later on the same 4 wards (n=107).

Change Effects
105 falls assessment proforma were audited in the first cycle compared with 107 proforma in the second cycle. There was a statistically significant improvement in compliance with falls assessment trigger question and cognitive assessment.

<table>
<thead>
<tr>
<th>Risk Assesessment Compliance</th>
<th>Audit 1 (N=105)</th>
<th>Audit 2 (N=107)</th>
<th>p value (t-Test)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Falls assessment trigger question</td>
<td>69%</td>
<td>82%</td>
<td>0.001</td>
</tr>
<tr>
<td>Falls Prevention Care Plan</td>
<td>47%</td>
<td>62%</td>
<td>0.34</td>
</tr>
<tr>
<td>Medication</td>
<td>52%</td>
<td>55%</td>
<td>0.7</td>
</tr>
<tr>
<td>Postural Hypotension</td>
<td>45%</td>
<td>53%</td>
<td>0.35</td>
</tr>
<tr>
<td>Vision</td>
<td>47%</td>
<td>51%</td>
<td>0.54</td>
</tr>
<tr>
<td>Hearing</td>
<td>50%</td>
<td>53%</td>
<td>0.7</td>
</tr>
<tr>
<td>Gait &amp; Balance</td>
<td>47%</td>
<td>52%</td>
<td>0.59</td>
</tr>
<tr>
<td>Continence</td>
<td>42%</td>
<td>48%</td>
<td>0.48</td>
</tr>
<tr>
<td>Foot wear</td>
<td>42%</td>
<td>48%</td>
<td>0.58</td>
</tr>
<tr>
<td>Environmental Hazard</td>
<td>39%</td>
<td>46%</td>
<td>0.53</td>
</tr>
<tr>
<td>Cognition</td>
<td>27%</td>
<td>45%</td>
<td>0.02</td>
</tr>
<tr>
<td>Osteoporosis</td>
<td>32%</td>
<td>27%</td>
<td>0.41</td>
</tr>
</tbody>
</table>

Conclusion
Increased falls awareness has shown to improve completion of the FRA tool. We are continuing this quality improvement process to measure sustained change and reduction in the standard incident reporting for in-patient falls.
OUTCOME OF INPATIENT FALLS IN SINGLE BEDDED AND MULTI-BEDDED BAYS

J Okeke¹, S Aithal¹, C Edwards², S Ramakrishna³, I Singh³

¹. University Hospital of Wales, Cardiff, 2. Royal Gwent Hospital, Newport (ABUHB Wales), 3. Ysbyty Ystrad Fawr, Caerphilly(ABUHB Wales)

Background
Falls is the most reported clinical incident to National Patient Safety Agency. 30% to 51% of falls in acute and rehabilitation hospitals result in some injury and 1-3% fragility fracture. Studies have suggested increased falls incidence in single-bedded hospitals. The aim of study is to compare the outcome of in-patient falls in a new hospital site with 100% single rooms and old hospital with single and multi-bedded hospital design.

Sampling methods
Retrospective standard in-patient audit data on documented falls and associated injury were obtained from both sites over 18 months each; no change in demographics, size and characteristics of population except change in the geography of new hospital.

Results
Total number of in-patient falls incidents reported over the 3 years were 1749 (131 excluded due to missing data).

<table>
<thead>
<tr>
<th></th>
<th>New hospital site</th>
<th>Old hospital site</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of patients who had falls</td>
<td>535</td>
<td>224</td>
<td></td>
</tr>
<tr>
<td>Episodes of falls</td>
<td>1244</td>
<td>374</td>
<td></td>
</tr>
<tr>
<td>Mean Age (yrs)</td>
<td>80.34 ±10.27</td>
<td>80.99 ±12.39</td>
<td>NS</td>
</tr>
<tr>
<td>Female % (n)</td>
<td>50.7 (271)</td>
<td>51.3 (115)</td>
<td>NS</td>
</tr>
<tr>
<td>Incidence of falls/1000 patient bed days</td>
<td>15.82</td>
<td>5.44</td>
<td>p = 0.02</td>
</tr>
<tr>
<td>Mean falls/in-patient faller</td>
<td>2.33±2.87</td>
<td>1.66±1.46</td>
<td>p = 0.001</td>
</tr>
<tr>
<td>Range of falls</td>
<td>1–33</td>
<td>1–12</td>
<td></td>
</tr>
<tr>
<td>Overall fracture incidence</td>
<td>5.2%</td>
<td>2.6%</td>
<td>p = 0.11</td>
</tr>
<tr>
<td>Fracture incidence/1000 bed days</td>
<td>0.36</td>
<td>0.07</td>
<td>p &lt; 0.0001</td>
</tr>
<tr>
<td>Hip fracture incidence/1000 bed days</td>
<td>0.15</td>
<td>0.04</td>
<td>p &lt; 0.0001</td>
</tr>
<tr>
<td>Inpatient mortality/1000 bed days</td>
<td>1.29</td>
<td>0.52</td>
<td></td>
</tr>
<tr>
<td>Overall in-patient mortality, % (n)</td>
<td>19.1 (102)</td>
<td>16.1 (36)</td>
<td></td>
</tr>
<tr>
<td>Median length of stay</td>
<td>41.99 ± 37.8</td>
<td>49.91 ± 37.8</td>
<td>p&lt;0.008</td>
</tr>
</tbody>
</table>

Conclusion
This observation shows a statistically significant increased incidence of falls and fracture in 100% single-occupancy hospital design compared to mixed single and multi-bed facility. Consideration should be given to increased incidence of falls and falls related injury in single-occupancy room when deciding percentage of single room provision in building new hospitals providing care to frail older adult.
FALLS ASSESSMENT IN MOVEMENT DISORDER CLINICS IN THE WEST OF SCOTLAND

L McNeil¹, H Morgan¹, R Stewart², L Fielden², Z Muir²

¹ Care of the Elderly, NHS Lanarkshire, ² Department of Medicine for the Elderly, NHS Greater Glasgow

Background
Patients with degenerative parkinsonism are at an increased risk of falls and fall related complications. This is compounded by other co-morbidities, culprit medications and increasing age. Evidence has shown that patients with Parkinson’s disease have lower bone mineral density than age matched controls (Van der Bos et al, Age and Ageing 2013; 42:156-162). Therefore, these patients have a greater risk of fracture. In a movement disorder clinic, identification of fallers can be challenging due to time constraints and other priority symptoms. Recognition of these patients will enable a bone health assessment to be done and risk factors for falls to be addressed.

Sampling Methods
We reviewed notes for 100 patients across 5 sites in the West of Scotland. Our inclusion criteria were age 65 and over, diagnosis of degenerative parkinsonism and clinical review in the past six months. We focused on falls identification, risk factors and bone health.

Results
Falls were identified in 47% of patients. Within this group, polypharmacy was present in 85%. Osteoporosis or previous fractures were present in 55% of fallers. Only 47% patients with osteoporosis were treated with bisphosphonate and calcium/vitamin D supplementation. Majority of fallers were referred onto physiotherapy. 34% fallers had orthostatic hypotension. Only 51% fallers were assessed for cognitive impairment. Sensory impairment was poorly documented.

Conclusions
Falls and bone health assessment should be an integral part of our movement disorders service. This will allow us to identify and target high risk fallers with the aim of preventing future fractures and other falls related morbidity and mortality.
OUTCOME OF 1,051 OCTOGENARIAN PATIENTS WITH ST ELEVATION MYOCARDIAL INFARCTION TREATED WITH PRIMARY PERCUTANEOUS CORONARY INTERVENTION: OBSERVATIONAL COHORT FROM THE LONDON HEART ATTACK GROUP

C Grout, D Bromage, D Jones, A Wragg on behalf of the London Heart Attack Group

_Barts Health NHS Trust, London_

**Background**

The population of the western world is rapidly ageing. 16% of deaths in the elderly are attributed to coronary artery disease. As the population ages we can expect to see an increasing frequency of elderly patients presenting with ST elevation myocardial infarction (STEMI). We aim to compare long-term clinical outcomes in patients over 80 years with ST elevation myocardial infarction (STEMI) treated by primary percutaneous coronary intervention (PPCI) with patients less than 80 years.

**Search Methods**

This was an observational cohort study of 10,249 consecutive patients with STEMI treated with PPCI between 2005 and 2011 at 8 tertiary centres across London, UK. The primary end-point was all-cause mortality. Median follow-up was 3 years.

**Results**

A total of 1,051 octogenarians (10.3%) were treated with primary PCI. Octogenarian STEMI patients had a higher prevalence of cardiovascular risk factors. They were also more likely to have worse left ventricular systolic function (20.6% vs 15.1%, p=0.007) and cardiogenic shock (7.9% vs 5.7%, p=0.004). Mortality over the follow-up period was higher in the octogenarian group compared to the younger group (51.6% vs 12.8%, p<0.0001). However octogenarians were less likely to undergo radial access (HR: 0.82 (0.65-0.94)), and receive adjunctive therapies e.g. GPIIb/IIIa inhibitors (HR: 0.60 (0.45-0.82), all of which were demonstrated to have a survival benefit in the octogenarian group.

**Conclusions**

This data is consistent with previous evidence that 69% of 30 day mortality following AMI in England is in the elderly. Mortality benefit is demonstrated with use of adjunctive therapies, routinely used in the younger age group, suggesting the use of these therapies should be promoted in the older population.
THE RACE UNIT: RAPID ACCESS AND CONSULTANT EVALUATION

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*Department of Medicine for the Elderly Poole General Hospital, Longfleet Road, Poole, Dorset BH15 2JB*

**Background**
The process of admission of patients, their assessment, treatment and discharge was reinvigorated in June 2010 when the RACE Unit was opened.

**Innovation**
The changes to practice implemented with the RACE Unit were as follows:

- Dedicated Elderly Medicine admissions ward.
- Specific Consultant-led "triage" ward round each morning for patients who are felt to be appropriate for discharge within 48 hours.
- Referrals to the Unit are taken by a Consultant or Specialist Registrar, involving early senior assessment of the patient, and facilitation of early supported discharge.
- Daily multi-disciplinary meeting, involving medical and nursing staff, occupational and physiotherapists, a pharmacist, and Social Services representatives.
- Integration with community services and Intermediate care.
- Specialist nursing staff, with interest and expertise in Geriatric care.
- Daily Rapid Access clinic for assessment of patients, with early access to specialised investigations such as ultrasound and CT scans.

**Evaluation**
The mean length of stay fell from 13.5 days to 11.6 days, a reduction of 14 percent. There has been a sustained, consistent reduction in the length of stay over the three years that the RACE Unit has been in operation, which in 2012 stood at 8.1 days.

The proportion of patients discharged within 48 hours rose from 20.8% to 36.5%. The average monthly occupied bed days in the Department of Elderly Medicine fell from 6078 prior to RACE to 4726, a reduction of 22%.

However, the readmission rate has risen from 12% to 16%.

**Conclusion**
The introduction of the RACE Unit has led to significant, sustained improvements in length of stay, discharge within 48 hours, and number of Elderly Medicine bed days. The three main factors felt to be responsible for these improvements are: increased Consultant involvement in the admission and discharge process; the daily, focused multi-disciplinary meeting; and strong nursing leadership and expertise in Geriatric care.
CLINICAL EFFECTIVENESS

**UTI OVER-DIAGNOSIS IN OLDER ADULTS – INTERVENTION WITH EDUCATION AND SIGN 88**

A Cannon, S Carvey, C Holloway, R Mayer, L Dow

*Royal United Hospital, Bath*

**Evidence-base**
Inaccurate diagnosis of urinary tract infection (UTI) is common resulting in non UTI diseases being missed and inappropriate antibiotic prescribing (Woodford HJ, George J. JAGS 2009; 57: 107-114). Anecdotal dipstick misuse, misunderstanding of asymptomatic bacteriuria (ASB) and poor quality urine samples was felt contributory to local evidence of UTI over-diagnosis. Education and introduction of the SIGN 88 guideline was undertaken in 5 acute geriatric/stroke wards with retrospective and prospective data collection over November 2012-October 2013.

**Change strategies**
We adopted the SIGN 88 guideline for older people because it is unique as it directs non-use of urine dipstick for UTI diagnosis. We held multiple educational sessions to capture as many staff as possible. Staff members were encouraged to disseminate information within teams. Education focused on dipstick pitfalls, ASB, midstream urine collection (MSU) only if technically feasible, not sending catheter urine samples labelled as ‘MSU’, and the new guideline.

**Change effects**

<table>
<thead>
<tr>
<th>Change effects</th>
<th>Pre-Intervention</th>
<th>Post-Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge Summaries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total discharges in 6/12</td>
<td>1615</td>
<td>1601</td>
</tr>
<tr>
<td>Discharge diagnosis ‘UTI’</td>
<td>416 (25.8%)</td>
<td>270 (16.9%)</td>
</tr>
<tr>
<td>Case note review of UTI: n= 18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New dysuria/frequency</td>
<td>02/18 (11.1%)</td>
<td>04/15 (26.7%)</td>
</tr>
<tr>
<td>Loin/Supra-pubic tenderness</td>
<td>03/18 (16.7%)</td>
<td>03/15 (20%)</td>
</tr>
<tr>
<td>Most common symptoms: Confusion</td>
<td>10/18 (55.6%)</td>
<td>06/15 (40%)</td>
</tr>
<tr>
<td>Falls</td>
<td>07/18 (38.9%)</td>
<td>02/15 (13.3%)</td>
</tr>
<tr>
<td>Immobility</td>
<td>07/18 (38.9%)</td>
<td>02/15 (13.3%)</td>
</tr>
<tr>
<td>UTI likely</td>
<td>04/18 (22.2%)</td>
<td>10/15 (66.7%)</td>
</tr>
<tr>
<td>Urine microbiology: 2 month period</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total urine samples</td>
<td>1032</td>
<td>132</td>
</tr>
<tr>
<td>Urine indicative of UTI</td>
<td>58 (5.6%)</td>
<td>22 (16.7%)</td>
</tr>
</tbody>
</table>

Ward orders for antibiotics pre and post intervention indicated a fall in trimethoprim use following the intervention. Discharge diagnoses for respiratory tract infection were unchanged by the intervention. Estimated savings for reduced processing of urine samples amounted to £3500 per month.

**Conclusion**
Improvements can be made in relation to UTI diagnosis using education and age-specific guidelines. Better use of urine cultures can lead to improved positive predictive value and reduced unnecessary testing.
A PROACTIVE OUTREACH GERIATRIC ASSESSMENT SERVICE FOR OLDER HOSPITAL PATIENTS OUTSIDE ELDERLY CARE WARDS

N Bashir, H King, D Oliver

Department of Geriatric Medicine, Royal Berkshire Hospital NHS Foundation Trust, Reading, Berkshire

Background
Patients in general hospitals are increasingly old, many of them with frailty, dementia, complex co-morbidities and a need for skilled discharge planning and rehabilitation. Comprehensive Geriatric Assessment led by geriatricians on a specialist home ward improves outcomes for frail, older patients but many such patients “outly”. We piloted a Proactive Liaison service to non-geriatric medicine wards in a district general hospital to describe gains for recognition and management of geriatric syndromes, improved processes and outcomes.

