Abstracts submitted to

The 19th International Conference

On

Falls and Postural Stability

Oral Presentations

(In Alphabetical Order of Presenting Author)

INTRODUCING A FALLS PATHWAY AND PROGRAMME FOR OLDER ADULTS IN HOUNSLOW

Da Costa A.

Integrated Community Response Service (Hounslow), Hounslow and Richmond Community Healthcare Trust

Introduction:

There is a well-documented need for Falls interventions in the Older Adult and implementation of strength and balance programmes (Public Health England, 2017). The Otago Exercise Programme (OEP) has shown to be a cost-effective, useful programme in this context (Gillespie *et al*, 2012). In the Borough of Hounslow, there is no OEP or equivalent programme on offer at the present time. The aim of the project was to introduce the programme to 10 older adults and to address the issue of non-attendance in this client group. It was hoped that, if successful, this programme could be reproducible across the Borough.

Methods*:*

Using a Quality Improvement approach, PDSA (Plan, Do, Study, Act) cycles helped to guide the setting up of this new service. PDSA 1 monitored the referral process, PDSA 2 monitored the OEP programme itself and PDSA 3 helped to guide the process of feedback from and dissemination to Stakeholders.

Interventions – A 10-week OEP intervention was carried out. This included refreshments and 5 weeks of educational talks. Transport was provided.

Results*:*

Encouraging and fast improvements in physical function were recorded. The scores suggested that this group may suit older adults scoring between 18 and 27 on the Tinetti Balance Assessment Tool. Attendance was 80% (which met one of the key targets) and the balance measures showed that the intervention was delivered to a high standard. Ideally patients should be monitored for incidence of falls over 1 year to demonstrate any lasting effect of an intervention.

Conclusions*:*

A 10-week OEP programme could be set up with the format used in this QI project to provide an evidence-based falls intervention for older adults that have recently fallen.

http://intranet.hrch.nhs.uk/This%20Week%20Documents/Falls%20presentation%20-%20Older%20Persons%20Fellowship.pdf

THE EFFECT OF MEDICATIONS ON ORTHOSTATIC HYPOTENSION IN FALLS CLINIC PATIENTS TAKING ONLY ONE CULPRIT DRUG AND HAVING NO RELEVANT CO-MORBIDITIES

Darowski A.
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Introduction:

About a half of falls are due to medications, and orthostatic hypotension (OH) is a common mechanism. This audit analyses the effect of medications on OH in the falls clinic population by searching for patients with no cause for their OH other than the single drug in question.

Methods:

Clinic letters from 2004-2018 (n>10,000) were searched using Windows Explorer for patients taking any CNS or CVS medications, with controls taking none of these drugs. Letters contain a list of medications, comorbidities, and lying/standing BP. Exclusions were: taking more than one culprit drug; any comorbidity associated with OH.

Results:

All antidepressants except fluoxetine are associated with an excess of OH (Fig 1). SNRI antidepressants appear to be associated with worse OH than tricyclic/atypicals and other SSRIs, which are similar.

For antihypertensive medication (Fig 2), ACE inhibitors had the strongest association with OH, and this was found for all drugs of this class. No association with OH was found with ARBs and b-blockers. All calcium antagonists, thiazide diuretics and a-receptor blockers were associated with OH. 60% of patients on an ACEI, but only 22.5% of patients on ARB were found to have OH (Fig 3).

Conclusions:

Fluoxetine is the best tolerated commonly available antidepressant [1], possibly because of its lesser effect on OH. SNRI antidepressants have the worst OH profile.

This unique data shows the effects of various medications on OH in the falls population where there is no other apparent cause. In older people, on grounds of patient safety, until contrary evidence is available, fluoxetine should be considered as a first line treatment of depression, and the initial management of hypertension should be with ARBs. Beta blockers are not associated with OH and may be the safest second line treatment.

REDUCING FALLS RATE ON A DEMENTIA ASSESSMENT WARD: A QUALITY IMPROVEMENT PROJECT

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[1]University of Southampton; [2]Solent NHS Trust; [3]University of Aveiro.

Introduction:

Falls are associated with poor health outcomes and increased health costs (NHS Improvement, 2017). Brooker Organic is a dementia assessment ward with a rate of falls higher than the national average for mental health hospitals in England. The present quality improvement project aimed at reducing the rate of falls on this dementia ward.

Methods:

Staff engagement activities and review of incident reports helped formulate potential improvement strategies. A statistical process control chart, which is used to evaluate how a process changes over time, was utilised to monitor variations in the rate of falls 6 months before and after the implementation of two strategies: (1) ward staff were instructed to write the "date of last fall" on top of every patient clinical note on a daily basis; (2) prompts to facilitate a detailed falls-review were added to the weekly ward round paperwork, to encourage a multi-disciplinary discussion of modifiable risk factors for every patient who had fallen.

Results:

The above strategies were implemented in June 2017. By July 2017, the recording of the "date of last fall" in clinical notes was 100%. By the end of March 2018, this figure was maintained and this strategy was adopted, on spontaneous staff initiative, in another ward. Falls continue to be discussed in detail in ward rounds. The statistical process control chart showed a reduction in falls rate from 3.80 to 1.76 falls per 100 occupied bed days.

