

**Title: Challenges of identifying patients at risk of suicide on Acute Medical Units – A Retrospective analysis of suicide cases in Salford District (12-month period)**

**Category: Research**

**Main Author: Stephen McClements**

**Co-Authors: Henry Ashcroft  
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**Aim**

Identify which characteristics are important predictors of suicide risk, by analysing secondary-care contact data, and patient demographics, of suicide cases.

**Methods**

All Suicides and Open Verdicts in 2014 were included. Information was collected from ONS and Primary Care Mortality Databases, and through manual files searches undertaken at Bolton Coroner's Office.

**Results**

28 deaths were identified; 4 excluded as from outside Salford District (no locally accessible healthcare record).

24 patients finally included.

Mean age was 52 (range 22 – 83). Majority were male (83%).

Patients fell within 2 groups;

Group 1 (representing 50% of cohort):

- Minimal contact with hospital services: 9 patients (37.5%) no previous contact with secondary care and a further 3 (12.5%) had only outpatient contact for non-chronic conditions > 6 months prior to death.
- No formal mental health diagnosis: only one person had any contact with Community Mental Health Services for chronic insomnia.

Group 2 (representing 50% of cohort)

- All had contact with hospital services recently (median 37 days; range 2 – 240) with 5 patients (42% in this sub-group) having contact with services within last 7 days of life.
- Majority were known to mental health services: 11/12 (92%) having a formal diagnosis of schizophrenia or depression.
- All had at least one admission to Acute Medicine for self-harm, attempted suicide or acute mental health crisis (median 2; range 1 – 14).

## Conclusion

Although those at risk of suicide, who present to Acute Medical Units, share common characteristics (previous self-harm, mental health diagnosis,) the relative short-term risk in such patients' remains low (< 1 % over 12 months in our Centre). Further work is urgently needed in this commonly presenting cohort to identify those truly at higher-risk of suicide and enable more targeted focusing of resources and intervention.

Half of all suicides have no engagement with any services despite high levels of mental illness apparent following post-mortum psychiatric examination<sup>1</sup>. Improved public health awareness of mental illness and suicide risk factors such as poverty, recent unemployment and drug and alcohol dependence, within the community, is likely to have a larger impact overall, on suicide rates<sup>2</sup>.

Special thanks to Carmen Martinez, Public Health Manager at Public Health Department, Salford City Council for her specialist input and support throughout project.

<sup>1</sup>Harris, E.C., Barraclough, B., 1997, Suicide as an outcome for mental disorders, *British Journal of Psychiatry*, 170, 205-228.

<sup>2</sup> Public Health England – "Guidance for developing a local suicide prevention action plan" – Nov. 2014

**Title: Clinical Relevance of the Glasgow-Blatchford Score in risk assessment of acute upper gastro-intestinal bleed on the acute medical take**

**Category: Research**

**Main Author: Bethan Davies**

**Co-Authors: Alexandra Teagle  
Angela Chahwan  
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**Aim**

To determine whether the Glasgow-Blatchford score (GBS) correlates with need for medical and/or endoscopic intervention in patients with suspected acute upper gastro-intestinal bleed (AUGIB), and whether GBS can be used to guide appropriateness of early discharge in our low-risk patients.

**Methods**

Patients referred with suspected AUGIB were identified prospectively from daily post-take medical lists. Data required for calculation of GBS and information on patient management and outcomes were retrieved from patient notes and discharge summaries. Outcome measures included need for blood transfusion and/or endoscopic intervention necessitating inpatient stay and inpatient mortality.

**Outcome/Results**

125 patients were included. Range of GBS was 0-20 (mean 7.5). 27 patients had GBS 0-3 and only 1 of these (3.7%) required intervention (endoscopic treatment for dieulafoy lesion). Above a score of 3, requirement for blood transfusion, endoscopic and surgical intervention increased, as did mortality. For patients with GBS of 14 and above, 100% required blood transfusion and 55.6% required endoscopic intervention. The rate of intervention or adverse outcomes increased with increasing GBS.