Method
We provided the pilot service for three months in 2013 on three medical wards with an older case mix. A consultant geriatrician or specialist registrar proactively reviewed all patients over 65, liaising with the ward multidisciplinary team. We collected data prospectively from direct patient assessment, medical notes and computer records. We documented patient characteristics, medical issues, interventions and outcomes.

Evaluation
We assessed 140 patients (81 F, 59 M), median age 85 (range 66-97). We excluded 26 patients due to insufficient data. Issues we identified included; delirium (35% of patients), a new diagnosis by our team (29%), falls (23%), unmet social needs (21%), pain (13%) and immobility (13%). Our most common interventions included referral to other services including older persons mental health liaison or palliative care (30%), medications cessation (20%), focused investigations e.g. for delirium (19%) and decision-making around discharge (18%).

We transferred 8% of patients to geriatric medicine “home” wards. 44% of patients were discharged home. Mortality during the patient hospital admission was 11%.

Conclusion
Even where geriatricians are “on take” for needs related geriatric medicine 7 days a week, providing a proactive in reach service to non-geriatric medical wards, rather than waiting for referrals, helped identify a range of problems related to frailty, dementia, delirium co-morbidity or discharge planning and value add to existing ward care.
UNDERSTANDING ADVANCE CARE PLANNING

N Connelly, A Maney
Dept of Elderly Care, University Hospital South Manchester

Background
Advance care planning is increasingly recognised as an important aspect of patient care. However there are barriers to its implementation by health care professionals, including apprehension at discussing end of life issues. We also suspect there may be a lack of understanding amongst professionals about advance care planning and developed a survey to further investigate this.

Sampling Methods
We surveyed staff at a large teaching hospital in South Manchester, using paper based and an online version questionnaire. The sample included a variety of professionals; doctors, nurses, therapists and dieticians. We collected 92 responses over a 2 week period.

Results
The majority of respondents were consultants from a variety of specialities. Less than 9% of respondents were able to correctly define advance care planning. A majority felt that planning should be discussed as an inpatient and outpatient and 68% felt that this would improve patient care. 30% of respondents had reservations about advance care planning, including managing a change in the patient’s condition and wishes. Furthermore, a majority of respondents would like more training and guidance.

Conclusion
Health care professionals at a large teaching hospital in South Manchester recognise the importance of advance care planning. However, barriers to its implementation include a correct understanding of the legal framework and decision making approach. Most staff agreed that planning would improve patient care but had concerns over the practicalities of implementation and the correct setting for this to be done. These results echo literature which suggests that more guidance is needed for professionals and better communication channels between primary and secondary care.
FRAILTY SCORES TO TARGET' AT RISK' ACUTE SURGICAL ADMISSIONS

S Payne, K Davies, N Powell

Department of Elderly Care, East Surrey Hospital

Background
NCEPOD recommends daily geriatric input for the increasing numbers of older surgical patients (NCEPOD: An age old problem, 2010). Such models of care could demand significant resource from already stretched hospital services. For acute surgical admissions there is also little opportunity to optimise co-morbidities prior to surgery and so in-reaching geriatric teams require a means of identifying ‘at risk’ patients to target their resources. The use of frailty scores or indices may help to achieve this (Partridge, Harari and Dhesi, Age and Ageing 2012;41, 142-147).

Sampling methods
In order to develop a model of geriatric in-reach to surgical specialties at our Trust and allow targeted resource allocation, 50 acute general surgical admissions (over 75yrs) were retrospectively reviewed. The Clinical Frailty Scale, CFS (Rockwood, Song, MacKnight et al. CMAJ 2005;173(5):489-95) was assessed by a Consultant Geriatrician as well as major co-morbidity and functional ability at and during admission.

Results
The average patient age was 82 (56% men, 44% women). The median CFS for this cohort was 3. 21 patients had at ≥1 ADL impairment on admission and of those previously independent 16 developed ≥1 impairment during admission (CFS average 4.5 compared to 3.28 in those without acquired impairment). 6 patients developed ≥1 complication (acute kidney injury and pneumonia most commonly). Combined these patients had an average DUFS of 4.5. Those with a CFS of ≥5 had an average LOS of 20.08 days compared to 6.02 days for those with scores of ≤4.

Conclusions
Frailty and co-morbidity is common in surgical elders and many suffer functional decline during admission. Frailty scores taken at admission may be one means of allowing rapid and early identification of patients that might benefit from Comprehensive Geriatric assessment and review during the in-patient journey.
ASSESSMENT OF INPATIENT FALLS: A MULTICENTRED AUDIT

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Evidence Base
Falls account for 70% of in-hospital accidents. Prior to the recently published NICE guidelines on inpatient falls (June 2013), we conducted an audit to assess current falls assessment and provide guidance to improve best medical practice.

Change Strategies
We performed a retrospective audit of inpatient falls between January-June 2013. We used the hospital clinical incident database to select patients from a district general teaching hospital (Hospital 1) and an academic tertiary centre (Hospital 2).

Change Effects:

<table>
<thead>
<tr>
<th>Variables(n)</th>
<th>Hospital1 (96)</th>
<th>Hospital2 (99)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial assessment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vital (HR,BP)</td>
<td>22.9%</td>
<td>38.4%</td>
<td>0.02</td>
</tr>
<tr>
<td>Presence of injuries</td>
<td>68.8%</td>
<td>67.7%</td>
<td>0.95</td>
</tr>
<tr>
<td>Neurological examination</td>
<td>15.6%</td>
<td>31.3%</td>
<td>0.01</td>
</tr>
<tr>
<td>AMT/AVPU/GCS</td>
<td>25.5%</td>
<td>48.5%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Postural BP</td>
<td>1.0%</td>
<td>5.1%</td>
<td>0.15</td>
</tr>
<tr>
<td>ECG</td>
<td>2.0%</td>
<td>13.1%</td>
<td>0.01</td>
</tr>
<tr>
<td>Acknowledgment of fall next day</td>
<td>33.3%</td>
<td>47.5%</td>
<td>0.05</td>
</tr>
<tr>
<td>Co-morbidities:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive impairment</td>
<td>34.4%</td>
<td>37.4%</td>
<td>0.73%</td>
</tr>
<tr>
<td>Visual impairment</td>
<td>2.1%</td>
<td>8.2%</td>
<td>0.15%</td>
</tr>
<tr>
<td>Assessed</td>
<td>0%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Previous CVA</td>
<td>25.0%</td>
<td>8.1%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Arthritis</td>
<td>29.2%</td>
<td>8.1%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Diabetes</td>
<td>20.8%</td>
<td>23.2%</td>
<td>0.78</td>
</tr>
<tr>
<td>BMs documented</td>
<td>0%</td>
<td>13%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Previous falls</td>
<td>31.3%</td>
<td>44.4%</td>
<td>0.07</td>
</tr>
<tr>
<td>Medications:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti-hypertensives</td>
<td>63.5%</td>
<td>41.4%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Sedatives</td>
<td>26%</td>
<td>29.3%</td>
<td>0.69</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>24%</td>
<td>25.3%</td>
<td>0.93</td>
</tr>
<tr>
<td>Antipsychotics</td>
<td>2.1%</td>
<td>12.1%</td>
<td>0.01</td>
</tr>
<tr>
<td>Anticoagulants</td>
<td>22.9%</td>
<td>33.3%</td>
<td>0.13</td>
</tr>
<tr>
<td>Neurological status reviewed</td>
<td>5.3%</td>
<td>21.2%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Medications reviewed</td>
<td>4.2%</td>
<td>9.1%</td>
<td>0.19</td>
</tr>
</tbody>
</table>

Conclusion
Hospital2 fared comparatively better than Hospital1. Reasons include an online warning system once a fall is reported. All members of the team are immediately made aware of the fall and any precipitating factors involved. Recommendations include introducing a standardised falls assessment document and formal training of junior doctors prior to starting their placement.
# Tilt Table Test Referrals: Have We Improved the Quality of Care?

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## Evidence-base

The role of Tilt Table Test (TTT) in practice is specific. We have observed inappropriate referrals in our practice. NICE guideline published in 2010 on transient loss of consciousness (T-LoC) (CG 109) suggested suspected neuro-cariogenic syncope and unexplained recurrent syncope as indications for TTT.

## Change strategies

We have conducted a retrospective case note based audit loop of Tilt table referrals at Neville Hall Hospital, Abergavenny. The initial audit was presented at the local audit meeting and a new referral form was introduced. We looked at indications and compared the number of TTT requested, compliance with necessary initial investigations (ECG & orthostatic BP measurement), waiting period and proportion of abnormal TTT.

## Change effects

On re-auditing, we noticed reduction in number of referrals from mean of 5.4/month (27 in 5 months) to 3/month (35 in 12 months) and reduction in the number of tests done from a mean of 7.3/month (22 in 3 months) to 4.7/month (32 in 7 months). There were improvements in the waiting period from a mean of 138 days to 121 days and compliance with mandatory investigations like ECG (from 91% to 94%) and lying-standing BP measurements (from 54% to 74%). There was a modest increase in the abnormal TTT results (41% vs. 32%) between two audits. In the re-audit, we found a poor adherence to referral forms especially among the consultants and the referrals done through the new referral forms found more likely to give abnormal results (44.44 % vs. 33.33%).

## Conclusion

In summary, our re-audit has shown an improved quality of care by demonstrating reduced number of referrals resulting in improved waiting period and monthly TTT load. The efficiency in organising necessary basic investigations were not as desired. Poor senior medical staff's adherence to the referral form has resulted in higher rate of negative tests.
ASSESSING OLDER PATIENTS' RELIGIOUS VIEWS BY JUNIOR DOCTORS. A PILOT STUDY

A Abdulla, C Barla

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Background
Integrating older patients’ religious and spiritual views in the health care delivery process is important and now recognised as part of good medical practice. We conducted a pilot questionnaire survey looking at the junior doctors attitudes in relation to their older patients’ religious and spiritual views.

Sampling Methods
We enquired about the frequency doctors asked elderly patients about their religion and why, whether they felt it was important to their patients, whether they would like religious and spiritual support for themselves if they were patients, knowledge of different religions and the usefulness of a seminar on religious and ethical considerations in health care.

Results
30 doctors completed the pilot. 47% considered themselves religious and 33% thought that religious support was important if they were patients. Importantly, although 67% felt that religious and spiritual support was important to their patients, they either never asked patients (53%) or did so infrequently (47%). A third felt that time restraints and being busy were the main reason while a few felt it 'embarrassing' or lacked knowledge about religions. Surprisingly 20% thought that it was 'not their job' to ask and 43% felt it was not important to do so. Although only 3% felt they did not know very much about different religions, 89% considered training on these issues as useful or very useful.

Conclusions
Our pilot survey showed that the majority of doctors did not enquire about their patients’ religious views. Further training and emphasis on this aspect of patient care is important. The plan is conduct a larger study among both junior doctors and nurses.
PARALLEL PLANNING OF DISCHARGE: A QUALITY IMPROVEMENT INTERVENTION TO EXPEDITE TRANSFER OF CARE OF OLDER ADULTS WITH COMPLEX MEDICAL NEEDS FROM HOSPITAL BACK TO THE COMMUNITY

D Birch, D Stokoe

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Introduction
Problem- Lincoln County Hospital, like other sites has been struggling to cope with the increase in hospital admissions especially among older adults. There is no access to step down beds. The mean length of inpatient stay in medical beds for older people was 19.6 days and this impacted on the ability to transfer patients out of accident and emergency in a timely manner. Delays to discharge consumed a significant percentage of hospital stays for frail older adults.

Method
Design – Focused audit.

Setting – Medical beds for older people in an acute NHS trust in England.

Key measures for improvement- Mean length of inpatient stay, 28 day readmission rates, mortality, complaints.

Strategies for change- Changes were made to the structure of the multidisciplinary team meetings and a computerised discharge planning tool was introduced to aid members of the team to prioritise and coordinate their workload. More frequent senior ward rounds were instituted and a nurse discharge coordinator was employed to plan and expedite discharge processes.

Results
Mean length of inpatient stay reduced to 12.6 days with no effect on readmission rate, no changes in mortality rates.

Conclusion
A basket of measures including careful prioritisation and coordination of tasks undertaken by MDT members led to discharge has a significant impact on mean length of stay in patients with complex medical and social problems.
Withdrawn
MEASURING PATIENT EXPERIENCE: THE NATIONAL AUDIT OF INTERMEDIATE CARE PATIENT REPORTED EXPERIENCE MEASURE

On behalf of the National Audit of Intermediate Care Steering Group, NHS Benchmarking Network

Background
The 2013 National Audit of Intermediate Care (NAIC) included a Patient Reported Experience Measure (PREM) developed from the Picker Institute National Patient Survey (www.pickereurope.org). 41 relevant questions were refined through a Delphi process to develop two separate fifteen-item questionnaires (for each of home or bed-based services). Cumulative responses offer insight into the perceived quality of delivered care from the perspective of service-users.

Sampling methods
Services from 267 intermediate care providers were included. Anonymous PREM questionnaires were handed to 50 consecutive service-users discharged from 131 bed-based services, and 250 service-users from each of 95 home-based and 48 reablement services between May and August 2013, and returned by post to a central address.

Results
Responses were received from 1,832 users (28%) of bed-based services, 2,983 users (14%) of home-based services and 1,644 (13%) of reablement services.

Over 95% of respondents reported involvement in goal setting, confidence in staff treating them and a reasonable waiting time for services to start. 98% of service-users felt they were treated with dignity and respect. 7% of service-users felt excluded from discussions regarding discharge from services; both home (9.1%) and reablement (9.6%) service-users reported lack of involvement in discussions regarding their post discharge needs. 9.6% of users of bed-based services would have like to have been more involved in care decisions.

Conclusions
The inclusion of a PREM in the 2013 NAIC has offered a unique insight into the experience of intermediate care service users. The instrument was sensitive to different aspects of the care experience. Experience of care is generally positive, but could be improved through increased involvement of users in care planning, discharge planning and post-discharge care.
IMPROVING CARE FOR THE FRAIL OLDER PATIENT IN AN ACUTE HOSPITAL SETTING

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Care of the Elderly Medicine Department, Queen’s Hospital, Barking, Havering & Redbridge Hospitals NHS Trust

Background
Frail older patients may have increased length of stay (LoS) and poorer outcomes when kept on traditional medical assessment units due to lack of comprehensive geriatric assessment at an early stage of their admission.

Innovation
A clinical specialist nurse for older people (CNS) and an Elderly Short Stay Unit (ESSU) were introduced to support the work of the Frail Older Peoples’ Advice and Liaison Service (FOPALS) operating in MAU. The CNS actively sought patients for FOPALS to review, liaising with family and community services, helping MAU with complex discharges and triaging patients to ESSU. With an anticipated LoS less than 4 days ESSU benefited from daily consultant geriatrician ward rounds, twice-daily MDT board rounds and increased therapy input. FOPALS then expanded to 7 day working.