Conclusion:

Improvement in care can be achieved and sustained over time when frontline staff are empowered to use routinely collected data to implement changes, and are involved in the decision making process. Raising awareness of falls among staff and a multi-disciplinary team review of patients post-falls may contribute to important reductions in rate of falls.

EFFECTIVE STRATEGIES TO RECRUIT PEOPLE WITH DEMENTIA AND THEIR INFORMAL CARERS INTO A TAI CHI TRIAL TO IMPROVE BALANCE AND PREVENT FALLS

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Introduction:

Randomised Control Trials (RCTs) are the gold standard of evidence for effectiveness of interventions. While exercise-based interventions are known to be effective for preventing falls, only few RCTs have been conducted with people with dementia (PWD). A major challenge to conducting RCTs is recruitment; many studies recruit inadequate numbers of participants within the planned timeframe. In addition, recruiting people with long-term conditions into exercise trials is challenging. And yet, exercise trials involving PWD lack detailed analysis of recruitment strategies. To address this, we examined interim data from an RCT of Tai Chi with dyads of PWD and their informal carer to improve balance and prevent falls: "The TACIT Trial: TAi ChI for people with demenTia".

Methods:

For recruitment, e used active (referrals / participant registries / targeted mailings) and passive strategies (media / support group talks / word of mouth). A participant database was kept throughout the recruitment phase of the study to record the number of referrals. Reasons for ineligibility and declining participation were also documented. Effectiveness of recruitment strategy was measured by: percent eligible at each stage of recruitment; percent yield (number of participants randomised as a proportion of total number of referrals); and the cost per randomised participant.

Results:

Of 302 dyads to date, 12% were non-contactable (n=36). Of the 88% screened (n=266): 44% declined (n=118); 29% were ineligible (n=77); 14% await confirmation of final eligibility (n=37); and 13% consented to participate (n=34). The highest rate of referral to consenting participants came from the most resource-intensive strategy of memory clinic staff spending 30 minutes with each patient.

Conclusions:

For effective recruitment of PWD into exercise trials, the time staff need for each referral cannot be underestimated and must be considered in the design of such intervention studies in the future.

PROCESS EVALUATION OF AN EFFECTIVE FALLS PREVENTION PROGRAMME: LEARNINGS FROM THE RESPOND TRIAL

Morris R[1], Ackerman I[1], Hill K[2], Ayton D[1], Arendts G[3,4], Barker A[1], Brand C[5], Etherton-Beer C[6], Flicker L[6], Forbes A[1], Hill A-M[2], Hunter P[1,7], Lowthian JA[1,8], Nyman SR[9], Redfern J[10,11] and de Smit V[7]

[1]Monash University, Melbourne, Victoria; [2]Curtin University, Perth, WA; [3]University of Western Australia, Perth, WA; [4]Harry Perkins Institute for Medical Research, Perth, WA; [5]University of Melbourne and Melbourne Health, Melbourne, Victoria; [6]Western Australian Centre for Health & Ageing, Perth, WA; [7]Alfred Health, Melbourne, Vic; [8] Bolton Clarke Research Institute, Melbourne; [9] Bournemouth University, Dorset, UK; [10]The University of Sydney, Westmead Applied Research Centre; [11]The George Institute for Global Health, Sydney, NSW

Introduction:

A randomised controlled trial (RCT) of a falls prevention programme–RESPOND–reduced rates of falls and fractures in older people presenting to Emergency Departments (EDs) after a fall. Despite RCTs providing gold standard evidence of effect, information on how programmes should be implemented is often lacking. A mixed methods process evaluation was conducted alongside the RESPOND trial. This evaluation aimed to i) determine the extent to which the RESPOND RCT was implemented as planned, and ii) identify barriers and facilitators to implementation.

Methods:

RESPOND recruited 541 adults presenting to two Australian hospital ED's. The RESPOND programme comprised an initial home visit and subsequent telephone coaching for targeted falls risk factors, over six months. Data related to intervention dose delivered were collected from recruiter and clinician records and compared with the trial protocol. Implementation barriers and facilitators were explored through individual interviews with six clinicians, and participant focus groups (n=41 over six groups).

Results:

Adults aged 60-90 years (n=224) were recruited and received the intervention. The majority of participants (94.2%) received the minimum requirement of one home visit plus two follow-up coaching calls, but no participants received the planned total intervention contact time of 10 hours over 6 months, with a median (IQR) of 2.9 hours (2.1, 4) being delivered. Intervention participants and RESPOND clinicians reported participants' competing health and social priorities as the main barriers to implementing RESPOND. The use of positive health messages, delivered in a patient-centred manner, helped facilitate delivery of RESPOND.

Conclusions:

RESPOND reduced rates of falls and fractures at a lower dose, utilising fewer resources, than planned. A patient-centred, positively-framed programme may increase engagement in community-based falls prevention programmes. Participants' complex health and social issues posed challenges to programme adherence. These factors should be considered in the planning and implementation of similar falls prevention programmes.