**Conclusion**

Suspected AUGIB is a common presentation on the acute medical take. GBS is a validated tool to identify patients requiring treatment for AUGIB<sup>1</sup>. The National Institute for Health and Care Excellence (NICE) suggest consideration of early discharge for patients with GBS of 0<sup>2</sup>, although some studies have suggested that patients may be safely discharged with GBS up to 2<sup>3,4</sup>. In our patient group patients presenting with GBS <3 had a very low rate of intervention and no adverse outcomes; this supports the principle of considering early discharge in patients with low GBS. However, as demonstrated by the single low risk patient who required endoscopic intervention, full clinical assessment in conjunction with GBS remains key to determining need for admission.

**References**

1. Blatchford O, Murray WR, Blatchford M. A risk score to predict need for treatment for upper-gastrointestinal haemorrhage. *Lancet* 2000; 356:1318-1321.
2. National Institute for Health and Clinical Excellence. Acute upper gastrointestinal bleeding: management. NICE clinical guideline 141. 2012.
3. Laursen S, Dalton H, Murray I, Michell N, Johnston M et al. Performance of new thresholds of the Glasgow Blatchford Score in managing patients with upper gastrointestinal bleeding. *Clin Gastroenterol Hepatol* 2015; 13(1):115-21.
4. Le Jeune IR, Gordon AL, Farrugia D, Manwani R, Guha IN, James MW. Safe discharge of patients with low-risk upper gastrointestinal bleeding (UGIB): can the use of Glasgow-Blatchford Bleeding Score be extended? *Acute Med* 2011; 10:176-181.

**Title: CRASH - HCSW have the skill but do we have the will.**

**Category: Research**

**Main Author: David Watson**

**Aim:** This research study was undertaken to identify if the CRASH course improved the HCSW perception of their role in the recognition and communication of the deteriorating patient. The CRASH course was a 1 day course designed for HCSW in Acute care to teach them in the recognition of deteriorating patients through the use of A-E assessment, MEWS/EWS scoring and the communication of deterioration using the SBAR tool.

**Methods:** A mixed methods approach, adopting a convergent design was utilised to answer the research questions. The research was conducted over three District General Hospitals. The data collection comprised of 2 main components. Firstly 100 participants completed pre and post course questionnaires (using a semantic differential approach). Secondly, 1:1 exploratory interviews were conducted with HCSW, RGN and SCN to identify the clinical impact of the training.

**Outcomes:**

**Questionnaires:** The pre and post course scores identify that there was a significant improvement in the HCSW scores pre and post course for both recognition of deteriorating patient and the communication of the deteriorating patient. The mean score pre course for communication was +14.48 (n=100) and increased to +27.37 (n=99) this was statistically significant ( $p < 0.005$ ). Similarly, there was an increase in the mean score for recognition of the deteriorating patient from +13.8 (n=100) increasing to +27.76 (n=99) post course. This was significant ( $P < 0.005$ ).

**Interviews:** The 1:1 interviews were conducted with 5 HCSW, 5 RGN and 5 SCN. The common themes from the interviews were communication, team working, job satisfaction, hierarchy, barriers to deteriorating patient management and increasing acuity of patients.

**Conclusion:** The questionnaires demonstrate a clear positive change in the HCSW perceptions of their roles, however the interviews demonstrate the presence of hierarchy within areas which limits the timely identification and communication of the deteriorating patient.

**Title: Crisis Checklists: Promoting consistency, communication and quality of care when responding to ward-based crises.**

**Category: Research**

**Main Author: Christian Subbe**

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## **Aim**

Recent focus on improving safety in healthcare has prompted the development of set responses to acute illness using checklists to standardise care and ensure fewer patients “fall through the net” [1].

We aimed to determine the applicability of crisis checklists to general ward scenarios and whether they would prove useful in streamlining the response to simulated crises.

## **Methods**

We reviewed crisis on three medical wards for four weeks at the Ysbyty Gwynedd District General Hospital. We reviewed notes of all patients with the National Early Warning Scores (NEWS) of 6 or more. Events were matched to a list of predefined crisis and care delivered was compared to recommendations from expert checklists [2].

We then measured time to pre-defined safety critical steps in a 'scenario in a High-Fidelity simulated environment (METIman, CAE Healthcare). Teams of medical students, nursing students and paramedics were randomly assigned a 'Respiratory Distress' scenario with or without a Crisis Checklist iOS app.