Evaluation
LoS for all elderly patients admitted to Queen’s Hospital from March-May in 2011 and 2012, was 11 days and 11.25 days (respectively). Data was analysed on 730 patients from March-May 2013. 353 patients were assessed by FOPALS between March and mid April 2013. Pro-formas were completed (prospectively) for every patient. Following introduction of seven-day working, a further 377 patients were assessed between mid-April-May 2013. FOPALS reduced LoS for all elderly patients admitted to geriatric wards at Queen’s Hospital from March-May 2013, to 9.25 days. LoS for those specifically assessed by FOPALS was 9 days. This reduced further to 8.1 days once seven-day working was introduced. Readmission rates within seven days reduced from 10.4% to 6.9% for all geriatric patients. Readmission rates within thirty days declined from 33 to 25%.

Conclusions
ESSU along with a specialist nurse improved LOS, when used in conjunction with FOPALS, not only improving outcomes at the ‘front door’, but for all ward areas.
A QUALITY IMPROVEMENT PROJECT: IMPROVING RECOGNITION OF LOW MOOD AND DEPRESSION IN ELDERLY INPATIENTS

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Background
Depression is the most common mental health problem in later life. Despite the suffering, impaired function and increased mortality associated with depression, it remains under-diagnosed and inadequately treated.

A recent point prevalence study by our old-age psychiatry department revealed we recognised only 25 cases of depression in our elderly inpatients from an estimated 96.

This Quality Improvement project aimed to improve the recognition of low mood and depression in our elderly inpatient population.

Innovation
22-week project.

Interventions:
1) Posters highlighting risk factors for depression and guidance on how to act.
2) A reminder at the daily safety brief to document and screen for low mood.
3) Amendments to each patient’s weekly MDT sheet, to include mood documentation.
4) Letters to auxiliary staff asking them to screen patient’s mood with a graded chart.
5) Additional reminder to inform nurses of high risk scores.

Fortnightly data collection. 10 random case notes reviewed each time on same 32-bed ward.

Evaluation
In total 110 notes reviewed. 70% (n.77) of patients had one or more risk factors for depression. Interventions 1-3 showed little or no improvement to the assessment and documentation on mood. After intervention 4, 90-100% (9 -10 out of 10) of patients had evidence of mood assessment documented. This was sustained for the last 8 weeks of the project. 61% (23/38) of those with mood documentation had no evidence of low mood or depression.

Conclusions
We successfully achieved our goal without additional resources by involving and utilising the Auxiliary staff. The vast majority of those screened did not have evidence of low mood or depression.

Of those recognised with low mood; (8/38) initiation of anti-depressants occurred in 3, adjustments to current anti-depressants in 2, and further assessment organised with GP or Community mental health team in the remainder.

References
Lebowitz BD et al, Diagnosis and Treatment of Depression in Late Life. Consensus statement update. JAMA. 1997;278(14):1186 ;
NICE Guidelines CG90 Depression in adults 28 October 2009
ROUTINE TELEPHONE FOLLOW-UP OF OLDER PEOPLE AFTER HOSPITAL ADMISSIONS

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Institute of Gerontology, King's College London

Background
Older people are at high risk of adverse outcomes after hospital discharge such as readmissions. Telephone follow-up (TFU) has been used to bridge the care transition home and involves a health-care professional contacting the patient post-discharge to check on their condition.

Innovation
Older people discharged home after medical admissions from one London hospital received TFU on days 1 and 5 post-discharge. Recipients were asked about their general condition, follow-up appointments and medications. Readmissions (within 7 and 30 days), Emergency Department (ED) and scheduled outpatient-clinic visits within 30 days of discharge in the TFU group were compared to a historical control group.

Evaluation
There were 31 participants in each group (mean age 81). The two groups were well-matched, having 4 comorbidities (mean), 68% females, and 64% lived alone. Contact was made with 93.6% of the TFU group. There were no statistically significant differences in readmission rates within 7 (9.7%, p=0.664) and 30 days (22.6%, p=1.000) between the groups. The TFU group had fewer ED visits and greater scheduled clinic appointments attendance within 30 days but this was not statistically significant (p=0.562 and 0.616 respectively). Questions/concerns were raised by 39% in the TFU group, with 41.4% having persisting/new symptoms. Various actions were undertaken to address these issues including arranging appointments. Patients appreciated the calls and no adverse events were identified.

Conclusions
This pilot study was the first to examine the effect of TFU on health-care utilisation (HCU) outcomes in older people in the UK, and did not reduce hospital readmissions within 7 or 30 days of discharge, but the TFU group did have fewer ED visits and greater clinic attendance within 30 days (not statistically significant). Older patients had informational needs and outstanding issues that were addressed. This study demonstrates feasibility of TFU of older people after discharge, and that HCU outcomes are not detrimentally affected and may be improved.
ACE IMPACT: EVALUATION OF AN INTEGRATED GERIATRIC SERVICE

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Croydon Health Service NHS Trust

Background
Unplanned admissions for older people can result in lengthy hospital stays. It has been recognised that many of these admissions are avoidable, often associated with adverse patient outcomes and potential resource misappropriation.

There is a drive to seek novel processes to better assess and manage frail elderly people presenting to Emergency Departments (ED).

Innovation
Within a busy London District General Hospital, an Acute Care of the Elderly (ACE) service was designed. Based in the ED Observation Ward this service provides an in-reach service to the ED, and liaison to the Acute Medical Unit.

This is a consultant-led service, with support from a trust grade junior doctor and Band 6 nurse. At present this is a weekday in-hours resource. Comprehensive geriatric assessment is delivered to patients over the age of 80, with complex problems or frailty, but who do not require inpatient care. Therapies and social care support is provided through existing teams operating in the ED.

Evaluation
Between January and October 2013, 662 patients have been assessed by the ACE team, in whom 459 inappropriate admissions were avoided. To receive a comprehensive geriatric assessment and appropriate treatment these patients only needed to stay an extra 4.76 hours on average in hospital.

Since the introduction of the ACE service the rate of admission in older people from ED Observation Ward has reduced 61.2% in 2012 to 35.1% this year, despite similar levels of activity. Comparing similarly aged patients and episode diagnosis coding, a potential 5000 bed days could be saved per year.

Conclusions
The ACE service has provided clear benefits to patients and the trust by avoiding un-necessary hospital admission, while providing focused consultant-delivered care in a timely manner. Expansion to a seven-day service is imminent, with expected further benefits.
MULTIPLE CHOICE QUESTIONS (MCQS) ABOUT IN-PATIENT SCENARIOS - A TEACHING TOOL IN AN ELDERLY CARE DEPARTMENTAL TEACHING PROGRAMME

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Background
Junior doctors’ knowledge and skills need to be honed to deal with complex elderly patients. MCQs can be one method of achieving this and make learning enjoyable. The experience gained by reading relevant topics and setting MCQs could help specialist registrars in their Specialist Certificate Examination.

Innovation
This small scale research study from May to July 2013 used MCQs based on real ward patients’ scenarios. Five fifteen minute sessions each having ten to fifteen MCQs were conducted. The MCQs used electrocardiograms, imaging modalities and clinical events of current ward patients to simulate real time learning.

Evaluation
The answers were marked at end of each session. During the final assessment a mix of questions used in earlier sessions were used to explore whether learning was sustained. The effectiveness and perceptions of the teaching were evaluated by a questionnaire.

Conclusion
The average score of 15 doctors in the five preliminary and the final sessions are as follows:

<table>
<thead>
<tr>
<th>Session</th>
<th>Average total marks</th>
<th>Average marks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Consultant (2)</td>
<td>Associate Specialist (1)</td>
</tr>
<tr>
<td>1-5</td>
<td>12.6</td>
<td>7.8</td>
</tr>
<tr>
<td>Final</td>
<td>18.0</td>
<td>8.5</td>
</tr>
</tbody>
</table>

Though the numbers were small, the sessions were well received. To our knowledge this is the first time MCQs about current patient scenarios were used as a teaching tool.
WEIGHT LOSS AND NUTRITIONAL ASSESSMENT IN MOVEMENT DISORDER CLINICS (MDCS) IN THE WEST OF SCOTLAND

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¹. Department of Medicine for the Elderly, NHS Greater Glasgow, 2. Care of the Elderly, NHS Lanarkshire

Background
Patients with degenerative Parkinsonism are susceptible to weight loss and malnutrition due to increased energy expenditure from involuntary movements and limited food intake due to symptoms and medication side effects. Weight loss and poor nutrition has a detrimental effect on function and quality of life. Further, there is a suggestion that weight loss may be a predictor of mortality in men (Walker R et al, Int J Palliat Nurs, 2012 Jan, 18(1) 35-9).

Sampling Methods
We reviewed notes for 100 patients across 5 sites in the West of Scotland. Our inclusion criteria were age 65 and over, diagnosis of degenerative Parkinsonism and clinical review in the past six months. We reviewed documentation of weight/BMI recordings, weight loss, swallowing impairment, issues with meal preparation and subsequent approaches to management in patients with weight loss.

Results
94% of patients had a weight documented, 79% had serial weights recorded. Only 12% had a BMI (body mass index) calculated. Of those with serial weights recorded; 54% experienced a weight loss with 18% having lost >1kg and 18% had a weight gain. 20% of patients had documentation of assisted meal preparation. 17% had a dietetic referral. Dysphagia was recorded in 14% of patients; however documentation of swallowing in general was poor. 71% of these patients were referred to Speech and Language Therapy.

Conclusions
Measurement of weight is performed well at MDC’s but not at repeat attendances. Body mass index is recorded less often. We found over half of our patients experience weight loss between clinic visits. This study suggests we need to improve our approach to weight and nutrition in patients with degenerative Parkinsonism. This requires a comprehensive assessment including serial weight or BMI measurements, identifying swallowing impairment, recognising a need for assisted meals or preparation and dietetic referral.
THE IMPACT OF A REGULAR MULTIDISCIPLINARY MEDICATION REVIEW ON POLYPHARMACY AND PSYCHOTROPIC PRESCRIBING IN CARE HOME RESIDENTS – A FOLLOW-UP STUDY

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Introduction
Polypharmacy (defined as the use of multiple medications) is common in elderly care home residents. It is a challenge to balance adherence to guidelines for chronic disease management and the perils of adverse drug effects. In 2009, we introduced a weekly multidisciplinary medication review of our care home residents. Within four months there was a reduction in the average number of psychotropic drugs from 2.3 per patient to 1.7. The total number of medications per patient reduced from 7.1 to 6. Antidepressant prescribing reduced from .7 per patient to .2. The aim of this audit was to assess whether this intervention had a long term effect in maintaining the initial improvements.

Method
A clinical pharmacist, clinical nurse manager and specialist geriatrician meet weekly to review residents’ medication. In September 2013 the total number of medications and psychotropic medications (British National Formulary classification) per resident was collected. Laxatives and dietary supplements were excluded. The consumption of ‘as required’ medication was included if administered within the past 72 hours.

Results
Total number of residents was 54. Mean age was 80.2 years (55.6% female). 81.5% had cognitive impairment (MMSE <26/30), while 27.8% had severe cognitive impairment (MMSE <10/30). Total number of medications prescribed was 6.8 compared with 7.1. There was a small reduction in psychotropic prescribing 1.35 per patient compared to 1.7. Antidepressant prescribing was increased at 0.277 per patient compared with .2.

Conclusion
This study demonstrates the continued positive impact of regular multidisciplinary medication review meetings on the prescribing of psychotropic medications, and in maintaining reductions in total number of medications for our long term elderly residents. Polypharmacy remains high with an average number of medications of 6.8. It is imperative to continue to implement strategies to promote appropriate, individualised prescribing in this at risk vulnerable population.
SINGLE SCREENING QUESTIONS FOR COGNITIVE IMPAIRMENT IN OLDER PEOPLE; A SYSTEMATIC REVIEW

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Scope
Single item screening questions may be a practical first step in screening for cognitive problems in older people. A form of single item cognitive assessment is proposed in the NHS England and Wales dementia strategy. Our objective was to provide a review and synthesis of the evidence regarding the performance of single item tests for detection of cognitive impairment.

Search Methods
We performed a systematic review using Cochrane diagnostic test accuracy procedures. Two independent researchers searched for relevant papers across multiple, cross disciplinary electronic databases using previously validated search strings. Our index test of interest was any single screening question for cognitive impairment, including single items derived from factor analysis of multi-item tools. Our reference standards included clinical diagnosis (dementia, delirium and mild cognitive impairment) and accepted cut-offs on multi-domain cognitive assessments. We assessed risk of bias and external validity using the QUADAS-2 tool.

Results
From 884 initial titles 11 studies were identified as eligible for inclusion in this review. Four studies were graded low risk of bias and recruited a representative patient sample. Clinical heterogeneity precluded formal meta-analysis.

Five papers described a single screening question for cognitive impairment, each used a differing single question. Sensitivity ranged from 96% to 26%; specificity 45% to 100% depending on setting and question used. Six papers described component analysis of multiple item tools, in general broadly worded single questions around “decline in memory function”; “changes in ability to think and reason” or “learning new things” performed well.

Conclusions
Informant based single item screening questions show promise for detection of cognitive impairment. However, there was substantial heterogeneity in format / application of single item screening tools and several papers had methodological or generalizability issues. Without further high quality test accuracy studies, we would not recommend large scale screening using a single item approach.
IMPROVED DOCUMENTATION OF DELIRIUM AND CAPACITY ASSESSMENTS IN THE MEDICAL RECEIVING UNIT

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Evidence-base
Patients over the age of 65 admitted to acute hospital services are at high risk of having delirium. Delirium is associated with increased length of hospital stay, poorer functional recovery and increased risk of mortality. UK NICE guidelines recommend the use of the short confusion assessment method (S-CAM) for all patients at risk within 24 hours of hospital admission.

Change Strategies
Through an initial cycle of audit, deficiencies in cognitive assessment (relative to current guidelines) were defined for patients \( \geq 65 \) years, admitted to the medical receiving unit at University Hospital Ayr.

Deficiencies were highlighted to medical & nursing staff through the hospital medical directorate meeting and electronic summary.

The admission pro-forma was subsequently amended to include two prompts: Firstly, for admitting junior doctors to assess for delirium using the s-CAM; Secondly, for admitting consultants to document when patients lacked capacity with respect to proposed interventions, with accompanying completion of an AWI form.

A second cycle of audit was performed following these interventions to assess effectiveness.

Change Effects
314 consecutively admitted patients were included during 2 cycles of audit (case ascertainment of 88%).

Cognitive assessment (by any method) was higher during cycle 2 compared with cycle 1 (81.1% versus 42.0% of patients, \( p<0.001 \)), including the subgroup of patients with presenting complaint of “confusion” (91.9% versus 55.1%, \( p<0.001 \)).