MULTIFOCAL LENSES DO NOT INCREASE FALLS RISK IN A UK FIELD TRIAL OF OLDER, WELL-HABITUATED COMMUNITY-DWELLING WEARERS

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Introduction:

An evidence base exists that suggests single vision (SV) lenses provide safer mobility for elderly people at risk of falls. Previous findings were based on laboratory studies, or field trials with predominantly bifocal wearers. The present study provides new data from a field trial where progressive addition (PAL) lens wearers prevail.

Methods:

Community dwelling, independently mobile individuals ≥ 65 years, habitual wearers of either SV (n=31), bifocal (n=32) or PAL lenses (n=67) were recruited from Aston University Eye Clinic for a 12-month prospective cohort study. Baseline data of previous 12 month fall history, Timed Up and Go (TUG), SF12v2P/M and the Global Measure of Vision (GMV) attention tool - designed and evaluated specifically for the study - provided measures of balance, mobility, physical and emotional wellbeing, and vision. Participants completed contemporaneous falls diaries. The primary study outcome measure was whether participants sustained a fall.

Results:

130 participants with a median habitual wear of 20 years (IQR 11–28 years) completed the study for a median duration of 366 days (IQR 365 – 376 days). The fall rate per person year was 0.5. Logistic regression (LR) analysis adjusted for the covariates of age, gender, GMV, TUG and SF12v2P/M showed no statistically significant influence of bifocal ($p = 0.94$) or PAL ($p = 0.65$) wear on falls. The only statistically significant predictor of falls was previous fall history (OR 2.71, $p=0.01$). The Hosmer and Lemeshow Goodness of fit test showed an adequate model fit to the data as p was greater than 0.05 (Chi square = 7.12, df=8, $p=0.52$).

Conclusions:

This study did not confirm that bifocal or PAL wear increase falls risk in well-habituated community-dwelling older people and suggests that replacement with single vision lenses may not be a necessary intervention.

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Poster Presentations

(In Alphabetical Order of Presenting Author)

ZOLEDRONIC ACID IS THE MOST SAFE, EFFICIENT, COST EFFECTIVE AND COMPLIANCE FRIENDLY MOLECULE FOR PREVENTION AND TREATMENT OF PMO IN INDIAN ELDERLY WOMEN

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Introduction:

According To AGS, BGS and CGS there are ten top killers of any elderly world over. Falls is one of these ten most important diseases. In India, there is no awareness amongst medical fraternity about this inevitable disease of elders. They don't accept and appreciate the killer instinct of Falls, Fear of Fall (FoF) and Recurrent Falls. They all pay stress on only the established non-communicable diseases like HTN, DM, HD, CKD etc. The silent killer diseases like Osteoporosis, Falls, Sarcopenia and Frailty are as good as unknown, undiagnosed and finally untreated in India.

Methods:

One hundred Indian Women were chosen for the treatment of Post-Menopausal Osteoporosis. These women were chosen from the 48 BMD camps those were organised between 2012 to 2018 in the geriatric facility. Before initiation they were diagnosed for having established Post-Menopausal Osteoporosis by doing DEXA Scan of every beneficiary. Their fitness were judged by doing blood works and all were given IV Zoledronic Acid (ZA) from 2012 to 2018. The doses details were labelled as ZA1, ZA2, ZA3, ZA4 and ZA5. The Consent forms were filled and they all given ideas about possible adverse events.

Results:

The results of this six-year follow up study were excellent. Most of the patients tolerated it very well. Three of them suffered falls but none of them suffered any fracture. As the dose was once a year, it was very easy to remember, remind and give the treatment. A blood work of KFT, Sr Calcium was done before giving each yearly dose. As many of them were given this IV AOM by Home Visit, patient and their family members were very happy.

Conclusions:

From this 6-year follow-up study, following conclusions were drawn:

A. IV Zoledronic Acid is the Best AOM for Indian elderly women with PMO.
B. It is very safe as the Risk/Benefit Ratio proves innumerable benefits over the risks of Falls, Fractures.
C. It is comparatively cheap and very cost effective.
D. It by-passes oral route and can be given easily in 15 to 30 mins.

TO ASSESS THE COST EFFECTIVENESS AND PATIENT BENEFIT OF EMPLOYING A NUTRITIONAL ASSISTANT TO AIM TO INCREASE NUTRITION TO HIP FRACTURE PATIENTS IN A DISTRICT GENERAL HOSPITAL (DGH) SETTING

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Introduction:

A study in Cardiff suggested the benefit of employing a Dietetic Assistant in decreasing mortality rate in female Hip Fracture Patients. (*D. G. Duncan et al. Age and Ageing 2006; 35: 148–153*) We aimed to see whether this was a sustainable intervention in a DGH setting.