Checklists have three parts: First-at-scene prompts, a coordinated team aide-memoire and a hand-off reminder (Figure 1: Sample Crisis Checklist).

## **Outcomes/Results**

82% of ward based crisis fell into just 4 scenarios based on review of vital signs: 2 for single parameter failure (Respiratory Distress, Altered Level of Consciousness) and two for multi-parameter abnormalities (Sepsis, abnormal NEWS score without immediately obvious etiology).

In the simulated environment response teams delivered safety critical steps such as administration of oxygen and fluids and performance of key strategic tests 30% faster. Importantly teams with the checklist app and sought senior advice 8 minutes earlier using checklists (Figure 2: Timeline Simulation). Feedback from participants was positive, especially from experience paramedics.

The learning were summarized in a short video (3).

## **Conclusion**

Checklists might have the potential to improve the efficiency and consistency of care delivery in crisis by junior teams on general wards whilst empowering prompt communication between junior and senior staff. Comprehensive testing with multiple teams and scenarios is required to further explore these findings.

## **References**

[1] Arriaga AF, Bader AM, Wong JM, Lipsitz SR, Berry WR, Ziewacz JE, Hepner DL, Boorman DJ, Pozner CN, Smink DS, Gawande AA. Simulation-based trial of surgical-crisis checklists. *N Engl J Med*. 2013 Jan 17;368(3):246-53.

[2] Subbe CP, Barach P, Chaloner C, Cooksley T, Croke E, Durham L et al. Crisis checklists for rapid response teams: improving rigor and reliability of response to abnormal physiology. 2015 (submitted for publication)

[3] <https://www.dropbox.com/s/x956nb83bnzbbbg/Crisis%20Checklists.mp4?dl=0>

**Title: Development and use of a Medication-Related Patient Measure of Organisational Safety Questionnaire on an Acute Medical Unit**

**Category: Research**

**Main Author: Mary Tully**

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**Anne Raju**

**Karen Inston**

**Aim:** Ways of assessing patients' views on hospital safety have been developed.<sup>1</sup> However, existing measures do not consider medication in detail, despite that being high risk, especially on admission to hospital.<sup>2</sup> The aim was to develop a Medication-Related Patient Measure of Organisational Safety (MR-PMOS) Questionnaire and assess the feasibility of its use in an acute medical unit.

**Methods:** A public panel and inpatient interviews were used to modify an existing questionnaire<sup>1</sup> to make it relevant to medication use. Each question was scored on a 5-point scale and allocated to one of eight domains; free text comments were encouraged. The 36-item questionnaire was completed by patients on the unit during the week and at the weekend. A positive index (positive ratings = 1, all other ratings = 0) was calculated for the questionnaire overall (maximum score = 36). Cronbach's alpha was calculated for both questionnaire and each domain. Comparisons were made between scores for weekends and weekdays. Ethics approval was deemed not necessary by the R&D department.

**Results:** The questionnaire was completed by 159 patients, 130 (82%) on a weekday and 29 (18%) at the weekend. The overall Cronbach's alpha was 0.90, with values for domains ranging 0.61-0.90. The mean positive index score was 23.6+/-7.8. There was no difference in scores for data from the weekend (24.7±7.7) or during the week (23.6±7.8). Free text comments indicated that most patients were very positive about how they viewed medication safety on the ward.

**Conclusion:** The MR-PMOS showed excellent internal reliability. On average, patients responded positively to around 24 of the 36 questions that they answered. The MR-PMOS shows promise as a way of measuring patients views of how medications are used on an acute medical unit. Larger numbers will be needed for a definitive comparison of weekend/weekday results.

1 McEachan RR, Lawton RJ, O'Hara JK, Armitage G, Giles S, Parveen S, et al. Developing a reliable and valid patient measure of safety in hospitals (PMOS): a validation study. *BMJ Qual Saf* 2014 Jul;23(7):565-73.