The s-CAM assessment was documented in 71.7% of patients in cycle 2 compared with none in cycle 1 (\( p<0.0001 \)).

Assessment of capacity was documented in 44.2% of patients during cycle 2 compared with 2.8% in cycle 1, including in the subgroup of patients with documented cognitive impairment (61.9% versus 14.3%, \( p<0.001 \)).

Conclusion
Through repeated audit, educational meetings & modification of the medical unit admission pro-forma, assessment of cognition (including delirium) and capacity were both significantly improved in an acute medical receiving unit.
COLLABORATION AS AN INTERVENTION TO IMPROVE RECOGNITION OF DEMENTIA IN AN ACUTE HOSPITAL

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Introduction
The National Dementia Strategy highlights the inadequate awareness and recognition of dementia, particularly within hospitals. Poor early recognition of dementia patients is one factor, which leads to their poor outcomes. An internal audit had shown that there has been inadequate assessment of the cognition of admissions. Particularly patients who had been flagged as needing cognitive assessment following initial dementia case finding screening. Audit showing rates of cognitive assessment (of flagged patients) were between 30-50% in 3 months prior. Leading to low rates of recognition. The number of patients diagnosed with dementia and/or delirium in these 3 months was 22.

Method
Collaboration between the trust and Liaison Psychiatry was created. This partnership identified obstacles, which affected the delivery of dementia care. These obstacles were targeted using a multi-faceted approach to develop solutions to improve dementia recognition. We began a training program to increase dementia awareness for staff. This targeted all members of staff, and used multidisciplinary trainers. In addition, a Geriatric Specialist Nurse in conjunction with a Psychiatry nurse were supported towards a more flexible role where they were able to prompt appropriate assessments, create awareness and education. We developed a new proforma, which prompted junior doctors to assess cognition. We developed a delirium awareness card (attached to ID badges), which was distributed on Trust induction.

Conclusion
A subsequent audit has shown significant improvement in the assessment of dementia and subsequent recognition. Rates of assessment of cognition (using the new proforma) have increased to 90% for 3 months. The number diagnosed with dementia and or delirium in the 3 months was 40.

We show that to improve recognition of dementia (and overall care for this complicated cohort) requires a collaborative multi-faceted approach.
DELIRIUM AWARENESS - IMPROVING RECOGNITION AND MANAGEMENT THROUGH TRAINING AND EDUCATION

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Evidence base
Delirium occurs in 10-20% of medical patients on admission and a further 10-30% develop delirium as an inpatient. Delirium is associated with increased length of stay, morbidity, mortality and risk of institutional placement. There is poor knowledge of delirium recognition and management and a need to raise awareness and training of all staff. NICE have produced guidelines for diagnosis, prevention and management of delirium.

Change strategies
A retrospective departmental audit demonstrated that delirium was under-recognised i.e. only 5.7%.

A staff questionnaire revealed poor knowledge of types of delirium and a significant underestimation of prevalence with poor identification of risk factors.

A multi-professional group was formed to raise staff awareness and develop a multicomponent interventional pathway for delirium.

Information leaflets on delirium were produced for patients, carers and families and posters at ward level. Ward based and departmental educational meetings were held. A Trust based awareness programme was also provided. Environmental changes (signage) at ward level were introduced to improve the environment for patients. A delirium care pathway was created to encourage documentation of mental score, assessment of delirium, review of reversible medical causes and a nursing care plan. This pathway was reviewed regularly on ward rounds and feedback given to staff at the time.

Change effects
The notes of 106 consecutive discharges were reviewed over an 11-week period. 99% of at risk patients were screened for delirium. 35% of patients were diagnosed with delirium increasing the recognition rate from the previous audit of 5.7%.

Conclusion
There was significant improvement among the multidisciplinary staff in recognising and managing patients with delirium through the use of a delirium care pathway.

Education improves understanding and awareness of delirium and a care pathway focuses attention on this area, improving patient safety, quality of care and patient and family experience.
A MULTI-FACTORIAL ASSESSMENT AND INTERVENTIONAL PROGRAMME CAN DECREASE INPATIENT FALLS: AN UPDATE

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Care of the Elderly department, South Eastern Health and Social Care Trust, Northern Ireland

Evidence-base
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 may 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.

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 falls rate was 14.69 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 were organised subsequent to each intervention. Completion of the Falls Care Plan was monitored to improve compliance. A yearly 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 was 12.44 falls / 1000 patient bed days, November 2011 – October 2012; a 15.3% reduction. The inpatient falls rate was 5.87 falls / 1000 patient bed days, November 2012 – October 2013; a 52.8% reduction.

Conclusion
The continued implementation and re-auditing demonstrates a significant reduction in falls through use of a multi-factorial assessment and care plan and an incentive poster. A team approach is required for falls reduction.

1. NPSA, 2010.
FIRST 72 HOURS OF STROKE CARE AND ORGANISATION IN NEW ZEALAND: A PLAN-DO-STUDY-ACT (PDSA) AUDIT

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Evidence-base
Well organised acute stroke units (ASU) reduce stroke mortality and morbidity. ASU opened in Tauranga Hospital, New Zealand, in January 2013. Twelve key indicators from UK Sentinel Stroke National Audit Programme, representing quality of care and organisation in the first 72 hours of admission with stroke, have been shown to optimise patient outcome.

Change Strategies
Audit was undertaken of these indicators in 30 patients admitted to ASU from six weeks after opening until April 2013. Three areas were identified for improvement: Zero patients had continence planning within 72 hours of hospital arrival; only 60% had an initial swallow screen; and 17% of patients arrived to ASU within 4 hours of arrival at Hospital.

A swallow assessment form and new continence assessment tool, developed in partnership with a Continence Specialist Nurse, were made obligatory for all patients admitted with stroke to ASU. Educational events were held with emergency department staff on recognising stroke and transferring early. Audit was presented to ward nurses with education in these three areas. ASU admission criteria were re-distributed, with emphasis on not requiring a Brain scan before transfer. ASU patients suitable for discharge were identified promptly ensuring bed availability.

Change effects
Focused re-audit of 26 patients admitted with stroke to ASU from June to August 2013 was undertaken. Continence tool was present in all 26 patient notes; completed adequately in 65%, and partially in another 27%. Initial swallow screen was performed in 85%. Patients reaching ASU within 4 hours of hospital admission doubled to 38%.

Conclusion
Improvements in patient flow, continence and swallow assessments were achieved through change strategies and team engagement. PDSA audits are vital for quality improvement and transitioning evidence based guidelines into practice, helping to optimise patient outcomes after stroke. Tauranga ASU has an organised and highly motivated stroke team committed to continuous improvement.
ANALYSIS OF TIMELINES FROM ‘MEDICALLY FIT’ TO DISCHARGE IN OLDER PATIENTS IN THE NORFOLK AND NORWICH UNIVERSITY HOSPITAL

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Background
Bed availability for hospital admissions has been of unprecedented concern to healthcare professionals, politicians and the public¹ ². At 85% bed occupancy crises occur on average 4 days a year, while figures of greater than 90% crises occur very frequently³. Currently there is significant focus on improving A&E departments and less on supporting discharges into the community. We analysed the discharge process in older peoples’ medicine (OPM) wards in a teaching hospital and created a unique timeline for each individual.

Sampling methods
All ‘medically fit’ (n=99) patients were identified in 3 OPM wards over a 2-month period using nursing/medical handovers. All patients not discharged on becoming medically fit had their notes reviewed and a timeline of events created.

Results
Mean time from admission to ‘medically fit’ was 11.82 days and from ‘medically fit’ to discharge was 18.24 days. Patients spent 61% of their time in hospital with no acute medical issues. Whilst awaiting discharge, 17% suffered complications and 4 patients died. The longest time periods related to waiting for assessments by social workers (mean 9.55 days referral to assessment), continuing healthcare team (mean 8.75 days) and community liaison team (3.14 days).

Conclusion
The delay to discharge in our 99 patients equated to an excess expenditure of £469,557 and 1805 bed days lost. 359 patients breached in A&E due to paucity of beds¹. Our results have highlighted a pressing need for more investment to support our overstretched social care colleagues. By mirroring the large scale investment in A&E, the wait for inpatient discharge assessments could be similarly reduced.

References

1. Capewell S. BMJ. 1996; 312:991-992
2. Emergency tent set up outside Norfolk hospital to cope with admissions. Guardian online accessed 21/11/2013
4. NNUH Emergency services divisional assurance framework - A&E 2013/14
THERAPEUTIC USE OF COMPRESSION STOCKINGS FOR ORTHOSTATIC HYPOTENSION: AN ASSESSMENT OF PATIENT AND PHYSICIAN PERSPECTIVES AND PRACTICES

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2. Department of Bioelectronic Engineering NUIG, Ireland,
3. Graduate Entry Medical School, University of Limerick, Ireland,
4. Centre for Interventions in Infection, Inflammation & Immunity

Background
Elastic compression stockings (ECS) can be used as a non-pharmacological therapeutic option for older patients with orthostatic hypotension (OH). The aims of our study were to investigate the practices and perceptions of patients and physicians regarding the use of ECS for OH.

Sampling Methods
Two surveys were designed and piloted. The first was sent to 90 patients known to have been prescribed ECS for OH. This questionnaire included items related to frequency of use, issues related to non-compliance and patients’ own assessment of the effectiveness of ECS. The second was sent to 69 consultant physicians in geriatric medicine. This included items relating to prescribing practices, perceived patient compliance and efficacy of ECS in OH.

Results
67 patients responded to the survey (response rate 74%). 64% were female, with a mean age (SD) of 75.1 years (10.5), range 45-91 years. 33% wore ECS daily while 43% never used them. Over half (51%) of the patients reported difficulty in application, 31% reported discomfort and 13% reported ECS were unhelpful for symptoms. More frequent use was associated with improvement in symptoms (p=0.001). Those aged 75 years or older were more likely to report difficulty in application compared to those under 75 (p=0.003). 48 physicians responded to the survey (response rate 70%). 89% prescribe ECS for OH, with 67% prescribing them before initiating pharmacological therapy. 53% chose thigh length class 2 compression strength. There were significant differences between the frequency of use reported by patients and predicted by physicians (p<0.001), with physicians less likely to predict no use or daily use. 89% of physicians predicted that difficulty in application was the main reason for non-compliance.

Conclusion
Our findings suggest that although prescribed frequently, the use of ECS in patients with OH is often limited by issues related to practicality. Physicians correctly predicted the main reasons for non-compliance although underestimated the scale of patient compliance with ECS.
INSIDE THE DOLS HOUSE, A FREEDOM OF INFORMATION ACT SURVEY OF VARIATIONS IN THE USE OF DEPRIVATION OF LIBERTY SAFEGUARDS (DOLS) IN ENGLAND

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Background
Deprivation of Liberty Safeguards (DoLS) were introduced in 2009 as part of the Mental Capacity Act (2005) to protect people who lack capacity to make decisions for themselves. There is a degree of judgement needed in deciding what constitutes a Deprivation of Liberty. This survey was set up to see how much variability there is within the decision making.

Sampling Methods
149 English Acute NHS Trusts were sent a Freedom of Information Act (2000) request, asking for details about DoLS applications carried out during 2012. Where an appropriate email address could be identified the request was sent electronically (147 cases) and by post (2 cases) otherwise.

Results
There were 1228 reported DoLS applications. 221 were authorised and 175 were not. No information was given on the outcome of the remaining 832 applications. 390 applications related to female patients, 485 to males and 353 were unspecified. The most common health conditions were Dementia (276), Delirium (132), Mental Health Condition (122) and Head Injury/Tumour (89). The most frequent reasons given for DoLS were "Refusing Care and Treatment" (290), "Attempting to Leave Ward" (262), "Chemical Restraint" (77) and "Physical Restraint" (68). The number of DoLS per region are shown in the table.

<table>
<thead>
<tr>
<th>Region</th>
<th>Number DoLS</th>
<th>Number Trusts</th>
<th>Population(Million)</th>
<th>DoLS/Million</th>
</tr>
</thead>
<tbody>
<tr>
<td>North East</td>
<td>85</td>
<td>9</td>
<td>2.116</td>
<td>40.17</td>
</tr>
<tr>
<td>North West</td>
<td>238</td>
<td>25</td>
<td>5.816</td>
<td>40.92</td>
</tr>
<tr>
<td>Yorkshire</td>
<td>143</td>
<td>13</td>
<td>4.352</td>
<td>32.86</td>
</tr>
<tr>
<td>West Midlands</td>
<td>104</td>
<td>17</td>
<td>4.580</td>
<td>22.71</td>
</tr>
<tr>
<td>East Midlands</td>
<td>69</td>
<td>9</td>
<td>3.751</td>
<td>18.40</td>
</tr>
<tr>
<td>South West</td>
<td>194</td>
<td>18</td>
<td>4.424</td>
<td>43.85</td>
</tr>
<tr>
<td>South East</td>
<td>147</td>
<td>16</td>
<td>7.100</td>
<td>20.70</td>
</tr>
<tr>
<td>London</td>
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<td>25</td>
<td>6.643</td>
<td>14.60</td>
</tr>
<tr>
<td>East England</td>
<td>151</td>
<td>17</td>
<td>4.812</td>
<td>22.80</td>
</tr>
</tbody>
</table>

Conclusions
There is considerable regional variability of DoLS applications across England. The majority are in patients with Dementia, Delirium, Mental Health Problems or Brain Injury/Tumour. The main reasons for DoLS applications are "refusing care/treatment" or "attempting to leave the ward". This survey suggests that work is needed to identify the reasons for the regional variability in DoLS applications.
CARER AND STAFF SATISFACTION SURVEY – DEMENTIA/DELIRIUM WARD

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Background
Cathkinview ward in the Mansionhouse Unit at the Victoria Infirmary is a dementia/delirium specific ward which was created using Change Fund money as an initiative from the Reshaping Care for Older People programme. As part of its ongoing validation it was felt that the opinions of staff and carers would be vital to understand their experience on the ward and to assess areas for ongoing improvement.

Method
Two questionnaires were created to assess staff and carer perceptions relating to various aspects of care in the ward. The carer questionnaire used a revised 18 point questionnaire looking at aspects of quality of care provided in the ward, ward environment and accessibility to and attitudes of staff members working there. The staff questionnaire was a 10 point questionnaire to find out staff opinion about the working environment in the ward and to assess the level of staff training in behavioural and psychological symptoms of dementia (BPSD) and whether there has been an appreciable reduction in the number of patients with BPSD on the acute assessment geriatric wards in the Mansionhouse Unit since the opening of the dementia/delirium ward.

Results
The carer questionnaire showed that overall 80% of carers rated the experience of the ward as 'very good' or 'good'. In the staff questionnaire 90% strongly agree or agree that the dementia/delirium ward better meets the needs of patients with dementia and 100% of those working there like the environment and feel that their confidence working with patients with dementia has increased.