Methods:

A Band 5 HCA was employed as a Nutritional Assistant; to increase patient enjoyment of mealtimes and encourage and assist patients with eating; to promote snack rounds and better food choices; to support dietician referrals where appropriate; to encourage a ward culture where nutrition is valued

Results:

In our 30 bed unit during April 2017 – March 2018, 2431 extra snacks (approximately 200 calories each) were consumed when the nutritional assistant was present (156 working days). Length of stay has reduced by 1.5 days. For our 500+ hip patients this is a saving of approx. £337,500.

During this time our 30 day mortality has reduced from 10% to 6.5%. Although multifactorial, better nutrition has played a role in this achievement.

It has proved challenging to allow the Nutritional Assistant to perform her role rather than being diverted into general nursing tasks in a hard-pressed ward. Helpful factors have been a distinctive uniform and ward manager enthusiasm.

Patients preferred cake as a snack. The ward budget was unable to provide this long term. Patients are encouraged to bring in their own snacks, or extra cheese and biscuits and eggs are provided by the kitchen.

Conclusions:

As a result of seeing improved morale and reduced length of stay ,the Trust is considering employing two full time posts to provide a seven day service and to cover annual leave. The provision of a Nutritional assistant has proven beneficial and at least cost neutral in our DGH setting.

WHAT PROPORTION OF FALLS IN THE COMMUNITY ARE MEDICATION RELATED?

Darowski A.

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Introduction:

Medications cause falls usually because of sedation or orthostatic hypotension. The exact proportion of falls that are medication related in unknowable, but we have attempted an estimate.

Methods:

We analysed 408 consecutive patients seen over 12 weeks in the Oxfordshire Falls Prevention Service, dividing them into four groups –definitely/probably/possibly and not caused by medication (Criteria - Table 1). Patients were seen by a specialist nurse who presented them to an MDT of two doctors and up to 7 experienced specialist nurses and therapists.

For each patient a history of the falls, a physical examination including a lying and standing blood pressure, a list of medications and their medical records were available.

Results:

The mean age was 82 years (SD 8.2 range 52-102). Figure 1 shows the distribution of patients in the four groups. Figure 2 shows the balance between CNS and CVS medications in the definite/probable groups. The MDT concluded that 25% of falls were definitely and 22% probably medication related. In the def/prob groups, 18% were taking cardiovascular medication only, 19% taking CNS medication only (including PD meds) and 10% were taking more than one type of medication (also others e.g. a-blockers for prostatism). 43% of patients in the def/prob group were taking an antidepressant and 26% were taking an ACE inhibitor. The MDT opinion was that about 20% of falls were related to antidepressants and 20% to ACE inhibitors

Conclusion:

Our service sees about 7% of people who fall in Oxfordshire, and this cross-section is probably representative of falls in the community. This is the first time in attempt has been made to quantify the burden of drug-related falls. This audit suggests that about a half of all falls are medication related.

IMPLEMENTATION OF A TRIAGE QUESTIONNAIRE IN FALLS AND BONE HEALTH CLINIC IMPROVES EFFECTIVENESS OF PHYSIOTHERAPY INPUT THROUGH MORE APPROPRIATE, TARGETED INTERVENTION

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Introduction:

National Osteoporosis Society Guidelines (2017) recommend early comprehensive falls risk assessment for patients that have recently sustained a fracture, which has led to physiotherapy inclusion in the Falls and Bone Health Clinic (FBHC). The FBHC also includes specialist nurses, a consultant geriatrician and DEXA screening, with multiple demands on patient and clinician time leading to inconsistent referrals to the physiotherapists. We developed a triage questionnaire to improve physiotherapy effectiveness in order to reduce risk of further falls and potential fractures for this patient population.

Methods:

Design of a triage questionnaire to identify therapy needs in those attending FBHC was extended to include medical questions, providing a more comprehensive screening of patients, at the request of the consultant. Comparison of six-week pre- and post-implementation data of number and relevance of patients assessed, type of therapy input provided and onward referrals completed, was reviewed.

Results:

Increased identification of physiotherapy-appropriate patients from 28%, using initial screening method, to 52% using the questionnaire, improving the ability to appropriately target physiotherapy resources and intervention to meet the guidelines for early falls risk assessment and management of this patient group.

Multi-disciplinary team (MDT) use of the questionnaire led to an increase in understanding of each professional's role, and a more holistic approach to patient care. Feedback from the MDT was supportive of this, with staff reporting the questionnaire to be easy and time-effective to use.

Questionnaire completion during the clinic was limited by factors including language barriers, cognitive impairment and time.

Conclusions:

The questionnaire is a robust screening tool, which is time-efficient for physiotherapists and the MDT. Screening all attendees ensures appropriate, targeted therapy intervention for every patient. Steps should be taken to address some of the limitations, including posting the questionnaires with the appointment letters and translation into other languages.

"MECHANICAL FALL"- AN UNHELPFUL MISNOMER STILL IN USE?

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Introduction:

Falls are now everyone's problem, the remit for assessment and intervention now falls to a wide variety of healthcare professionals. As doctors who see patients with falls every day, responsible for training increasingly diverse groups of staff and students, we are aware that the term "mechanical fall" is still in frequent use as a descriptor for falls, despite research (limited, mostly from ED doctors) showing it to be unclear, inconsistently used and not predictive of benign outcome. We wanted to see what is actually most often meant when a fall is labelled "mechanical".