2 Ashcroft DM, Lewis PJ, Tully MP, Farragher TM, Taylor D, Wass V, et al. Prevalence, Nature, Severity and Risk Factors for Prescribing Errors in Hospital Inpatients: Prospective Study in 20 UK Hospitals. *Drug Saf* 2015;in press 10.1007/s40264-015-0320-x [doi].

# **Title: Does Medication Review reduce the number of 'Falls Risk-Inducing Drugs' in Hospitalised Patients?**

**Category: Research**

**Main Author: Vanessa Marvin**

**Co-Authors: Barry Jubraj  
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## **Aim:**

Many elderly patients admitted to hospital are taking medicines that may increase falls risk, such as sedatives and anticholinergics.<sup>1</sup> Inappropriate polypharmacy should be avoided, given that the addition of each medication beyond a 4-medication regimen has been found to increase fall risk by 14% ( $p=0.027$ ).<sup>2</sup> The aim of our study was to explore whether medication reviews undertaken at the Chelsea & Westminster Hospital NHS Foundation Trust prior to discharge led to a reduction in the number of 'falls risk-increasing drugs' (FRIDS).

## **Methods:**

This was a retrospective, single-centre cohort study, sampling all patients aged 70 years or older admitted to the Chelsea & Westminster Hospital between 2/2/15 and 2/3/15 following a fall. Patients were identified from information in the local discharge summary, medical notes and electronic patient prescribing record. We categorised 'polypharmacy' patients as those taking more than five medicines and identified their falls risk-inducing drugs. Medication reviews were observed through attending weekly falls/orthopaedic-focused ward rounds.

Data were recorded in MS Excel and analysed using Graphpad Prism6. The Wilcoxon test was used to demonstrate the effects of medication reviews.

## **Outcomes/Results:**

- 32/90 patients (55.2%) underwent a comprehensive medication review
- 58/90 patients (64.4%) were discharged with more than five medicines
- Medication reviews significantly reduced the number of falls risk-inducing drugs ( $W = -0.65, p < 0.0001$ )

## **Conclusions:**

All patients admitted acutely with falls should have a full medication review prior to discharge by the multidisciplinary team, including pharmacists. Medication review in patients admitted with falls can lead to a significant reduction in the number of falls risk-inducing drugs prescribed.

## **References:**

1. Kapas P Preventing Falls in Older People. The Pharmaceutical Journal 2014, 293, No 7834 465-467.
2. Freeland KN, Thompson AN, Zhao Y, Leal JE, Mauldin PD, Moran WP. Medication use and associated risk of falling in a geriatric outpatient population. The Annals of Pharmacotherapy 2012; 46(9) 1188-1192.

# **Title: Incidence of Proximal DVT on Repeat Imaging at the Calderdale Ambulatory Unit**

**Category: Research**

**Main Author: Adrian Kennedy**

**Co-Authors: Beatrix Langara**

## **Aim**

The 2012 NICE guidelines for diagnosis of DVT recommend a repeat ultrasound Doppler for those patients who have an initial negative scan but a Wells score  $\geq 2$  and a raised d-dimer. The Calderdale Ambulatory unit has a protocol which follows NICE guidance. Within the guideline there is a recommendation for further research into the incidence of proximal DVT diagnosed on repeat imaging.

We wanted to find out the incidence of proximal DVT diagnosed on repeat ultrasound Doppler following negative initial investigations amongst patients with a Wells score  $\geq 2$  and positive d-dimer.

## **Method**

We obtained a list of all leg Doppler ultrasounds requested through the Calderdale Ambulatory Unit from 1<sup>st</sup> August 2014 to 30<sup>th</sup> April 2015 from our radiology department. The two authors independently analysed the outcomes from this list and corroborated the results.

## **Results**

A total of 487 patients were scanned in the time period studied. There were a total of 599 scans. On initial scan 76 DVTs were diagnosed (15.3% of first scans). A total of 112 patients had a rescan due to having a Wells score  $\geq 2$ , positive d-dimer and negative initial scan. Of these 5 patients (4.46%) had a DVT diagnosed on the rescan. Five patients had more than one scan during the time period but only the first two scans per patient were included in this analysis. All the patients with a positive rescan had significant risk factors for DVT such as active cancer or previous unprovoked DVT + long haul travel. One patient had superficial vein thrombophlebitis on the first scan.