Conclusion
Cathkinview ward seems to be a suitable and well liked environment for managing patients with dementia based on staff/carer perception. Patient's needs appear to be well met and ongoing assessment and feedback is required to maintain and improve standards and patient/carer experience.
THE IMPLEMENTATION OF INTERMITTENT PNEUMATIC COMPRESSION TO REDUCE DEEP VEIN THROMBOSIS RATES IN STROKE PATIENTS

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Background
Following stroke, deep vein thrombosis (DVT) incidence is 33-50% with 25% of early deaths caused by pulmonary embolus (Kamphuisen, Agnelli, Sebastianelli, Journal of Thrombosis and Haemostasis, 2005,3:1187). At present there is no NICE guidance on venous thromboembolism prophylaxis, but the CLOTS3 trial, showed intermittent pneumatic compression (IPC) to reduce DVT incidence (CLOTS Trials Collaboration, The Lancet, 2013,382:516). We studied the number of devices that would be needed to provide IPC in a busy stroke unit and apply this for use nationally.

Northwick Park Hospital Stroke Unit has 50 beds and a mean of 91.5 admissions per month from its local population.

Sampling Methods
Patients admitted over two 31-day periods were assessed for eligibility and duration of IPC. CLOTS3 inclusion criteria were used. These are acute stroke within 72 hours and reduced mobility (needing help of 1 to mobilise). Exclusion criteria were: mobilisation within 72 hours, severe peripheral oedema or peripheral vascular disease. Patients who were to be repatriated to another hospital were excluded.

Results
The average number of patients eligible for IPC per month was 33 (56%). Mean and median duration of use were 15.8 and 16.5 days respectively. Maximum number of patients at any one time using IPC was 22. Maximum number of new admissions requiring IPC on a single day was 3, and the mean was 1.5.

Conclusions
Our recommendations for this unit are; to acquire 25 controllers (if maximum patients on IPC and maximum eligible new patients admitted coincided on the same day), and to purchase 51 pairs of sleeves per month (total eligible plus replacements for soiled sleeves for IPC use for over 2 weeks). Nationally this data can be used for other units budgeting for this new treatment: for every 10 admissions a month, 2.7 controllers and 5.6 pairs of sleeves would be required.
DIAGNOSTIC TEST ACCURACY OF SIMPLE INSTRUMENTS FOR IDENTIFYING FRAILTY IN COMMUNITY DWELLING OLDER PEOPLE: A SYSTEMATIC REVIEW

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Scope
Routine identification of frailty has been advocated in international consensus guidance. Previous reviews have focused on classification, reliability and responsiveness of simple instruments for identifying frailty but information on diagnostic test accuracy (DTA) is more useful for practitioners. This systematic review was to inform the British Geriatrics Society Best Practice Guidance on Frailty by providing information on DTA of simple instruments for identifying frailty in community settings.

Search Methods
The review methodology followed Cochrane DTA systematic review procedures. A systematic database search was conducted to identify DTA studies of simple instruments for identifying frailty. Two reviewers assessed all titles and abstracts and extracted data. Risk of bias was assessed using the QUADAS tool. Sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) and likelihood ratios were calculated. Summary receiver operating characteristic (ROC) curves and forest plots were constructed.

Results
The searches identified 5677 citations. Three studies involving 3261 participants that assessed seven simple instruments were included. Three instruments (slow gait speed, PRISMA 7 questionnaire and timed-up-and-go-test (TUGT)) had high sensitivity but only moderate specificity for identifying frailty (gait speed <0.8m/s, sensitivity 0.99, specificity 0.64, PPV 0.26, NPV 0.99; PRISMA 7, sensitivity 0.83, specificity 0.83, PPV 0.40, NPV 0.97; TUGT>10s sensitivity 0.93, specificity 0.62, PPV 0.17, NPV 0.99). Self-reported health, GP clinical assessment, polypharmacy and Groningen Frailty Indicator had lower accuracy.

Conclusions
Slow gait speed, PRISMA 7 and TUGT all have high sensitivity but limited specificity as simple instruments for identifying frailty. This means that there are many false positive test results, which limits utility as a single test approach. A two-step approach to frailty identification would potentially improve accuracy but has additional resource implications.
COGNITIVELY ENHANCING MEDICATIONS FOR TREATMENT OF GAIT AND BALANCE IMPAIRMENTS IN OLDER ADULTS THROUGH MODULATION OF COGNITION, ATTENTION OR EXECUTIVE FUNCTION: A SYSTEMATIC REVIEW

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Scope
Older adults with dementia have a two-fold increased risk of falls. Poor executive function and attention are associated with an increased risk of falls in this group. A better understanding of the potential role for cognitively enhancing medications, targeting attention and executive function, to modify gait and balance parameters, and thus reduce falls risk is required.

Search Methods
Systematic searches of MEDLINE, EMBASE, PsycInfo, and Cochrane Central Register of Controlled Trials (CENTRAL) databases to October 2011 were conducted and reference lists of retrieved articles examined to identify prospective studies in adults over 65 years examining the effect of cognitively enhancing medications on gait and balance parameters. Two independent reviewers extracted data on study populations, medications used, outcome measures, and study findings.

Results
Of 4992 abstracts identified, 10 studies met inclusion criteria. Two studies evaluated cholinesterase inhibitors, six studies evaluated methylphenidate, and a single study each evaluated amantadine and caffeine and their effects on gait or balance parameters. Cholinesterase inhibitors demonstrated favourable effects on gait speed and stability in older adults with Alzheimer’s disease. The methylphenidate studies yielded conflicting results. Amantadine demonstrated a trend towards improved gait parameters with treatment but effects were not statistically different to placebo. Caffeine failed to mediate any improvements in gait speed and led to more postural instability.

Conclusions
The findings represent early experimental work in this area and require further evaluation in randomised controlled trials. However, there is adequate evidence to support trialling pharmacological interventions, targeting executive function and attention, to reduce falls risk in older adults.
INPATIENTS ON GERIATRIC MEDICAL WARDS PREFER SINGLE ROOM ACCOMMODATION

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Background
The Royal Victoria Hospital (RVH), a Geriatric Assessment and Rehabilitation Hospital with multi-occupancy rooms was re-provided into a new building with 100% single rooms in 2012. Single rooms improve patient dignity, privacy and provide better infection control, but may be associated with increased falls and social isolation. In 2008, we surveyed inpatients in the RVH on their preferred room type. We repeated the survey in October 2013 in the new 100% single room building.

Sampling Methods
Forty-three inpatients were questioned in 2008 (mean age 78), and 46 in 2013 (mean age 83). Participants were asked whether they would prefer single or shared accommodation. They were also asked where they would prefer to eat their meals alone or in a communal day/dining room. The patients were invited to outline the reasons for their choice. In addition, those participating in the 2013 survey were asked directly if they were lonely in single room accommodation. Patients were invited to explain their answers.

Results
In 2013, 85% expressed a preference for single room accommodation, compared with 37% in 2008. Only 9% in 2013 said that they would prefer a multi-occupancy room compared with 49% in 2008. In both surveys, the majority (61% in 2008 and 76% in 2013) said that they would prefer to eat at their bedside. Only 9% of respondents in 2013 said that they would opt to dine in a dayroom (35% in 2008). Sixty one percent in the 2013 survey said they never felt lonely in a single room. However, 33% responded that they were occasionally or frequently lonely. Open visiting and regular care rounding reduces loneliness and falls risk.

Conclusions
Older patients prefer single room accommodation but the risk of loneliness and social isolation suggests that there should be a percentage of multi-occupancy rooms available in each ward.
IDENTIFYING PREDICTORS OF OUTCOME IN PATIENTS WITH DELIRIUM: A SYSTEMATIC LITERATURE REVIEW

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¹. University of Birmingham, ². Dept. of Geriatric Medicine, University Hospital Birmingham

Scope
Delirium is a serious and common neuropsychiatric syndrome common in older hospitalised adults. It is associated with poor outcomes, including increased mortality, increased length of hospital stay, increased rates of institutionalisation, re-admission and dementia (Witlox J, Eurelings LSM, et al JAMA. 2010;304(4):443-51. Siddiqi N, House AO and Holmes JD. Age Ageing. 2006 Jul;35(4):350-64.) However not all people with delirium have poor outcomes, and the risk factors for adverse outcomes within this group are not well described. Identifying risk factors for poor outcomes would allow clinicians to focus immediate and follow-up management strategies according to baseline risk. The objective was to report which predictors of outcome had been reported in the literature.

Search Methods
A systematic review was performed by an initial electronic database search of standard bibliographic databases using three key search criteria. Studies were then selected in a systematic fashion using specific predetermined criteria by three reviewers.

Results
452 articles were screened and 48 full text articles assessed for eligibility. In total 35 studies describing 45 different predictors of poor outcome were reported. These are in four broad themes; delirium related predictors, patient related predictors, predictors related to other psychiatric conditions and predictors related to biomarkers. The most numerously described and clinically important appear to be the length of the delirium episode, a hypoactive motor subtype and pre-existing psychiatric morbidity with dementia or depression. These are all associated with poorer delirium outcomes.

Conclusion
A number of important predictors of poor outcomes in patients with delirium are described. These predictors are easily clinically identifiable variables and can be used to advise on prognosis and direct management. These results also demonstrate a number of key unknowns, where further research to explore these relationships is recommended and is vital to improve understanding and management of this condition.
REAL-WORLD STUDY TO ASSESS QUALITY OF LIFE, MEDICATION ADHERENCE AND SATISFACTION WITH A LOW-DOSE 7-DAY BUPRENORPHINE PATCH

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Introduction
To assess the benefits of a transdermal patch compared to other commonly prescribed oral opioids in patients with OA of the hip and/or knee.

Methods
This was a prospective, observational study of patients prescribed 7-day buprenorphine patches, co-codamol tablets or tramadol for at least 1 month. Patients self-completed questionnaires at baseline and then monthly for 3 months to assess quality of life (SF-36), medication adherence (Morisky adherence scale) and patient satisfaction (5 point scale from very satisfied to very unsatisfied). The interim baseline results are reported.

Results
755 patients (27.9% >60 years of age, 27.4% male and 72.6% female) completed the baseline questionnaire and 636 patients were eligible to be included in the analysis (7-day buprenorphine patches (n=78), co-codamol (n=378), tramadol (n=180)). Quality of life was significantly improved, based on the mean (SD) SF-36 aggregate physical score for 7-day buprenorphine patches compared to co-codamol and tramadol (40.53 (10.11); 29.62 (10.11); 26.94 (8.35) respectively $P<0.0001$). Patient satisfaction with treatment was also higher for 7-day buprenorphine patches with 80.8% being very satisfied or satisfied, compared to 41% for co-codamol and 38.3% for tramadol. The Morisky adherence score was lower for the 7-day buprenorphine patch (indicating better adherence) with a mean (SD) of 2.79 (1.88) compared to 3.54 (2.00) for co-codamol and 3.23 (1.91) for tramadol ($P=0.0050$).

Conclusion
Based on these interim results, patients with OA of the hip and/or knee appear to benefit with treatment from a transdermal patch, with improved aspects of quality of life and greater treatment satisfaction. These improvements could be due to better adherence with a transdermal patch compared to oral medications.
**HIGHER ORTHOSTATIC HEART RATE PREDICTS MORTALITY IN THE IRISH LONGITUDINAL STUDY OF AGEING (TILDA)**

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*The Irish Longitudinal Study on Ageing (TILDA), Trinity College Dublin, Dublin 2, Ireland*

**Introduction**
Recent literature suggests that impaired systolic blood pressure (SBP) recovery after standing predicts mortality. Orthostatic heart rate (HR) signals have received less attention. We studied the association between beat-to-beat orthostatic hemodynamic variables in TILDA wave 1 (2010) and incident mortality in wave 2 (2012).

**Methods**
Of the 8175 participants aged 50 and over in the first wave of TILDA, 5037 (62%) had a Health Centre (HC) assessment (active stand testing with Finometer® was only available in HC). Good quality active stand data was available in 4468 participants. Receiver operating characteristic curves explored univariate associations between orthostatic hemodynamic variables (baseline, nadir and recovery until 110 seconds post-stand) and mortality. Multivariate analyses were based on binary logistic regression.

**Results**
233 subjects (3%) had died at wave 2. Amongst those who had died, 53 (23%) had had a Finometer® active stand in Wave 1. Compared to the 4415 who had not died and had active stand data, the 53 who had died had no statistically significant differences in orthostatic SBP variables or DBP variables. However, those who had died had a higher baseline HR (mean of 69 vs. 65 bpm) and a higher mean orthostatic HR, especially between 30-60 seconds post-stand (mean of 79 vs. 73 bpm). Adjusted for age, sex, baseline HR, cardiovascular comorbidity and antihypertensives (including beta-blockers), the mean HR between 30-60 seconds post-stand was an independent predictor of mortality (OR=1.05, 95% CI: 1.01-1.10, P=0.012), together with age (OR=1.05, 95% CI: 1.02-1.09, P=0.001) and female sex (OR=0.55, 95% CI: 0.31-0.97, P=0.038).

**Conclusions**
Although the small number of mortality events could have led to underpower for blood pressure variables, higher orthostatic HR was independently associated with mortality and could be a novel (and perhaps more sensitive) risk signal.

**References**
THE PREVALENCE OF COGNITIVE IMPAIRMENT MEASURED USING THE MONTREAL COGNITIVE ASSESSMENT METHOD (MOCA) IN AN OLDER ACUTE GENERAL SURGICAL POPULATION

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Introduction
Rates of all surgical procedures are increasing at a faster rate than the population is ageing. However, this encouraging statistic, necessitates a robust evidence base. The epidemiological evidence base in acute general surgery in the older person is sparse. This is the first assessment of the prevalence of cognitive impairment measured using the MoCA in this setting.

Methods
In three sites in Wales, England and Scotland comprising rural and urban populations, we studied consecutive patients aged over 65 years. We considered any older person admitted to the acute general surgical unit. We did not include patients with orthopaedic, urological, neurosurgical or vascular conditions. We assessed them for baseline demographic data. They each underwent a MoCA assessment. Permission was granted for the use of the MoCA in the research setting. We did not assess delirium.

Results
We collected data on 220 people, mean age 77 years (range 65 - 99), 156 (56.1%) were women. Of these 189 completed the MoCA test, Median score 21 (range 0 – 30). There were 33 (17.1%) MoCA scores in the normal range (>=26). Increasing age (p<0.001) but not sex (p=0.34) predicted an abnormal MoCA.

Of the 41 (18.6%) people who were unable to complete the MoCA assessment, 22 were known to have a diagnosis of dementia, 15 were too unwell and the remainder unable to complete the assessment due pre-existing disability, most commonly poor vision.

Conclusions
In a representative UK wide population, over 80% of people aged over 65 years admitted with an acute general surgical problem had cognitive impairment when assessed using the MoCA.
THE PREVALENCE OF FRAILTY IN THE ACUTE GENERAL SURGICAL SETTING

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Introduction
Increasingly older and frailer patients are being referred to acute general surgical services. More and more of these people are subsequently undergoing surgical procedures. This is due to better surgical and anaesthetic skills, set in the context of increased patient expectation. However, the epidemiological evidence base for the older surgical patient is very poor, especially in acute general setting. In the UK, there has never been an assessment of the prevalence of frailty in this population.