Methods:

A snapshot study of patients on an orthogeriatric rehabilitation ward, mostly with fragility fractures. We looked at those with any label of "mechanical fall" in the case notes for that episode. From other information in the clinical record we ascertained our perceived cause of those patients' fall, to see if there was any correlation with recognised causes of falling.

Results:

18 patients on the ward were there because of a fall. 13 had suffered a #NOF, 2 different fragility fracture, 3 no fracture.

11/18 of the index falls carried the label "mechanical fall". Of these 7/11 were judged to be due to **postural instability** associated with poor balance, strength and/or mobility.

Dementia/cognitive impairment was found to be a factor in 4/11 falls labelled mechanical
Only 2/11 falls labelled mechanical were felt to be truly accidental.

Of the 7 patients not labelled "mechanical", diagnoses were mostly postural hypotension and acute illness, however 2 were felt to have postural instability as their cause.

Conclusions:

Although this study is far too small to draw meaningful conclusions it does help to confirm our suspicions that **patients labelled as having a mechanical fall are largely suffering from postural instability.** Also, that we must be careful not to label patients in whom cognitive factors (inattention, risk taking, distraction etc.) are important, as suffering from "mechanical fall". This is important because we feel that patients correctly diagnosed (particularly with postural instability, but increasingly also with cognitive-related falls) are more likely to referred for meaningful interventions to avoid recurrent falls. Like others before us, we suggest the term "mechanical fall" be consigned to history.

STANDARDISING AND IMPROVING CARE FOR PATIENTS WITH A NECK OF FEMUR FRACTURE

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Introduction:

A neck of femur fracture (NOF) is one of the most serious consequences of falls with a high associated mortality. At the North Middlesex Hospital, Orthogeriatrics take over the care of the NOF patients on day 3 after their operation. The aim is to create a framework to standardise care including clear and structured communication on discharge. This will permit the complex medical issues to be addressed and errors to be minimised.

Methods:

The bone health plans were used to identify the baseline standard of practice. This included accurate requesting and interpretation of required blood tests, identification of prescription errors and accuracy of information in the discharge summaries. A discharge summary template was then created which included helpful prompters. Discussions are ongoing with the Pathology Working Group to create online care sets for the necessary blood tests. A checklist proforma is also being created for the Orthogeriatric Team to use when they take over care so that all relevant factors can be succinctly addressed.

Results:

Baseline data included 44 NOF patients from August and September 2017. The review of the bone health bloods showed that 30% of tests were not being requested and 40% showed minor abnormalities (such as mildly abnormal thyroid function.) Of these abnormal tests, 75% had no follow-up action mentioned in the discharge summary. 20% of all patients had required bone health medications omitted from their prescription at discharge. After the introduction of the discharge summary template, repeat data from May 2018 showed that the prescription of bone protection had improved with errors occurring in 5% of cases. Compliance with the new discharge summary template is high and is being used in over 65% of discharges.

Conclusions:

This is an ambitious project with multiple interventions. The current results indicate that care is improving with a reduced rate of errors. The discharge summary template is being widely used and its implementation will continue to be encouraged.

Creating the blood test care sets has taken longer than anticipated due to queries from the Consultant Pathologist but this will be overcome. The checklist proforma is under active discussion.

This is a good example of how to improve care for complex patients by providing a structure for the whole admission.

FALLING INTO A TRAP? IMPLEMENTING FALLSAFE AT A MULTI-SITE TRUST

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Introduction:

We adopted FallSafe in 2016 to replace the STRATIFY 1,2. FallSafe is different: users are encouraged to apply judgement to holistically consider risk and prevention.

In 2015 there were 7.25 falls/1000 bed-days compared to 5.97 currently. The improvement was due to the tool and implementation. We discuss our experience of making FallSafe work.

Methods:

There are a number of key lessons:

1. **Know your organisation**: there are falls hot-spots! Consider ward layout, lighting and staffing. Mapping out falls helps target high frequency areas.
2. **Training**: falls are inherently complex. People complete assessments if they understand the importance!
3. **Don't assume**: skills (e.g. lying and standing blood pressure) are performed better if taught.
4. **Use injurious falls as a learning tool**: incidents highlight areas for development. Assess the quality of reviews.
5. **Think cognition!** 42% inpatient falls occurred in people with cognitive impairment.
6. **Inspect and review performance**: check what you think should be happening is!

Results:

We shall focus on two areas:

Know your organisation: 45% of inpatient falls occurred at night. Falls practitioners conducted walk-rounds at night to observe practice and educate. Changes were made: bay nursing was promoted by re-organising the wards and lighting was improved.

Use injurious falls as a learning tool: the root cause analyses of all 2016 injurious falls were reviewed. Deficiencies (in the process) included a failure to share lessons with ward staff, the review process being "uni-professional" as opposed to "multi-professional" and a lack of subject-specific knowledge. Thus, the falls team now help with the investigation of all "harm" falls.