## **Conclusion**

The incidence of DVT diagnosed on repeat imaging was approximately 5% in our patient group. Although this is a low number NICE guidance is based on the premise that avoidance of undiagnosed DVT should be the aim, followed by the avoidance of additional testing. We will thus continue to follow NICE guidelines for the diagnosis of DVT.

## **References**

1) <http://www.nice.org.uk/guidance/cg144/chapter/guidance>  
Accessed on 09/07/2015

2) <https://www.nice.org.uk/proxy/?sourceUrl=http%3a%2f%2fwww.nice.org.uk%2fresearch%2findex.jsp%3faction%3dresearch%26o%3d2472> Accessed on 09/07/2015

# **Title: Non Specific Complaints and Adverse Health Outcomes among Elderly Patients at the Emergency Department**

**Category: Research**

**Main Author: Joyce Wachelder**

**Co-Authors: Laura Hubens  
Steffie Brouns Brouns  
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**Aim:** 'Feeling weak' or 'being tired' typifies Non-Specific Complaints (NSC), presented by an increasing number of elderly patients ( $\geq 65$  years) at the Emergency Department (ED). Limited knowledge about NSC-patients results in management difficulties and the absence of a work-up protocol potentially impedes high-quality patient care. The goal of the study was to compare the patient characteristics and health outcomes between elderly NSC-patients and Specific Complaints (SC)-patients. Primary outcomes were 90-day ED return visits and 30-day mortality.

**Methods:** A retrospective cohort study was conducted amongst elderly internal medicine patients visiting the ED at Máxima Medical Centre, the Netherlands, between 01-09-2010 and 31-08-2011. The NSC describes indefinable complaints without providing a pre-differential diagnosis to initiate standardized patient evaluation. Cox regression was performed to calculate the Hazard Ratio (HR).

**Results:** In total, 1784 patients were enrolled (mean age 77.5 years), of whom 244 (13.7%) presented with NSC. The Charlson Comorbidity Index (CCI) was higher in the NSC-group (median 3.0 versus 2.4,  $p < 0.001$ ), oncology was a frequently presented comorbidity for NSC-patients (42.2 vs. 29.1%,  $p < 0.001$ ). No difference in level of triage was observed between the groups ( $p = 0.300$ ). The ED-length of stay was higher in the NSC-group (182 versus 170 minutes,  $p = 0.004$ ). Hospitalization (84.0% versus 71.1%,  $p < 0.001$ ) and length of hospital stay (median 9 vs. 6 days,  $p < 0.001$ ) were higher in the NSC-group. The ED-return visits did not differ between both groups, 23.4% of the NSC-patients returned to the ED in comparison with 28.5% of the SC-patients (HR 0.7, 95%CI 0.6-1.0). In the NSC-group, 20.1% died within 30-days after ED-visit compared with 10.3% in the SC-group (multivariate HR 1.6, 95%CI 1.1-2.3).

**Conclusion:** A substantial part of the elderly patients presents with NSC at the ED. The ED-return visits did not differ between NSC-patients and SC-patients. However, the 30-day mortality risk was substantially higher for the NSC-patients.

**Title: Non-cardiac chest pain: a clinical assessment tool**

**Category: Research**

**Main Author: David Lanham**

**Co-Authors: John Lanham**

**AIM.** To improve management of patients with non-cardiac chest pain (NCCP) using a new assessment tool to: delineate clinical sub-groups, identify diagnostic clinical features, and demonstrate how a systematic approach can be easily taught and quickly applied.

**METHOD.** The BLADE system considers **B**ackground history, **L**ocation of pain and its nature, **A**ssociated features, **D**uration and a five step **E**xamination procedure (Figure 1). Patients presenting to hospital with acute NCCP were studied independently by four clinicians (two medical students, a cardiology nurse, and a consultant rheumatologist) collecting proforma data with pain mapping.

**OUTCOME/RESULTS.** Figure 2 shows the distribution of anterior pain and associated pain in 1122 patients. 80% had musculoskeletal pain with upper quadrant pain being associated with neck and shoulder pain and costochondritis with thoracic spine pain. The 20% with central pain had characteristics suggesting a visceral origin and 14% had chronic pain syndromes.