Methods
In three sites in Wales, England and Scotland comprising rural and urban populations, we studied consecutive patients aged over 65 years admitted to the acute surgery admissions ward. This was part of a wider surgical collaboration regarding surgical disease in the older person, www.opsoc.eu. We considered any older person admitted to the acute general surgical unit. We did not include patients with orthopaedic, urological, neurosurgical or vascular conditions. We assessed them for baseline demographic data. They were assessed for frailty using the 7 point clinical frailty score derived from the Canadian Study of Health and Ageing.

Results
We collected data on 308 people, mean age 77.5 years (range 65 - 101), 177 (57.5%) were women. There were 29 (9.4%) classed as very fit, 66 (21.4%) well, 62 (20.1%) well with treated comorbid disease, 58 (18.8%) apparently vulnerable, 25 (8.1%) mildly frail, 44 (14.3%) moderately frail and 15 (4.9%) severely frail. Eight people had frailty data missing.

Conclusions
In a large UK wide, representative sample of older people with acute general surgical disease nearly half of them were classed as apparently vulnerable or more severely frail.
OUTCOMES FOLLOWING FRACTURED HUMERUS COMPARED WITH FRACTURED NECK OF FEMUR IN OLDER ADULTS IN SALFORD

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Introduction
Fragility fracture is an important cause of morbidity and mortality in older adults. Currently there is a national focus on the most prevalent fracture, neck of femur, to improve care and outcome including the Royal College of Physicians National Hip Fracture Database. We compared key outcomes in older adults with fractured humerus against those with fractured neck of femur.

Methods
We undertook a prospective observational cohort study. A study specific database was created for all patients aged over 70-years who attended our hospital between January 1st and December 31st 2010 with a fracture of either the humerus or femur.

We examined length of stay, mortality, baseline function and co-morbidities for each patient and compared the femur group with the humerus group.

Results
Two-hundred and forty patients (190 neck of femur) were included. Females accounted for 174(72.5%) Mean age at presentation was 83 years (SD 6.5 years; range 70-99 years). 64 were resident in 24-hour care (36.7%).

Mean age was not significantly different between the two groups but there was a statistically significant difference in sex, with largely females fracturing their humerus 42(35%) versus males 8(12%).

Those admitted with a fractured neck of femur were more likely to undergo surgery (181/190) than those with a fractured humerus (13/50) and had a significantly longer mean length of stay; 23(SD 22) days versus 8.6(SD 13) days respectively.

There was no significant difference in co-morbid conditions, type of accommodation admitted from or mortality between the two populations.

Conclusions
Despite less operative interventions and shorter length of stay, humeral fracture has an equally poor outcome in older adults. This may be due to sufferers having similar demographics and comorbidities. Health care guidance should consider whether the services developed for management of fractured neck of femur should expand patient coverage to include other forms of fragility fracture.
OBESITY IS ASSOCIATED WITH RECURRENT FALLS AFTER A 2 YEAR FOLLOW UP

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Introduction
Falls are common among older adults and are associated with injury, hospitalisation and mortality (Rubenstein Age & Aging 2006 35-S2,ii37). Obesity is associated with many recognised risk factors for falls in the elderly and recent research indicates that obesity may itself be an independent risk factor for falls (Himes & Reynolds J AM Geriatr Soc 2012 60,124). The aim of this analysis was to investigate obesity as a risk factor for incident falls in community dwelling older adults after a 2 year follow up.

Methods
4701 community dwelling adults aged 50+ from the Irish Longitudinal Study on Aging (TILDA) had their baseline height and weight measured during a comprehensive health assessment. Obesity was defined as having a Body Mass Index (BMI) ≥30kg.m². After a 2 year follow up participants were asked if they had experienced any falls since the previous interview, and if so how many falls were sustained. Logistic regression was used to assess the relationship between baseline obesity and incident falls. Covariates studied include baseline demographics, history of chronic and cardiovascular disease, physical disability, previous falls, gait speed, self-rated vision, chronic pain, cognitive function, mental health and medication use.

Results
Mean (SD) age of participants at baseline was 61.0 years (8.8) and 55.6% were female. 32.9% of the sample was classified as obese at baseline. 12.5% of obese participants reported one fall during follow up compared to 13.9% of non-obese participants. A further 11.2% of obese participants reported 2 or more falls compared to 7% of non-obese participants. Adjusting for several covariates, baseline obesity was independently associated with reporting 2 or more falls after a 2-year follow up (Odds Ratio=1.31, p=0.023).

Conclusion
Obesity is associated with recurrent falls in community dwelling older adults over a two year follow up period.
THE PREDICTIVE VALUE OF THE EASYCARE-TOS INSTRUMENT ON FALLING IN COMMUNITY-DWELLING ELDERLY

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Introduction
Easycare-TOS is a multi-domain, two-step screening method for General Practitioners (GPs) for frailty assessment through efficient use of information available in their medical files and their tacit knowledge. Easycare-TOS has already proved to identify frail elderly and predict functional decline. This study determined the predictive value of Easycare-TOS on falling in community-dwelling elderly.

Methods
The Easycare-TOS was performed in 398 elderly from 6 GP practices in Nijmegen, The Netherlands. In step 1 the GP made a frailty judgment based on prior knowledge, in step 2 the Easycare instrument was performed for the final frailty decision. After each step the GP also classified the fall risk. All persons underwent a comprehensive geriatric assessment (CGA, gold standard) by a geriatrician who also classified frailty status and fall risk. All persons participated in the follow-up study for one year. A fall telephone system weekly called each participant to register falls. Predictive value of Easycare-TOS was analyzed using logistic regression.

Results
In the study population (mean age 76.4 years (±4.5); 56% female) 151 participants (39.2%) had at least one fall, of whom 59 participants fell recurrently. GPs judged 30.1% frail and 24.4% had a fall risk, which were correlated (r=0.6; p<0.001). The Area Under the Curve (AUC) for step 1 of the Easycare-TOS on any fall was 0.51, for recurrent falls 0.55. AUC’s for step 2 were 0.51 and 0.60, respectively, and improved to 0.68 by adding age, gender and fall history in the model. CGA showed better results (0.62 for any fall and 0.66 for recurrent falls) especially after adding the three covariates (0.65 and 0.71, respectively).

Conclusions
Because of the similar predictive values compared to a CGA (low-moderate vs. moderate) and the proven ability to identify frailty and predict functional decline, we recommend GPs the Easycare-TOS for fall risk assessment in community-dwelling elderly.
DEVELOPMENT AND VALIDATION OF AN ELECTRONIC FRAILTY INDEX USING EXISTING PRIMARY CARE HEALTH RECORD DATA

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Introduction
Frailty is a state of increased vulnerability to adverse outcomes. Routine identification of frailty to guide better care is recommended in international guidance but how this should be achieved is uncertain. We report the development and validation of an electronic frailty index (eFI) using existing primary care health record data.

Methods
We followed standard procedures for creating a frailty index using the ResearchOne database that contains four million anonymised primary care records. We searched for potentially relevant Read codes and created categories of deficits. The eFI was calculated as the number of deficits present in an individual as a proportion of the total possible. Predictive validity was investigated by calculating one and five year hazard ratios (HRs) for mortality. Discrimination was assessed using c statistic estimates.

Results
454,051 patients >65 years were included. The eFI was constructed using 43 deficits containing 2233 codes. Mean eFI was 0.13, 99th centile was 0.41 and maximum eFI was 0.70. One and five year mortality was significantly increased for those with mild (1yr HR 2.31, 95% CI 2.19-2.42; 5yr HR 2.03, 95% CI 1.98-2.07), moderate (1yr HR 3.97, 95% CI 3.59-4.39; 5yr HR 3.28, 95% CI 3.06-3.51) and severe frailty (1yr HR 5.99, 95% CI 3.47-10.34; 5yr HR 7.13, 95% CI 4.05-12.56). C-statistic estimates for one and five year mortality were 0.71 and 0.72 respectively.

Conclusions
We have developed an eFI using existing patient data with excellent predictive validity and moderate discrimination. Routine identification of older people with frailty using the eFI could help guide improved care pathways and treatment decisions for this vulnerable group.
VIRTUAL WARD EXPERIENCE

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Background
In 2012, 15 million people have more than one long term condition. This number will increase by 60% by 2015. These patients will account for 70% of all hospital admissions. Health and social care will be under great pressure and may collapse. Disease specific pathway is becoming redundant for patients with multiple chronic conditions.

Innovation
By using a risk profiling tool, patients at highest risk of re-admission were identified. The top 1% of those patients were admitted (about 300 in total) to a virtual ward. Patients were managed by integrated multidisciplinary community teams which include: Consultant Geriatrician, Community Matrons, Staff Nurses, Pharmacists, Physiotherapists, Social workers, Ward Clerks. Patients were involved in self-management. Patients stayed in their place of residence while being managed by the team.

Evaluation
We audited patients admitted to the virtual ward during a three months period. We calculated number of admissions and total number of bed days spent in hospital, for the three months before, during and three months after admission to the ward.

There were 155 patients admitted to the ward during the three months period, average stay of five months. There were 84 hospital admissions in the three months before being admitted to the Virtual Ward. This fell to 52 while being on the ward and fell further to 25 in the three months after being discharged. This was also reflected in the number of bed days patients stayed as inpatients.

Conclusion
There was an obvious reduction in number of admissions while patients were on the ward and three months after discharge compared to three months before admission to the ward. While further evaluation is needed to establish statistical significance, from the initial data it appears that the virtual ward has helped to reduce the number of admissions to hospital for this group of patients.
OVERDIAGNOSING AND MISSING THE POINT?

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Introduction

In UK primary care there is a drive towards diagnostic labelling, supported by the Quality of Outcomes Framework. There are concerns that this may expose older people with multiple comorbidities to increased medicalization and polypharmacy. We aimed to estimate diagnosis, prescribing and hospital admission trends in adults over 85 (the oldest old).

Methods

Observational study of 27,109 anonymised records of adults over 64 from the Clinical Practice Research Datalink (CPRD). We estimated prevalence of 18 common clinical diagnoses and 5 additional diagnoses commonly associated with ageing.

The main outcome measures were percentage change in prevalence of common morbidities, medical count and hospital admissions from 2003 to 2011 in adults aged 64–84 and 85+.

Results

Prevalence of diagnostic labels increased 2003–2011 in adults 85+, particularly in chronic kidney disease (36.4% increase in stage 3–5, CI 34.8–38.0), diabetes (8.3% increase, CI 7.1 – 9.5) and dementia (4.7% increase, CI 3.1–6.3%). The proportion of adults with more than 3 medical diagnoses increased in 65–84 year olds from 27.1% to 35.1% (absolute increase 8.0%, 95% CI 5.5 – 10.6%) and in 85+ from 32.2% to 55.1% (absolute increase 22.9%, CI 20.4 – 25.3%). Adults 85+ had marked increases in emergency admissions and the numbers of medications on repeat prescriptions. Documentation of functional status and severity scores for cognition was very limited.

Conclusions

There has been a diagnostic explosion in the oldest old over the last decade, accompanied by increased trends in prescribing and emergency admissions to hospital. However, despite increased diagnostic labelling and prescribing, we found limited documentation of the person-related aspects of care, such as functional status and cognitive grading. It is unclear whether this increased medicalization is of benefit to the oldest old, or whether a change is required to avoid missing the point in people with potentially complex medical and social needs.
INCREASING AGE IS ASSOCIATED WITH POORER ACCESS TO ACUTE STROKE CARE BUT NOT BECAUSE OF PRE-HOSPITAL MISDIAGNOSIS

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Introduction
Older age has been associated with reduced access to stroke unit care but it is unclear whether this simply reflects difficulties with early clinical diagnosis (Rudd, Hofman, Down et al Age and Ageing 2007 36 247-55). We examined whether pre-hospital recognition of stroke and access to acute stroke care were related to age.

Methods
Northumbria Healthcare NHS Foundation Trust is a large geographical secondary care provider with 3 separate acute stroke units (ASU). All patients are initially assessed in the associated emergency department (ED). We retrospectively linked the medical records of patients with a discharge diagnosis of stroke between 14th May 2012 and 10th June 2013 with the corresponding electronic patient report forms completed by paramedics on admission. Only patients admitted by emergency ambulance were included.

Results
733 of 1039 confirmed stroke admissions arrived by emergency ambulance. Complete data was available for 539/733 patients. There was no association between age and presence (n=422, median age 79yrs) or absence (n=117, median age 81yrs) of a paramedic diagnosis of stroke (p=0.52). 392/422 patients with a paramedic diagnosis of stroke were admitted to ASU or ICU. The 30 patients admitted to other wards were older (median 84yrs (other ward) versus 79yrs (ASU/ICU), p=0.01). 77/117 patients without a paramedic diagnosis of stroke were admitted to ASU or ICU. The 40 admitted to other wards were not significantly older (median age 82.5 (other ward) versus 80 (ASU/ICU), p=0.52).

Discussion
Increasing age was not associated with pre-hospital identification of stroke but older patients identified in the pre-hospital phase were less likely to access the ASU directly from ED. This may be due to confounding diagnostic factors emerging in ED, or a higher threshold for admission to the ASU when patients are older.
CASE-FINDING FOR DEMENTIA: WHO ARE THE UNDIAGNOSED?

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Introduction
Delays in diagnosing dementia could lead to suboptimal care. Any policy of active case finding for dementia needs to be informed by an understanding of the population with undiagnosed dementia. We used data from a population representative sample of people with dementia aged 70 years and older in the United States to characterise the undiagnosed population and identify factors associated with non-diagnosis.

Methods
The Aging, Demographics and Memory (ADAMS) study Wave A includes 858 participants, sampled from participants of the 2000 and 2002 waves of the Health and Retirement Study. Participants were assigned a Clinical Dementia Rating (CDR) score following a detailed neuropsychiatric investigation and informant interview. Informants were also asked whether the participant had ever received a doctor’s diagnosis of dementia. We used multiple logistic regression to identify clinical and socio-demographic factors independently associated with diagnosis among those with dementia defined by DSM-IV criteria.

Results
Of those with dementia (n=310), 77 (25%) were married and lived at home, 159 (51%) were unmarried but living at home, while 74 (25%) lived in a nursing home. A prior diagnosis of dementia was reported by 122 informants (weighted proportion=36%). Diagnosis was associated with greater clinical dementia rating (CDR) score; ranging from 24% (CDR=1) to 83% (CDR=5). Those aged 90 or older (OR=0.35; 95% CI=0.14-0.90) were less likely to be diagnosed, but diagnosis was more common among married women (OR=4.5; 95% CI: 1.4-15.0) and those exhibiting agitated or aggressive (OR=2.3; 95% CI=1.1-5.2) or aberrant behaviour (OR=2.6; 95% CI=1.1-6.5) after adjusting for all other factors.

