

**Title: A quality improvement project to improve accuracy of venous thromboembolism prophylaxis by improving documentation of patient's weight**

**Category: Audit & Quality Improvement**

**Main Author: Frances Rose**

**Co-Authors: Kelli Torsney  
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**Aim:** Hospital-acquired venous thromboembolism (VTE) accounts for 25,000 deaths in the UK each year, with 50% being preventable with appropriate pharmacological and/or mechanical VTE prophylaxis. Pharmacological prophylaxis, low molecular weight heparin (LMWH) is weight dependent<sup>1</sup>. The aims of this quality improvement project were to: investigate whether a weight was recorded on the patient's electronic drug chart; investigate if LMWH was prescribed if no weight was recorded; and to investigate whether the correct dose of LMWH was prescribed for the weight recorded.

**Methods:** Data were collected over a two week period in January 2015 capturing all patients transferred to the general medical wards from the acute medical unit. Local intervention measures were established after the initial data collection; presentation at the Trust-wide clinical teaching meeting; a poster was developed and attached to each drug cupboard and in the emergency department to ensure patient's weight were documented on admission; and a hospital-wide computer screensaver was developed. Data was re-collected, reviewed and analysed in June 2015.

**Results:** In the initial data, 19% of patients had no weight documented. 83% of these patients had LWMH prescribed. 10% of these patients had the wrong dose prescribed, resulting in 80% having an inadequate dose for their actual body weight. After the interventions 95% of patients had a documented weight, which was a statistically significant improvement ( $p < 0.001$ ). Of these, all patients had LMWH prescribed at the correct dose.

**Conclusion:** VTE prophylaxis with correct weight documentation is effective at preventing avoidable death, disability and chronic ill health in at-risk hospitalised medical patients<sup>2</sup>. Implementation of interventions has increased awareness throughout the trust, thus enhancing patient safety and standard of care.

1. Freeman AL, Pendleton RC, Rondina MT. Prevention of venous thromboembolism in obesity. *Expert Rev Cardiovasc Ther.* 2010; Dec;8(12):1711-21
2. Dentali F, Douketis JD, Gianni M, Lim W, Crowther MA. Meta-analysis: Anticoagulant Prophylaxis to Prevent Symptomatic Venous Thromboembolism in Hospitalized Medical Patients. *Ann Intern Med.* 2007;146:278-288

## **Title: A Survey into Debriefings Following Cardiac Arrests**

### **Category: Audit & Quality Improvement**

**Main Author: Karwai Tsang**

**Co-Authors: Debbie-Ann Charles**

#### Aim

The cardiac arrest team is composed of a multidisciplinary team (MDT) with varying experience. Given the complexity and emotional impact of cardiac arrests, the effects on each team member is variable. The UK Resuscitation Council recommends debriefing after cardiac arrests to address these issues. However such meetings occur infrequently as a result of pressures and lack of awareness.

The objective of this survey was to understand whether cardiac arrest debriefings occur and the level of interest from the MDT to have such meetings in an acute hospital setting.

#### Methods

A survey was distributed across the Acute Medical Unit and Emergency Department, of a busy hospital in South-East London. The survey asked about previous cardiac arrests experience and attendance to a debriefing. It also enquired about the level of interest in debriefing and desired issues to be discussed in such a meeting.

#### Outcomes/Results

The majority of those surveyed were nurses and doctors (figure 1) and a significant majority had been involved in a cardiac arrest. However, most (77%) had never, or rarely, attended a debriefing post-cardiac arrest but agreed such a meeting would be important (figure 2). The topics suggested for discussion included nature of events in order to understand the decision pathway; areas of practice that were exemplary or needed improvement, and discussion of personal concerns and emotions.

#### Conclusion

Most MDT members working in an acute clinical care setting have infrequently experienced a debriefing post-cardiac arrest but value the importance of such meetings. The next step is to generate awareness in debriefing sessions amongst those involved in cardiac arrests and this could be implemented through teaching sessions during employment induction and also training in the art of debriefing for cardiac arrest leaders. Providing debriefings can result in a more cohesive multidisciplinary team and lead to more effective management of cardiac arrests.

#### References

1. Gamble M. A debriefing approach to dealing with the stress of CPR attempts. *Nursing Times.Net* (2001).
2. Resus Council. *Advanced Life Support* (2010)
3. Steinwachs B. How to Facilitate a Debrief. *Simulation Gaming* (1992) **23**: 186

## **Title: Addressing Handover Culture: Introducing a Multidisciplinary Approach**

### **Category: Audit & Quality Improvement**

**Main Author: Henry Walton**

**Co-Authors: Wendy Munro**

**Aim:** Handover is a major preventable cause of patient harm, this project aimed to improve the quality of night handover within a teaching hospitals general medicine department, resulting in the safe transfer of patient care to the night team.

**Method:** Quality of handover was assessed both qualitatively, via structured qualitative interviews with trainees and a baseline survey assessing doctor's opinions of night handover and quantitatively through the collection of a data set during regular observation of night handover.