Many novel findings emerged from the study: the likely sources of NCCP; the diagnostic importance of persisting pain and its inducibility at examination; that central pain requires a different management pathway; the importance of background pain syndromes.

**CONCLUSION.** A systematic approach to NCCP can be easily taught and quickly applied. It permits more precise diagnosis, aids management and promotes a better understanding of mechanism.

**Title: Outcome of patients on renal replacement therapy in a district general hospital intensive care unit in London**

**Category: Research**

**Main Author: Hira Ahmed**

**Aim:**

Acute kidney injury (AKI) affects up to 20% of hospitalized patients. Many acute medical admissions have AKI and the use of renal replacement therapy (RRT) in critically ill patients is common. The purpose of our study was to see the outcome of patients who required emergency RRT and to review those who remained on RRT beyond one year.

**Methods:**

113 patients with AKI requiring RRT in a general intensive care unit were included in this study. It was conducted in a district general hospital in North London from August 2011 and December 2012 including both surgical and medical patients. The Apache II score, a marker for in patient hospital mortality, of all the patients was analyzed. Mortality at 3 months and 12 months was reviewed and the number of patients requiring long term RRT beyond 12 month was also looked at.

**Results:**

11 (10%) of these patients had pre-existing chronic kidney disease (CKD). There were 33 (29%) surgical patients and 80 (71%) medical patients.

14 (12.5%) patients had Apache II score of <20% and 14 (12.5%) patients score was between 20 – 30 % with majority of the patients, 85 (75% ), having a score of >30%.

62 (55%) patients died within 3 months RRT and 70 (62%) were dead within 12 months. 65% of the patients alive one year on were medical patients.

Many (24%) of the surviving 43 patients required long term renal support.

**Conclusions:**

Majority of patients who receive RRT in intensive care had died within 12 months of their admission. Unsurprisingly, most of these patients had higher Apache II mortality prediction scores. A significant number of patients required long term RRT beyond one year survival.

The use of such data could facilitate in clinical decision making and discussions with family and patients alike when formulating treatment escalation plans.

**References:**

- [Paul M. Palevsky, Renal Replacement Therapy in AKI, Adv Chronic Kidney Dis. 2013 Jan; 20\(1\): 76–84.](#)
- Lin YF, Ko WJ : **The 90-day mortality and the subsequent renal recovery in critically ill surgical patients requiring acute renal replacement therapy.** *Am J Surg* 2009, 198:325-332
- Metnitz PG, Krenn CG, Steltzer H, Lang T: **Effect of acute renal failure requiring renal replacement therapy on outcome in critically ill patients.** *Crit Care Med* 2002, 30:2051-2058.

# **Title: Results of a UK wide survey on the use of point of care ultrasound (POCU) in the Acute Medical Unit**

**Category: Research**

**Main Author: Nicholas Smallwood**

**Co-Authors: Ramprasad Matsa  
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## **Aim**

To ascertain information around the use of point of care ultrasound (POCU) on the Acute Medical Unit, including attitudes to POCU on the AMU, frequency of use, and the level of training undertaken.

## **Methods**

An online survey was constructed by the authors and circulated to all Society for Acute Medicine (SAM) registered members, alongside social media and trainee network invites.

Note: No question was forced answer, hence the variable denominators

## **Results**

A total of 276 people responded, including 100 Consultants and 151 registrar-level clinicians. The majority of these (74%) were trained or training in Acute Internal Medicine (AIM) and only 11.4% respondents had no practical experience in ultrasound or echocardiography. 228/262 (87.0%) respondents agreed or strongly agreed that POCU is an essential skill on the AMU.

Regarding ultrasound, the majority of 272 respondents (57.7%) had no formal accreditation, while the most popular qualification was level 1 thoracic ultrasound by 17.7% (figure 1). Echocardiography was less widely practiced with 45% respondents having no experience and only 15.2% with a formal accreditation (FEEL/ELS the most popular; figure 2).

Of those with POCU experience 143/167 (85.6%) used it at least once per week in clinical practice. 125/155 (80.6%), said it altered or sped up clinical decision making at least once per week, with 10% replying it did at least once per day.