Conclusions
People with dementia who are undiagnosed are older, more likely to be unmarried, male, have less severe dementia and have fewer behavioural problems than those with a diagnosis. Case-finding in routine practice must guard against exacerbating potential inequality in access to early diagnosis.
CEREBRAL MICROBLEEDS ARE NOT ASSOCIATED WITH PHYSICAL OR COGNITIVE FUNCTION IN COMMUNITY DWELLING OLDER PEOPLE

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Introduction
Cerebral microbleeds are small (2-10mm) hypointensities visualised on T2*-weighted MRI scans. They are considered small vessel disease markers and are associated with stroke and Alzheimer’s disease severity; their clinical significance in the general older population is poorly understood. We aimed to determine: the prevalence of microbleeds in a community-dwelling cohort of people age >75 years and if microbleed presence was associated with cognitive or physical function.

Methods
Subjects were recruited from a longitudinal community cohort examining predictors of cognitive impairment. Participants underwent: detailed cognitive testing (MMSE, CAMCOG-R, reaction times), Tinetti assessment of gait and balance and a MRI brain scan. T2*-weighted scans were reviewed independently for microbleeds by two authors (KEM & CMcD) using the Microbleed Anatomical Rating Scale criteria. Inter-rater disagreements were decided by a third author (MF.)

Results
Fifty-three subjects underwent MRI scanning; one was excluded due to poor scan quality leaving a cohort of 52 (median age (IQR) 79.0 (76.3-83.8); 57.7% male.) Ten subjects had microbleed(s); most (n=7) displayed a single microbleed. Comparing cognitive function and Tinetti scores in microbleed-negative and -positive groups did not reveal any significant differences (Table 1).

<table>
<thead>
<tr>
<th>Variable</th>
<th>microbleed negative (n=42) median (IQR)</th>
<th>microbleed positive (n=10) median (IQR)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>78.5 (76.0-83.3)</td>
<td>80.5 (77.3-85.3)</td>
<td>0.568</td>
</tr>
<tr>
<td>MMSE</td>
<td>28 (26-29)</td>
<td>29 (26-29)</td>
<td>0.790</td>
</tr>
<tr>
<td>CAMCOG-R</td>
<td>94 (91-98)</td>
<td>97 (90-99)</td>
<td>0.730</td>
</tr>
<tr>
<td>Power of attention (msec)</td>
<td>1640 (1510-1800)</td>
<td>1660 (1420-1760)</td>
<td>0.810</td>
</tr>
<tr>
<td>Tinetti balance</td>
<td>24 (22-25)</td>
<td>23.5 (21.5-24)</td>
<td>0.284</td>
</tr>
<tr>
<td>Tinetti gait</td>
<td>9 (4.5-9)</td>
<td>8 (4-9)</td>
<td>0.639</td>
</tr>
</tbody>
</table>

Conclusions
Microbleeds were found infrequently and in low numbers in our cohort and were not associated with cognitive or physical function. This is in keeping with findings from 2 similar studies in community cohorts. It is likely that as with other small vessel disease markers that there is a threshold effect with small numbers of microbleeds constituting incidental findings.
ASSOCIATION OF FRAMINGHAM STROKE RISK PROFILE WITH INSTRUMENTAL ACTIVITIES OF DAILY LIVING, INTRACRANIAL WHITE MATTER LESIONS FOR SUBJECTS WITH ALZHEIMER’S DISEASE IN AN ASIAN GERIATRIC CLINIC

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Introduction
Vascular risk factors (VRF) have been reported to influence the phenotypic manifestation of late onset Alzheimer’s disease (AD) independent of cerebrovascular events. In our current study we examined the impact of VRF aggregate (represented by Framingham stroke risk profile, FSRP) on instrumental activities of daily living (iADLs) of mild to moderate probable AD subjects in a Singapore geriatric clinic setting.

Methods
Baseline clinical, cognitive and functional evaluations (iADL as measured by modified Lawton and Brody scale) were performed. Neuroimaging studies were conducted to assess the age-related white matter changes scale (ARWMC) and medial temporal atrophy (MTA) scores. Apolipoprotein E (ApoE) genotypes were categorized as E4-, E4+ and E4E4. FRSP was tabulated based on subject’s age, gender, systolic hypertension and its treatment, diabetes, smoking status, cardiovascular disease, atrial fibrillation and left ventricular hypertrophy. Correlations were performed between FSRP, ApoE, iADL and other variables while regression analyses were conducted to determine the influence of FSRP on baseline iADLs.

Results
66 patients with valid FRSP scores were reviewed. 46 (69.7%) were females while mean age was 78.2±6.5 years. FSRP significantly correlated with iADL and ARWMC (Spearman’s Rho r=-0.26, p=0.037 and r=-0.27, p=0.033 respectively). Additionally, FSRP had a trend towards better correlation with ARWMC for individuals with E4E4 genotypes, followed by E4+ and E4- (r=0.95, 0.41 and 0.11 respectively, p>0.05). In a linear regression model adjusting for age, gender, education and dementia severity, FRSP was also not a significant predictor of baseline iADLs (Adjusted R²=0.43, OR=-2.8, p=0.32).

Conclusion
In our current cohort of AD subjects, influence of VRF aggregate as represented by FRSP on intracranial white matter lesions may differ by ApoE genotype. FRSP’s impact on iADLs is further attenuated by baseline features and dementia severity.
COMBINING THE ACTIVE STAND TEST AND PATTERN RECOGNITION ENABLES VASOVAGAL SYNCOPE PREDICTION

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Introduction
Vasovagal syncope (VVS) is the most common form of syncope, accounting for 50-60% of unexplained syncope. The gold standard of diagnosis is the Head-Up Tilt (HUT) test, a resource intensive procedure. This study aims to assess the accuracy of applying a pattern recognition methodology to predicting HUT outcome based on AS responses.

Methods
Continuous blood pressure records obtained during an AS were acquired from patients attending a Falls and Blackout Unit. Patients were categorized into 3 groups based on their clinical history and HUT response: controls (CON), tilt-positive (HUT+) and tilt-negative (HUT-). Data from subjects diagnosed with VVS i.e. HUT+ and HUT- were combined to form a vasovagal positive (VVS+) group. Hemodynamic features (n=33) were extracted from AS responses and entered into a linear discriminant classifier. Classifier training and accuracy was achieved using an N-fold cross validation procedure.

Results
N=101 patients were recruited (25 ± 9 years; 66% male) of whom 37 were CON, 30 were HUT- and 34 were HUT+. Maximum prediction accuracy of HUT response was 60.9% (range: 58.2-60.9%), with a sensitivity of 58.8% and specificity of 63.3%. A multivariate classifier enabled us to distinguish between VVS+ and CON with a maximum accuracy of 80.2% (range: 76.4-80.2%), sensitivity of 84.3% and specificity of 72.9%.

Conclusion
This study highlights the existence of an alternative hemodynamic response to an AS test exhibited by young patients prone to VVS. Based on these responses, it was possible to identify the presence of VVS, using multi-parameter classification approaches, with an accuracy of 80% - a potential improvement on the HUT accuracy (26% to 87%). With prospective verification, this approach may form the basis of a novel tool for syncope diagnosis, population studies and the tracking of treatment efficacy.
**EFFECTS OF MULTICENTRE CLUSTER RANDOMISED CONTROLLED TRIAL OF GROUP- AND HOME-BASED EXERCISE PROGRAMMES ON QUALITY OF LIFE AMONG COMMUNITY-DWELLING OLDER PEOPLE: THE PROACT65+ TRIAL**

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**Introduction**

Physical activity promotes healthy ageing, can prevent muscle weakness, reduce falls & fractures, and delay functional decline. Its impact on quality of life (QOL) is less clear.

**Methods**

Secondary analysis of data from a cluster randomised clinical trial of class-based exercise (Fall Management Exercise Programme - FaME), home-based exercise (Otago Exercise Programme - OEP), and usual care. Participants were community-dwelling older people aged 65 years or older recruited from primary care in London and Nottingham. QOL was measured using the Older People’s Quality Of Life questionnaire (OPQOL) at baseline and after 24 weeks of the interventions.

**Results**

OPQOL score at baseline were completed by 927 participants. Higher baseline OPQOL scores were significantly associated with younger age, lower BMI, lower number of comorbidities and medications, lower risk of falling, higher social support, and more physical activities. Among those who completed OPQOL at baseline and after interventions, scores increased in the FaME (n=157, mean difference +1.18) and OEP (n=171, mean difference +0.75) groups but decreased in usual care (n=213, mean difference -0.62); these differences did not reach statistical significance. In both intervention groups increased OPQOL scores were associated with lower baseline OPQOL scores, lower levels of social support, higher levels of education and lower TUG scores. Increased OPQOL scores in the FaME classes were also associated with having one or less comorbidities (p=0.03) and exercising at or above the recommended level of 150 minutes per week at baseline (p=0.02). In the OEP group increases in OPQOL scores were associated with being a smoker (p=0.04) and living in London not Nottingham (p=0.03).

**Conclusions**

These physical activity interventions did not significantly increase participants’ QOL overall, but subgroups did show significant increases and there were differences between the intervention arms. The implications for research and practice will be discussed in this presentation.
DEVELOPING A CHAIR BASED EXERCISE PROGRAMME FOR OLDER PEOPLE: A DELPHI STUDY
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Introduction
Chair based exercise (CBE) is often recommended to engage older people with compromised health and mobility in an accessible form of exercise. A systematic review looking at the benefits of CBE for older people identified a lack of clarity regarding purpose and benefits [Anthony et al, Biomed Research International, 2013, ID: 309506]. In the absence of a strong evidence base consensus development may provide a basis for decision making and further guidance.

Objective
To develop consensus on the principles of CBE for older people

Methods
The framework for consensus was constructed through a team workshop identifying 48 statements. A four round electronic Delphi study with 17 multi-disciplinary experts was undertaken. A threshold of 70% agreement was used to determine consensus. Free text responses were analysed thematically. Between rounds a number of strategies (e.g. amended wording) were used to move towards consensus.

Results
16 experts completed three rounds of consultation. Consensus (>70% agreement) was reached on 46 statements classified into 7 groups; defining CBE intended users, potential benefits, structure, format, risk management and evaluation. 5 statements were removed following comment.

The 5 accepted statements for defining CBE were: 1. CBE is primarily a seated exercise programme (75%), 2. The purpose of using a chair is to promote stability in both sitting and standing (87.5%), 3. CBE should be considered as part of a continuum of exercise for frail older people where progression is encouraged (100%) 4. CBE should be used flexibly to respond to the changing needs of frail older people (100%) and 5. Where possible CBE should be used as starting point to progress to standing programmes (76.5%).

Conclusion
Consensus has been reached on a set of principles of CBE for older people providing a clearer underpinning of their purpose and offering a model for implementation that requires further evaluation.
NON-MOTOR SYMPTOMS OF PARKINSON’S DISEASE

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Introduction
Parkinson’s Disease (PD), a hypo-kinetic movement-disorder constituting of motor symptoms (MS) and non-MS (NMS), but is often solely recognized by characteristic MS namely tremor, rigidity, bradykinesia and a ‘shuffling gait.’ However recent years have shown an increased awareness of the implication of NMS, including neuropsychiatric issues, autonomic dysfunction and sleep disturbances. Despite being frequent and present from an early stage throughout all phases of disease, NMS may be overshadowed by dominating MS. This article aims to outline current knowledge surrounding NMS regarding their pathophysiological basis and prevalence.

Methods
A total of 20 patients were studied at the Movement Disorders Clinic at QEQM Hospital in Margate in November 2012. The data was collected using the PD NMS questionnaire, consisting of 30 questions asking about the occurrence of certain symptoms to explore the prevalence of NMS. Results of this are discussed and compared to preceding studies, with the current NICE guidelines on treatment/management for these issues also presented.

Results
Considering the NMS by domains, the highest scoring domain was gastrointestinal, reflecting autonomic dysfunction. The domain from which the least symptoms were reported was perception. The most prevalent symptom included nocturia (70%) with the least common symptom being delusions. All studies agreed that nocturia was the commonest NMS and highlighted that PD patients suffer from a wide range of identifiable NMS.

Conclusions
NMS play a crucial role in PD and are clinically challenging. Unidentified NMS not only affect patients/carers but also impose a considerable financial burden on society compared to other chronic illnesses. The PD NMSQ remains an effective method to efficiently identify areas of concern for the clinician and evidently, early recognition of NMS is critical.
SIMULATION-BASED GERIATRIC MEDICINE TEACHING FOR MEDICAL UNDERGRADUATES: AN EFFECTIVE LEARNING METHOD AND A POSITIVE INFLUENCE ON STUDENTS’ VIEWS OF THE SPECIALTY

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Background
Despite simulation-based teaching being increasingly used in medical education, a recent survey of geriatric medicine teaching in UK medical schools found no evidence of its use [Blundell, EGM, 2011. 2(1): p12-14]. Published evidence evaluating the efficacy of simulation-based teaching in undergraduate geriatric medicine is lacking.

Innovation
A novel simulation day was developed and ran serially at Northumbria Healthcare NHS Foundation Trust. 74 third year Newcastle University MBBS students attended the session during their Chronic Illness, Disability and Rehabilitation (CIDR) module. Topics addressed included elder abuse, delirium and falls. Simulation involved high-fidelity simulation mannequins, professional actors, simulated medical documentation and interactive props (e.g. patient’s hearing aid and spectacles in the delirium station).

Evaluation
Students’ knowledge was assessed using a written test that was mapped to CIDR learning outcomes. Each student sat the test on three occasions; before, immediately after and one month after the session (penultimate week of module). Another group of CIDR students, at a different base unit, also sat the same test in the penultimate week of the module. The control group had received traditional teaching on the same learning outcomes but had not received any simulation-based teaching. Student feedback on the simulation session was obtained via questionnaires.

Student knowledge in all topic areas improved significantly after the simulation session (p<0.001; paired t-test) and this was maintained when reassessed a month later (p<0.001; paired t-test). Students who received the simulation-based teaching outperformed those who received usual teaching in all topic areas (p=0.002; independent t-test). Student feedback was overwhelmingly positive; 68 of the 71 respondents (95.8%) agreed that the session had a positive impact on their views on geriatric medicine.

Conclusions
Simulation-based teaching can be an effective educational intervention for medical undergraduates and can positively influence students’ views on the specialty [Fisher JM, Walker R; Age & Ageing; in press].
PROGNOSTICATION IN NURSING HOMES IN WORCESTERSHIRE USING THE MINIMUM DATASET MORTALITY RISK INDEX-REVISED (MMRI-R)

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Background
Prognostic indicators for nursing home (NH) residents, especially for those without cancer, could aid end of life planning. Various prognostic scores specific to NH residents have been developed. The MMRI-R is a tool that estimates the odds of dying within the next 6 months. It has not yet been widely evaluated in UK nursing homes.