The initial intervention instituted a new handover meeting with a set time and new location and invited the night nurse practitioner to attend. A prompt card, standardised documentation, defined leadership and an attendance register were also introduced. Successive PDSA (Plan, Do, Study, Act) cycles introduced technology to the intervention, enabled the nurse night practitioners to actually attend and re-branded the prompt card as an agenda.

**Results:** Results showed a sustained reduction in length of handover from 70 minutes (n=7) to 34 minutes (n=13) post-intervention as well as a reduction in the number of distractions occurring during each handover from a mean of 14 to a mean of 8.5. An improved quality of handover was also demonstrated with an overall increase in the percentage of task handovers containing hospital number, an admitting diagnosis, co-morbidities and a time allocated for the task to be performed of at least 10%. When trainees were surveyed post-implementation they unanimously identified the new handover system as safer than the previous handover process (n=30).

**Conclusion:** This project demonstrates that replacing an ad-hoc system of handover with a multi-disciplinary, team based approach to handover improves handover quality. In addition it provides a useful guide to introducing a new handover meeting to a department and contains lessons on how to combat cultural barriers to change within a department.

**Conflict of interest statement:** The authors are unaware of any conflicts of interest.

**Title: Advance care planning in those patients in their last year of life on a general and old age medicine ward**

**Category: Audit & Quality Improvement**

**Main Author: Bethan Williams**

***Aim***

The need to identify patient's in their last year of life, allowing advance care planning to take place and give the patient and family an opportunity to prepare. Liaising between primary and secondary care is essential to allow patients their final moments where they wish, preventing unnecessary hospital admissions.

The aim was to identify those patients on a general and old age medicine ward (G&OAM) who met the gold standards framework (GSF) criteria. Look at documentation regarding advanced care planning and whether this was communicated on the discharge summary.

***Method***

1. Initial data collection: retrospective, patients discharged from the G&OAM ward that met the GSF criteria March to May 2014. Age, gender, condition, documentation in notes and on discharge, escalation documentation. Results analysed with Excel.
2. Prospective data collection between May to July 2015, currently ongoing following changes.

***Outcomes***

34 patients identified between March to May 2014; 15 male and 19 females, average age 83.3 years. Number of admissions in the year prior ranged from 0-4, average 1.6 admissions, 68% patients had an escalation status documented.

Graph 1. Patient records showing if documentation in the notes was evident regarding advance care planning during admission.

Graph 2. Documentation on the discharge summary regarding future care plans.

***Conclusion***

We are not documenting nor identifying those patients in their last year of life, with 44% of patient records having written documentation and 14% documented on the discharge summary.

We have initiated a ward round proforma to aid the review of the most frail patients. Our older person services have grown over the last year, allowing geriatricians access to the front door. Currently a trust- wide frailty score is being implemented and is likely to be CQUIN target for the trust in the coming months. This will add pressure to making changes to our discharge summary format prompting future care plan documentation; with the hope results will have improved this month.

***References***

1. The GSF Prognostic Indicator Guidelines. The National GSF Centre guidance for clinicians to support earlier recognition of patients nearing the end of life. Royal College of General Practitioners. 4th Edition, October 2011. Available from: <http://www.goldstandardsframework.org.uk>
2. A global clinical measure of fitness in frailty in elderly people. Rockwood K, Song X, MacKintosh C et al. CMAJ, August 30, 2005. Vol 173 no.5

**Title: Adverse Drug Reactions in an Acute Medical Unit; an overview**

**Category: Audit & Quality Improvement**

**Main Author: Linah Suleiman**

**Co-Authors: Sharra Guettari  
Aravindan Veiraiah**

**Background:** Adverse drug reactions (ADRs) are a significant cause of morbidity and mortality. Almost **500** people died due to drugs in Scotland in 2010. Pirmohammed et al suggested that about **7%** of patients present with ADRs. Lazarou et al suggested that **10.9%** of patients suffer ADRs as inpatients. Wiffen et al estimated that in NHS England **1.6 million** bed days annually are due to inpatient ADRs.

**Objective:** A pilot audit to assess the burden of inpatient ADRs, and common culprit medications.

**Design and study population:** A retrospective review of all patients discharged from the care of the Acute Medical Unit in a week in January 2014.

**Setting:** Medical wards of Royal Infirmary of Edinburgh.

**Results:** We have **9%** drug related admissions. **28%** of patients don't get medicine reconciliation during admission. **8%** of patients who had known ADR on admission don't have those documented on drug chart/notes. **60%** of patients had more than 5 medications on admission. We altered **88%** of patients' medications during their admission; yet only **63%** of those changes were documented.

**21** of the **170** patients had adverse drug reactions during their hospital stay.

**8** of the **21** inpatient ADRs could have been avoided, and **2** of **8** patients with avoidable ADRs had prolonged hospital stay.

The commonest culprits were analgesics, diuretics, anti-hypertensives and antibiotics.

**Conclusion:** We are comparable to the national number of admissions due to ADRs. We have a high ADRs rate amongst our inpatients: **12%**.

We need to have robust measures to reduce the burden of inpatient ADRs including improved documentation, daily review of medications with active cessation of unnecessary medication.