Conclusions:

The FallSafe bundle was developed to reflect the complexity of inpatient falls as a clinical problem. Thus, it is consequently complex to introduce and embed. Knowing your organisation and exploring aspects of performance is vital to see the benefit of FallSafe.

References:

[1]Royal College of Physicians. FallSafe resourses. Available at: https://www.rcplondon.ac.uk/guidelines-policy/fallsafe-resources-original. Accessed 26/06/18
[2]Oliver D, Papaioannou A, Giangregorio L, Thabane L, Reizgys K, Foster G. A systematic review and meta-analysis of studies using the STRATIFY tool for prediction of falls in hospital patients: how well does it work? *Age and Ageing* 2008; **37** (6): 621–627.

IMPROVING THE QUALITY OF DOCUMENTATION FOLLOWING AN INPATIENT FALL

Humphreys R.
Mid Yorkshire NHS Trust

Introduction:

Inpatient falls are common, more than 240,000 inpatient falls are recorded each year, resulting in more than 2500 hip fractures[1]. NICE guidance recommends that all patients who fall are assessed for injuries and any underlying cause of the fall[2]. Concern was raised through the Trust Falls Panel that the quality of assessment following an inpatient fall was inadequate and consequently there was a delay in diagnosis.

Methods:

A retrospective case notes audit of the post falls assessment proforma was undertaken for all serious incidents occurring over a 12-month period. The assessment was audited against a pre-defined proforma with criteria that was considered best practice. The proforma was then redesigned and trialled in 3 clinical areas with data collected from all falls occurring over a 2-week period.

Results:

There were 24 serious incidents recorded over 12 months; only 17 incidents could be audited. Of those patients with suspected or obvious head injuries, 0% were found to have all the components of a neurological examination; 50% had GCS documented, 17% had a full cranial nerve examination. The average time to diagnose from the time of fall was 4.8 hours (4.1 -6 hours). Neurological observations were requested for just 18% of patients. Only 66% of those suspected of having a hip fracture had an examination their hip; the average time to diagnosis was 15.9 hours.

There was an improvement in documentation following the redesign of the proforma; GCS and cranial nerve examination was documented in 92% of cases and 100% had a peripheral nerve examination documented. The need for neurological observations was documented in 100%. There was trivial improvement with hip assessment, which remained at 66%.

Conclusions:

Assessment following a fall is important to identify any harm and the cause of the fall. A simple redesign of the post falls proforma can improve documentation of assessment; however, this work has highlighted other training needs.

References:

[1]Royal College of Physicians. *National Hip Fracture Database Annual Report 2014.* London: RCP, 2014.
[2]National Institute for Clinical Excellence. Quality Standard 86: Falls in Older People. NICE 2017

A CLOSED LOOP AUDIT LOOKING AT QUALITY OF COMPLETION OF THE "HIP FRACTURE PATHWAY" PROFORMAS FOR PATIENTS PRESENTING WITH FRAGILITY HIP FRACTURES TO UNIVERSITY HOSPITAL LEWISHAM

Karaj J and Kalyaniwalla T
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Introduction:

Neck of femur (NOF) fractures are a common type of fragility fracture. They have huge financial implications and result in increased mortality and morbidity in the elderly. NICE recommends multidisciplinary management for best outcomes. Best Practice Tariff criteria for fragility hip fractures, as audited by the Royal College of Physicians using the National Hip Fracture Database (NHFD) across all trusts, states that patients admitted with these fractures should be clerked on an assessment protocol agreed by the multidisciplinary team involved in managing these patients. The team includes Geriatricians, Orthopaedic Surgeons, Anaesthetics, Physiotherapists and Occupational Therapists.

Aims/objectives:

To assess the completion rate of the Hip Fracture Pathway Proformas for patients presenting with neck of femur fractures to Accident and Emergency, and re-audit in order to assess whether this improved following implementation of changes.

Methods:

Data was collected prospectively from 44 Hip Fracture Pathway Proformas from September to November 2017. The Proforma was split into 14 subcategories (e.g. AMTS score, History of Presenting Complaint, etc.), and data on the completion of these domains was collected.
Feedback with results and recommendations was given to the doctors responsible for completing the Proformas. The second audit loop was then conducted, collecting data prospectively from 30 Hip Fracture Pathway Proformas for patients admitted between February and May 2018.

Results:

Results from the first audit loop demonstrated an overall completion rate of the Hip Fracture Pathway Proforma of **89%**. Out of an overall of 616 domains (14 subsections x 44 cases = 616), 548 were fully completed. Areas completed well and those often incomplete were identified. Following implementation of recommendations the second audit was conducted, including a total of 30 patients. Again this was done prospectively, and demonstrated a completion rate of **93.3%.**(14 subsections x 30 cases = 420), 392 out of 420 subsections were completed, showing a significant improvement. Overall, only 50% of Proformas were well-completed in the first cycle (scoring 13 or more out of 14). This improved to 73% of Proformas in the second cycle of the audit.