Innovation
The MMRI-R was calculated from data obtained during the inpatient episode prior to NH discharge from 3 wards (community hospital, DGH and an intermediate care unit) for a trial period (January 2012 to October 2013). The MMRI-R scores were stratified as high risk (>51 points), medium risk (36-50 points) and low risk (<36 points). The county’s electronic notes portal was scrutinized for date of death if it had occurred. The usefulness of the prognostic score was tested with receiver operating characteristic (ROC) curves, area under the curve (AUC) and survival analysis using “R”.

Evaluation
Data for 134 patients (mean age 85.9, SD 8.9; 57.5% female) were available. 42 (31.3%) were dead by 6 months of whom 35 (26.1%) had died within 3 months. Kaplan-Meier curves stratified by prognostic score showed 50% of patients with high risk scores were dead at 6 months compared to 15% of medium risk patients and 1% of low risk patients (p< 0.001, log rank test). Of note, at 3 months 40% of the patients with high risk scores were dead. The AUC for the MMRI-R score for prediction of death at 6 months was 0.7389 and at 3 months was 0.7074.

Conclusions
The high risk MMIR scores can be used as a prognostic tool for end of life planning for nursing home residents, predicting risk of death at 3 months as well as at 6 months as originally intended.
THE BOLTON PAIN ASSESSMENT TOOL: DEVISING AND IMPLEMENTING A PAIN ASSESSMENT TOOL FOR PATIENTS UNABLE TO COMMUNICATE

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Background

There is evidence that pain is under detected and undertreated for people with communication difficulties, including people with dementia (Scott et al, 2011 BMC Geriatrics, 11:61). Pain tools exist but there is evidence that they are not used in everyday practice (Manias, E. 2012 International Journal of Nursing Studies 49(10): 1243-1254).

Innovation

A group of multidisciplinary clinicians identified a lack of a pain assessment tool for patients with communication difficulties.

Observations were carried out on medical and surgical wards which showed that cognitively impaired patients were less likely to be asked about pain.

Six existing pain tools were examined in workshops and evaluated for likely ease of use. Three were identified as the most suitable and were trialled on six wards.

Each tool was used on two wards and evaluated by nursing and physiotherapy staff, with qualitative and quantitative results. A crossover evaluation was carried out with each ward using a second tool.

This showed that pain assessment tools could be used successfully, but practical problems were identified.

Evaluation

Using these results a Bolton Pain Assessment Tool (BPAT) was devised which combined elements from the other tools as well as prompts to ask carers’ opinions. BPAT was well received and used across the hospital. BPAT was then trialled at another hospital in four clinical areas. All staff agreed that it was easy and quick to use. Family involvement was limited but relevant. Nurses administered analgesia in 76% of cases. Staff rated the scale as a median of 8/10 and the majority rated it as better than other pain assessment tools.

Conclusions

A multidisciplinary collaborative approach enabled the development of a Pain Tool that was effective and easy to use. Using a pain tool leads to increased interventions from the nursing staff.
EMERGENCY ADMISSION PREVENTION: DATA FROM 619 PATIENTS REFERRED TO A NEW COMMUNITY BASED ADMISSIONS AVOIDANCE SCHEME INTEGRATING HEALTH AND SOCIAL CARE

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Background
With an increasingly ageing population new strategies are vital to manage frail older patients with multiple co-morbidities in the community, avoiding hospital admissions and preventing associated complications. Various organisations and think tanks have devised strategies to achieve this. The Kings Fund (Purdy S, 2010) highlights the potential benefits of integrating health and social care. The Silver Book (www.bgs.org.uk/campaigns/) endorses community-based services with rapid response and the Future Hospitals Commission (www.rcplondon.ac.uk) recommends treating patients in the community whenever possible.

Innovation
Since January 2013 “HomeFirst” has been operational throughout the Hertsmere district. It is an innovative community-based admissions avoidance pilot. Patients are referred for an urgent ‘rapid response’ (RR) assessment or long-term management and optimisation of disease state via a virtual ward (VW). Assessments take place in patients’ homes by an integrated health and social care multi-disciplinary team, led by a geriatrician.

Evaluation
Between January and October 2013 we received 440 RR and 179 VW referrals, of which 90% were considered appropriate. The average age was 83.9 years. Most patients referred to the RR service were from patients’ general practitioners (72%). Other sources included intermediate care, Accident and Emergency and the ambulance service. The most common reasons for RR referral were urinary and respiratory infections (28%), falls and reduced mobility (22%), social care breakdown (12%) and frailty (8%). To date, 85% of patients have been managed in the community, avoiding hospital admission. Of the patients surveyed 78% strongly agreed and 17% agreed that they would recommend HomeFirst to family and friends.

Conclusions
This innovative project highlights that a community based multi-disciplinary team integrating health and social care can be successful at reducing hospital admissions of older people with multiple co-morbidities. This reduces the associated complications of hospital admission for the patient and the financial burden of emergency admissions to local Trusts.
DOES COLOURED CROCKERY INFLUENCE FOOD CONSUMPTION IN ELDERLY PATIENTS IN AN ACUTE SETTING?
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Background

A study of residential home dwellers with dementia demonstrated increased food intake using red crockery, attributed to increased visual contrast (Dunne TE, Neargarder SA, Cipollini PB. Clinical Nutrition, 2004;23:533-538).

Innovation
To evaluate the impact of coloured crockery on food consumption, 2 acute elderly wards (intervention and control) were observed over 3 weeks. The control used white crockery throughout, whilst the intervention used white crockery in week one and blue in weeks two and three. Weight of food consumed at lunchtime was measured excluding any pre-packaged food.

Evaluation
476 meals were weighed on the intervention ward and 243 on the control ward. This represented 95% of eligible meals. Both wards were demographically similar.

Blue crockery was associated with a 33% increase in median weight of main course consumed (152g intervention ward, 114g control ward, p=0.0002). Median weights of starter and dessert eaten increased, but did not reach statistical significance. On the intervention ward, patients ate 36% more during the second two weeks than in the first (152g vs 111.5g, p=0.0005).

Patients reported to be confused ate significantly less on white crockery than those who were not confused (90g vs 150g, p=0.0001). Blue crockery was associated with an increase in food consumption of a third in these patients (120g vs 90g, p=0.01).

Conclusion
Blue crockery was associated with increased food intake in our patients, including those reported to be confused. As a result of our findings, blue crockery is being introduced as standard across the trust.
CONSULTANT PHARMACIST CASE MANAGEMENT OF ELDERLY PATIENTS IN INTERMEDIATE CARE

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Background
In December 2011, the Compton Review¹, presented the case for change which challenged the providers of health care to re-model and deliver a more equitable, personalised care to the older patient, with integrated working between community and hospital services. The consultant pharmacist (CP) is central to any re-modelling to address the increasing prescription of polypharmacy and complex medicines management needs of the frail elderly. The aim of this project was to design, implement and evaluate a consultant pharmacist led care pathway for patients admitted to intermediate care and back into the community.

Innovation
On admission, the CP reconciled the patient’s medicines and reviewed the appropriateness of each drug using the Medication Appropriateness Index (MAI)². Patient-specific pharmaceutical care plans were implemented with clinical interventions recorded and graded for clinical significance using the Eadon criteria³. Medicine adherence assessments were completed, needs identified and adjustments made. Early therapeutic recommendations were established with on-going monitoring and prescribing by the CP. On discharge the GP and/or community pharmacist were contacted with direct case management continuing via post-discharge (14-30 days) telephone calls or home visits.

Evaluation
From Jul-Dec 2012, 268 patients were case managed; 517 clinical interventions were made with 84% graded Eadon ≥4 (intervention is significant). Application of the ScHARR model⁴ yielded potential savings of £63-144k pa. Individual and total MAI scores dropped between admission and discharge (Wilcoxon signed rank, p<0.001). Drug cost savings yielded £73k pa.

Conclusion
CP case management of elderly patients in intermediate care leads to more appropriate prescribing and cost savings in terms of both drugs and reduced healthcare resource usage.

References
1. Compton J. DHSSPS (NI). November 2011
VITAMIN K TO IMPROVE MARKERS OF VASCULAR HEALTH AND PHYSICAL FUNCTION IN OLDER PEOPLE WITH VASCULAR DISEASE – A RANDOMISED CONTROLLED TRIAL

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Introduction
Low vitamin K intake has been linked to impaired muscle function, osteoporosis, stiffer arteries and an increased risk of cardiovascular disease. We investigated whether supplementation with vitamin K exerted beneficial effects on vascular health and physical function in older people with established vascular disease.

Methods
We recruited community based participants aged ≥70 years, with a history of hypertension, diabetes mellitus or a previous vascular event, to a double blind randomised controlled trial comparing the effect of 6 months of daily oral 100mcg vitamin K or placebo. Outcomes were measured at 0, 3 & 6 months. Primary outcome was between-group difference endothelial function assessed using flow-mediated dilatation of the brachial artery. Secondary vascular outcomes were carotid-radial pulse wave velocity, augmentation index, blood pressure, carotid intima-media thickness, C-reactive protein, B-type Natriuretic Peptide and cholesterol. Handgrip strength and Short Physical Performance Battery were used to assess physical function. Postural sway was measured using forceplate analysis assessed over 30 seconds.

Results
80 participants were randomised, mean age 77 (SD 5) years; 44/80 (55%) were male. No change was seen in the primary outcome of endothelial function (between group difference -0.3% [95%CI -1.3 to 0.8], p=0.62). A modest, but non-significant improvement in arterial stiffness was seen in the vitamin K group compared to placebo (-0.8m/s [95%CI -1.8 to 0.3], p=0.15) with all other vascular outcomes unchanged. A non-significant improvement was seen in mediolateral sway with vitamin K compared to placebo (-3.1mm [95%CI -9.0 to 2.8], p=0.30).

Conclusions
Vitamin K supplementation did not improve markers of vascular health or physical function in this trial. The non-significant improvements in arterial stiffness and sway require further study.
THE ASSOCIATION BETWEEN MUSCLE STRENGTH, BONE DENSITY AND VITAMIN D STATUS IN ELDERLY CANADIAN NURSING HOME RESIDENTS

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Introduction
Residents in nursing homes are known to be at high risk for low Vitamin D levels, falls, decreased mobility and cognitive impairment. This study was done to evaluate Vitamin D status, bone health and muscle function in this vulnerable population.

Methods
Subjects were recruited from five nursing home facilities in Edmonton, Canada. Ethics approval and consent was obtained. Chart review and blood work was done. Bone density was assessed using a portable calcaneal ultrasound device (Hologic Sahara). Muscle strength and function were assessed using grip strength, free weights, and assessment of balance.

Results
100 subjects (29 men, 71 women), average age of 81 years (59-93). A third had a history of fracture, 42% had a diagnosis of osteoporosis, 70% had a history of falls and 15% had had a DXA bone density at some time. Only 21% were on antiresorptive therapy (alendronate). 33% were on Vitamin D supplementation at various dosages (400-2000IU). Vitamin D levels ranged from 13-243 nmol/l. For the total group, using the cut off of 75nmol/l, 57% of subjects were Vitamin D insufficient. However, there was no statistically significant difference in calcaneal ultrasound parameters in the two Vitamin D groups, or association with grip strength or balance. Men had an average Vitamin D level of 65nmol/l compared to 79nmol/l in women, likely due to a difference in rates of Vitamin D supplementation (48% versus 69%). Nonetheless, men still had a higher average grip strength than women.

Conclusions
This study confirms the high level of Vitamin D insufficiency (57%) in this population group. Lack of correlation between 25(OH)D levels and calcaneal BMD and muscle strength, highlights the multifactorial nature of bone and muscle weakness. Men had lower 25(OH)D levels, and lower levels of supplementation (48% vs 69% in women) highlighting a care gap for men in nursing homes.
CARE WORKER COMMUNICATION STYLE AND ENGAGEMENT WITH PEOPLE WITH DEMENTIA: AN EXPERIMENTAL STUDY

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Introduction
Communicating with people with dementia during activities of daily living is one of the main challenges for care workers. This study involved modifying the communication style of care workers and examining how this affected the engagement of care home residents with dementia.

Methods
Three care worker-resident dyads were video-recorded interacting during their usual morning care routines. We employed an ABAC design. In condition A, care workers communicated as usual. In condition B, care workers altered the way in which they phrased requests, using more ‘alpha commands’. These are defined as ‘specific instructions where the required response is clear and possible’: for example, “Lift up your right arm.” In condition C, commands were carefully paced, with care workers leaving 5 seconds after each instruction to allow for a response from the resident before proceeding with a task. Resident responses (engagement) were measured using an adapted form of the Positive Response Scale (PRS).

Results
Inter-rater reliability for care-workers’ communications and residents’ responses were 0.86 and 0.60 respectively (Kappa co-efficients).

Care workers were able to introduce alpha commands into routine care. The percentage of alpha commands increased from a median of 52% at baseline to a median of 71% (IQR=26.43). Conditions with a greater percentage of alpha commands resulted in higher PRS scores (Spearman r=0.65, p<0.05) across all three dyads.

Care workers found it more difficult to introduce paced commands into their care routine as residents often responded too rapidly to observe the communication rules for this condition.

Conclusions
This exploratory study found a positive effect of specific instructions of the alpha command type on the engagement of care home residents with dementia. This communication style can easily be taught to care staff and employed in all contexts where communication with people with dementia takes place.
MULTI-PROFESSIONAL MEDICATION REVIEWS IN CARE HOMES FOR OLDER PEOPLE: RESULTS FROM THE CARE MED RANDOMISED CONTROLLED TRIAL

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Introduction
Research has shown that management of medications in care homes for older people could be significantly improved. Medication reviews have identified high proportions of residents receiving sub-optimal therapy, with the main error being the continuation of a medication that is no longer required. The aim of this study was to determine whether a multi-professional team approach to medication reviews in care homes had the potential to improve health outcomes for residents, as well as improve the efficiency with which resources are used in comparison with usual care.

Methods
A cluster randomised controlled trial involving 30 care homes for older people. Intervention homes (n=15) received a multi-professional medication review at study commencement and at 6 months, with follow-up at 12 months. Control homes (n=15) received usual care and a multi-professional medication review after study completion.

Primary outcomes were number of falls and potentially inappropriate prescribing (number of drugs matching the Screening Tool for Older Persons Prescriptions [STOPP] criteria). Secondary outcome measures were emergency hospital admissions and mortality.

Outcomes were compared between treatment groups using Poisson regression (falls, STOPP and emergency hospital admissions) and a Cox proportional hazards model (mortality).

Results
There were 381 intervention participants and 445 control participants in the intention-to-treat analysis. The efficacy analysis found no significant difference between the treatment groups, with the exception of potentially inappropriate prescribing. Significant effects were found for the number of drugs meeting the STOPP criteria at 12 months. This effect was also found at six months, but was not statistically significant. No adverse events were reported during the trial.

Conclusions
While the intervention did not demonstrate a significant effect on resident falls, it did have a positive impact on quality of prescribing. Elements of this model of medication review service have the potential for wider application.