## **Conclusions**

This survey is the first of its kind looking at the use of POCU within a medical specialty. It shows that enthusiasm for POCU on the AMU is high and that its use is commonplace among clinicians, often altering or speeding up clinical decisions. It also highlights that much of this use is without formal accreditation, highlighting a potential governance/patient safety issue. These data support the development of AIM specific ultrasound training standards, currently being undertaken by the authors.

**Title: Theoretically-based feedback sessions to increase prescribing safety**

**Category: Research**

**Main Author: Mary Tully**

**Co-Authors: Karen Inston  
Jo Hart  
Anu Trehan**

**Aim:** A feedback model, using individual doctors' prescribing in the context of their peers, was developed using psychological theories.<sup>1</sup> The aim of this feasibility study was to investigate whether the model could be delivered on an acute medical ward, with pharmacists collecting prescribing error data, which was provided to prescribers either by e-mail alone or by e-mail and workshops.

**Method:** Prescribing data (both with and without errors) were collected on Tuesdays over three months. Feedback was sent to all doctors by e-mail about all patients for whom they had prescribed and for whom data had been collected. An experienced facilitator ran the workshops, where prescribers used implementation intentions to plan what they would do differently the next time a similar error occurred. Interviews were held with 13 doctors who had received feedback either by e-mail alone or by e-mail and workshops. This was part of a larger study, considered service improvement by the R&D department.

**Results:** Prescribing data were collected for 86 doctors about 250 patients, prescribed 1660 medicines. There were 195 medicines missed on admission for 76 patients (30.4%); 86 patients (34.4%) had 145 prescribing errors. Each doctor received feedback data on 1-7 occasions, about their prescribing for 1-17 patients. The doctors were positive about receiving feedback generally, and preferred attending workshops to receiving data only by e-mail, although the timing was not ideal. They would have preferred receiving more data than had been collected.

**Conclusions:** It was possible to collect some data and provide individual feedback by this method that was acceptable to the doctors. Data collection was limited when the pharmacy service was reduced due to staff shortages. Workshops were labour intensive to deliver and difficult to schedule within a busy clinical environment. Therefore, alternative delivery methods that incorporate implementation intentions are required.

1 Gollwitzer PM, Sheeran P. Implementation intentions and goal achievement: A meta-analysis of effects and processes. *Advances in Experimental Social Psychology*, Vol 38 2006;38:69-119.

# **Title: Timely intervention based on EWS trigger thresholds: the impact on hospital length of stay**

**Category: Research**

**Main Author: Bhaskar Narayan**

**Co-Authors: Tom Abbot**

**Iqbal Khan**

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## **AIMS**

Early warning scores (EWS) are widely used in hospitals to identify patients at risk of deterioration. We aimed to evaluate whether admission EWS and/or change in admission EWS at 12 hours after clinical review, correlated with patient length of stay (LoS).

## **METHODS**

Data was collected on all adult general medical patients admitted to a large London teaching hospital over a 20-day period. The PARS (the EWS used at our institution) on admission was recorded for 445 patients, and their admission followed up to obtain LoS data.

A further study was conducted on 115 patients who developed PARS  $\geq 3$  *after* admission to the acute admission unit. Time to clinical review and progress of EWS was assessed at 12 hours after initial score. We analysed change in EWS and correlation to LoS.

## **OUTCOMES/ RESULTS**

Admission EWS was not correlated with hospital LoS. The correlation coefficient for PARS and length of stay was  $r=0.002$  ( $p=0.97$ ). Logistic regression analysis using length of stay  $<7$ ,  $>7$ , 14 days as the dependent variable did not identify any statistically significant associations with admission PARS ( $p=0.15 - 0.99$ ).

Interestingly, timely intervention based on trigger thresholds led to a reduction in LoS. In patients with PARS  $\geq 3$ , those reviewed within 60 minutes had a shorter average length of stay (5 vs 17 days).

The mean decline in 12-hour PARS was significantly better when the review occurred within 60 minutes:  $3.26 \pm 0.46$ , vs  $1.86 \pm 0.24$  respectively ( $p=0.006$ ), and average time to discharge was lower in this group of patients:  $130.23 \pm 123.4$  hours vs  $410.15 \pm 90.8$  hours. ( $p = 0.07$ ).