Conclusions:

It is imperative for exemplary patient care that we collect complete and up to date clinical information on admission so there is no delay in treatment. This audit showed promising improvements, and we would aim to maintain and build it.

Khan S, Zaharoff A and Rahman R

Princess Alexandra Hospital, Harlow.

Introduction:

Inpatient falls, although encountered often, have variable management plans, which are inconsistently documented. NICE guidelines on management of inpatient falls outline several factors when assessing patients including a focussed examination, medication and anticoagulation review. At Princess Alexandra Hospital, we introduced an inpatient post-falls proforma to standardise management and documentation of the falls.

Methods:

We performed a retrospective case note review, collecting two cycles of data on the clinical management of inpatient falls, prior to introducing the falls proforma. Our baseline data highlighted the following points:

i) The majority of post-fall medical assessments by doctors were not indicated
ii) The majority of CT Head requests were not indicated
iii) Documentation of clinical assessments on post-fall patients were inadequate

We then designed and launched a standardised inpatient post-falls proforma, which included a nurse's section prompting if the post-falls patient required a doctor's review, the indications for a CT head and prompts for documentation including examination, medication and anticoagulation review and a clear plan.

Since the new proforma was introduced onto the wards, we carried out several PDSA interventions which included emailing medical staff, presenting the proforma at the patient safety and quality meeting, ground round and trainee teaching days.

Results:

Five cycles of data have been collected over a period of six months. The percentage of appropriate CT head requests rose from 57% to 100%. Furthermore, the percentage of correctly referred patients for medical assessment post-fall went from 35% to 50%. The quality of documentation has not showed any significant difference.

Conclusions:

Inpatient falls management has greatly improved by using a standardised inpatient post-falls proforma, both in aiding nursing staff in making appropriate patient escalations to medical staff

and reducing the number of inappropriate CT Head requests. We aim to further improve documentation and the quality of clinical assessment of patient post-fall through ongoing PDSA interventions.

FALLS IN OLDER PEOPLE IN THE COMMUNITY: SHOULD MULTI-FACTORIAL INTERVENTIONS EXTEND BEYOND HOME?

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Introduction:

The National Institute for Health and Care Excellence recommends home hazard assessment and intervention in falls prevention in community dwelling older people. There are no specific recommendations in prevention of falls outside of home. We conducted a service evaluation project in a district hospital looking at falls presentation in older people attending the emergency department assessing the location of the fall and the immediate consequences.

Methods:

We collected data of people aged 70 and above who had fallen and presented to the emergency department (ED) in the year 2017. We randomly selected 200 patients using simple randomisation methods of 1 in every 10 patients and exempted patients from care homes.

Results:

The total number of visits to the ED of our district hospital was 105,116 for the year 2016-17 across all age groups of which 21,243 were adults aged 70 years and above. A total of 2097 (9.9%) patients aged 70 and above presented with a history of fall to the ED in the year 2017. Of the 200 (9.5%) patients evaluated, the average age is 84years, females 137 (68.5%) and males 63 (31.5%). 173 (87%) had fallen indoors at home, 20 (10%) outdoors and 7 (3%) not stated. 134 (67%) in total were admitted, out of which 120 (69%) had fallen indoors and 10 (50%) outdoors. 43 (21.5%) had significant injuries, consisting of 23 (16.5%) fracture neck of femur, 18 (9%) other fractures, and 5 (2.5%) traumatic brain injury. Of these 43 patients, 42 (98%) of them were admitted and 4 (2%) of them had fallen outdoors. 4 (2%) deaths were recorded.

Conclusion:

Majority of the older people attending emergency department had fallen at home. While home based interventions are important in prevention of falls in older people, fall prevention advice outside of home should also be considered.

FALLS IN LOWER LIMB AMPUTEES
DESIGN OF A RETROSPECTIVE STUDY FROM THE MOTU PROJECT

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Introduction:

Falls affect each year more than 50% of patients with a lower limb amputation. Little evidence is available on whether different prosthetic components affect fall risk and equilibrium.

Within the framework of the MOTU project, we are conducting a retrospective observational study on the archive of the Prosthesis Centre of the Italian National Institute of Insurance against Work Injuries (INAIL). Fall risk during prosthetic rehabilitation and abilities in static and dynamic equilibrium of trans-femoral amputees are being studied, exploring the effect of the type of prosthetic knee.

Methods:

The primary endpoint of the study is fall occurrence during residence at the Centre while wearing the prosthesis. The secondary endpoint is motor ability, as measured at discharge from the Centre with the Locomotor Capability Index (LCI) or the Amputee Mobility Predictor (AMP). The patients are characterized by age, gender, time from amputation, cause of amputation, length of the stump, weight, height, comorbidities, drugs assumption, planned objective of the rehabilitation path, Barthel index, Morse scale, motor ability at hospital admission (LCI, AMP, 10 m walking test). Prosthetic knees are classified in non-microprocessor-controlled knees (NMPK) and microprocessor-controlled knees (MPK). Time to exposure is quantified with the length of stay at the Centre.