## **CONCLUSIONS**

An admission EWS does not seem to predict LoS. However, timely clinical intervention in those patients with higher EWS leads to modification of risk and a reduction in LoS.

**Title: Use of the AMB score in a large urban district general hospital: Reducing admissions and validating the score**

**Category: Research**

**Main Author: Tehmeena Khan**

**Co-Authors: Shamim Nassrally**

***Aim***

There has been an almost 47% rise in emergency hospital admissions over the last fifteen years (1). Ambulatory Emergency Care (AEC) has the potential to offer medicine the same benefits that day surgery has offered surgery, and to reduce the number of unnecessary admissions, thereby providing "same day" emergency care. The AMB score was created to identify patients that might benefit from AEC (2). The aim of this project was to validate the AMB score and its effect on our medical admissions.

***Methods***

We studied all acute medical admissions to a large urban district general hospital over a three-day period and retrospectively scored them according to the AMB Score (Figure 1). We recorded demographic data, the individual parameters used to compile the AMB score, as well as the presenting symptoms and final diagnoses.

***Results***

We report descriptive statistics as well as correlations between bed days and AMB Score (Figure 2). There was a statistically significant negative correlation at the 0.01% level between bed days and AMB score.

***Conclusion***

The AMB score was devised in a small semi-rural population; our results at a larger, more urbanised DGH have validated the usefulness of this scoring system in a different geographical environment. Our results show 73% of patients admitted via the "medical take" should be considered for AEC. The negative correlation between bed days and AMB score clearly gives face validity to the scoring system, however there are exceptions. The AMB score is a useful triage tool but needs development at local level for better utilisation i.e. the need for intravenous antibiotic therapy is less of a hindrance at our trust due to our outpatient parenteral antibiotic service. Trusts utilising AEC have shown a reduction in the number of acute admissions leading to the closure of a significant number of beds (4).

***References***

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**Title: What should an AIM ultrasound curriculum look like? Results from a national survey of clinicians on the acute medical unit (AMU)**

**Category: Research**

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**Aim**

To ascertain what clinicians on the AMU believe an ultrasound curriculum for acute internal medicine (AIM) should contain, in order to help inform training standards being developed for AIM trainees

**Methods**

Online survey conducted through SurveyMonkey software, sent to all members of the Society for Acute Medicine (SAM). In addition, the survey was circulated to trainees via the trainee programme directors and via social media

**Results**

A total of 276 people responded to the survey including two Foundation trainees, eight SHOs, 73 trainees at St3/4, 78 at St 5-7 and 100 Consultants. The majority of respondents (67%) were training in or had finished training in AIM.

249 people answered whether some form of ultrasound training should be a core skill or remain a specialist skill on the curriculum. Of these, 20.5% answered specialist skill only, leaving 79.5% of respondents believing ultrasound should be a core component of the AIM curriculum. Respondents were then asked which areas should a curriculum contain, with the top six areas in order of popularity as follows:

Core skill: Thoracic (assessment of fluid/drainage), vascular access (peripheral), abdominal (assessment of fluid/drainage), thoracic (lung water, consolidation, pneumothorax), echocardiography (focussed or BSE), FAST scan (figure one)

Specialist skill: Thoracic (assessment of fluid/drainage), vascular access (peripheral), thoracic (lung water, consolidation, pneumothorax), echocardiography (focussed or BSE), abdominal (assessment of fluid/drainage), renal (hydronephrosis +/- stones), see figure two.

**Conclusion**

This UK wide survey showed that approximately 80% AMU clinicians believe ultrasound should form a core part of the AIM curriculum, in keeping with a recently published trainee survey[1]. Interestingly, whether respondents thought ultrasound should be a core or specialist skill, there was good agreement amongst clinicians as to the components of such a curriculum. This data will be used to help develop an AIM specific ultrasound training programme.

**Reference**

N Smallwood and N Conway, 2015. Acute Internal Medicine trainee Survey 2015. *Acute Medicine*: 14(2); 73-77