We have extracted data relative to all trans-femoral patients hospitalized at the Centre between January and March 2016 and have performed a power analysis.

The approval for conducting this research has been asked to the local ethical committee.

Results:

Falls during the stay were reported by 9.0% of patients. The mean (standard deviation, SD) age was 55.1 (15.4) years, 6.4% were female. Causes of amputations were: job injury (72.3%), road accident (8.5%), other accident (4.3%), diabetes (6.4%), cancer (4.3%), and osteomyelitis (4.3%). Mean (SD) time from amputation was 19.3 (18.9) years. Levels of amputation were:

proximal (19.1%), median (34.0%), distal (21.3%), and knee disarticulation (4.3%, not available 21.3%). MPK and NMPK were used respectively by 36.2% and 63.9% of patients.

Conclusions:

The power analysis has shown that an odds ratio of 2.0 for the type of prosthesis can be detected with 85% of statistical power with 650 samples. In order to limit the total sample size to retrieve from the archive and get adequate power, we are considering adopting a matched case-control design.

A PROJECT TO IMPROVE THE IDENTIFICATION OF POSTURAL HYPOTENSION IN FALLS ASSESSMENTS IN THE ELDERLY

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Introduction:

Falls are a common presenting complaint in patients aged over 65. Multiple factors contribute to falls in the elderly. Postural hypotension, often secondary to medication can be quite common. NICE recommends a physical examination to identify these patients as part of a falls assessment.

Lying and standing blood pressure (BP) and falls assessments were documented poorly in our hospital. Our project reviewed current practice, aiming to improve falls assessments and identification of patients with postural hypotension.

Methods:

30 patients' notes, aged over 65, were reviewed. Current falls assessments and documentation including lying standing BP recording, within 24 hours of the fall were reviewed.

Round 1, the initial findings were presented to Junior Doctors, who received teaching in the components of a fall assessment.

Round 2, a falls sticker was introduced to improve falls assessments and documentation.

Round 3 reviewed current practice 6 months later.

Results:

Initial results showed 5/30 (17%) had a lying and standing BP, and 3/5 (60%) has a postural BP drop.

Round 1 improved to 20/30 (67%) having a lying and standing BP, and 11/20 (55%) had a postural BP drop.

Round 2 showed 22/30 (73%) had a lying standing BP and 10/22 (45%) had a postural BP drop.

Round 3, at 6 months, 23/30 (77%) had a lying and standing BP and identification of a postural BP drop was 12/23 (52%).

Conclusions:

Current practice showed lying and standing BP and falls assessments were poorly documented. After 2 rounds, lying and standing BP recording improved from 17% to 73%, with around 50% of these patients being identified with a postural BP drop. These results were maintained at 6 months.

Feeding back audit results, education and a falls sticker improved falls assessment, documentation and overall a sustained improved practice.

Our recommendations include education and continued use of the falls sticker to help identify

FALLS IN HOSPITAL: PROMOTING SAFE MANAGEMENT

Shields A.

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Introduction:

>600 inpatient falls are reported per day in England and Wales (Royal College of Physicians, 2015). Falls extend admissions, reduce independence and cause serious injury and death (WHO, 2017). Guidelines (NICE 2017, Royal College of Physicians 2015) advise post-fall protocols include a medical examination. The population is ageing, and according to SWFT DATIX reports 42% of falls occur on Care of the Elderly wards. Post-fall assessments are undertaken commonly by junior doctors. A quality improvement project was implemented to improve post-fall management.

Methods:

Junior doctors were surveyed to assess perceived confidence and current methods for post-fall assessments. A clear, concise proforma was developed to provide a structured assessment and documentation tool; and promoted via peer education and intranet advertisement. The proforma was incorporated on the intranet, local guidelines website, and paperwork distributed. Further development incorporated end-user feedback, and increased ease of use by the multidisciplinary team. It was then re-disseminated and promoted via reminder emails and presentations, and awareness re-evaluated.

Results:

Prior to targeted interventions, post-fall assessments by junior doctors lack consistency, 88% did not use a proforma. Confidence in post-fall assessment was noted to drop significantly during out-of-hours, 96% felt a proforma would be useful to improve patient safety.

Following the proforma introduction, initial results found all juniors asked were now aware of it, 69.2% had used it, of which 100% found it useful. 46.2% were unsure how to access it. Consequently, availability and accessibility were increased. Additional paper copies were produced for 'high-risk' areas, and IT presence optimised.

Subsequent surveys found 72.2% knew how to access the proforma (increased by 18%), and 100% reported it was a useful tool to aid post-fall management and advance patient safety.

Conclusions:

Falls management awareness and competency at SWFT has improved. Healthcare professionals throughout the trust are now utilising the proforma, encouraging safe falls management 24/7.

Post-fall proformas are an essential patient safety tool to reduce mortality and morbidity, increasingly important as the population ages and risk of falls, and subsequent complications increases. Further development is needed, with frequent promotion and end-user feedback to optimise effectiveness.