**Title: An Audit of Medical handover: Are the Royal College of Physicians guidelines for a safe and effective handover being met?**

**Category: Audit & Quality Improvement**

**Main Author: Lily Collins**

**Co-Authors: William Nevin  
Hannah Skene**

**Title: Are we adequately screening admitted patients for alcohol misuse and is the appropriate action being delivered?**

**Category: Audit & Quality Improvement**

**Main Author: Ammar Ayad Issa Al-Rifaie**

**Co-Authors: Maysam Ali Abdulwahid  
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**Introduction:**Alcohol misuse costs Britain £6 billions every year. Around 12% of the NHS budget goes to manage the alcohol-related disorders in the hospital settings. Evidence suggests that approximately 20% of patients admitted to the hospital are potentially hazardous drinkers.

**Aims:** The aim of this audit was to examine the efficiency of alcohol history documentation and screening for hazardous drinkers at the Medical Admission Unit (MAU) of Northern Teaching Hospital (NGH) to identify any potential for enhancing our clinical practice.

**Methods:** Data was collected from retrospective medical clerking sheets and ICE system review and prospective interviews with 82 patients by three junior medical doctors using both CAGE questionnaire and AUDIT-C tool for newly admitted patients to MAU in NGH.

**Results:** Alcohol consumption was documented in around two-third of the patient sample and this was documented accurately by health care professionals. Few health care professionals used subjective words such as 'social drinking' in the alcohol units section of the history. CAGE questionnaire was applied to only four patients and none of the patients had documented advice, education or referral to an alcohol liaison team.13 out of the 25 hazardous drinkers had a brain imaging (either CT or MRI) undertaken for different reasons. 7 out of the 13 (54%) have signs of alcohol brain damage.

At interview stage, AUDIT-C tool had identified 30.4%, while CAGE 10.9%, of patients admitted to the NGH MAU as hazardous drinkers. The amount of alcohol the patient consumes positively correlated with the score of AUDIT-C (Pearson correlation 0.83).

**Conclusions:** Alcohol misuse screening is not adequately undertaken and no appropriate action is being offered to hazardous drinkers. CAGE questionnaire is poorly applied to patients and when satisfactory and adequately used, has low sensitivity to detect hazardous drinkers.Alcohol history taking and documentation by junior physicians requires further improvement. AUDIT-C tool is suggested to be integrated with the current medical history notes as it has been incorporated in several trusts across the UK.

#### References

1. Alcohol treatment in England .The Department of Health (DOH).Report 2012.
2. Alcohol-use disorders: diagnosis, assessment and management of harmful drinking and alcohol dependence. NICE Guidelines.2011.Available from: <http://www.nice.org.uk/guidance/cg115> (accessed December 2014).
3. Dawson, D.A., Grant, B.F., Stinson, F.S., Zhou, Y. Effectiveness of the derived Alcohol Use Disorders Identification Test (AUDIT-C) in screening for alcohol use disorders and risk drinking in the US general population. Alcoholism: Clinical and Experimental research.2007; 29, 844-854.

# **Title: Audit of a DVT Pathway: Deviation from the NICE Guideline Does Not Reduce Quality or Safety of Care**

## **Category: Audit & Quality Improvement**

**Main Author: Irene Ng**

**Co-Authors: Richard Pole  
Tim Cooksley  
Mark Holland**

### **AIM**

We have excellent access to imaging services (including weekends) for the investigation of suspected deep vein thrombosis (DVT) via our Vascular Studies Unit. Sonographers dedicated to vascular imaging perform full-leg venous duplex scans. This care deviates from the guidance of the National Institute of Clinical Excellence (NICE).<sup>1</sup> NICE recommend serial above knee ultrasound scans on economic grounds. We have previously presented audit data at SAM scientific meetings to show that full-leg scans are economically viable.<sup>2</sup>

The aim of this study was to see if our practice reduced the quality and safety of patient care.

### **METHODS**

We studied patients presenting to our Ambulatory Care Unit with a suspected DVT over a 4-week period. Data pertaining to all aspects of care were collected.

### **RESULTS**

107 patients, 64(59.8%) female. Mean age 63 years.

All 107 patients had a full-leg scan; 20 (18.7%) had a confirmed DVT. 9 (45%) positive scans were above knee, 11 (55%) were below knee.

Only 9 (8.4%) patients with an equivocal first scan needed a rescans.

99 (93%) patients completed their care within one day; all patients completed their diagnostic care within 8 days (Figure 1).

We offered an alternative diagnosis to 79 (91%) of the 87 patients who did not have a DVT (Figure 2).

There were no untoward incidents.

### **CONCLUSION**

Full-leg venous duplex scans do not reduce the quality or safety of patient care. Most patients completed their care within a day of referral, reducing the need for bridging doses of anticoagulation. Providing an alternative diagnosis and diagnosing below knee DVTs gives a better experience for patients. Many patients are filtered by general practitioners (Wells score/D-dimer), partially explaining the high rate of scanning. However, this is off-set by patients with negative scans not needing to be serially rescanned and is economically viable compared with NICE guidance.<sup>2</sup>

### **References**

1. National Institute of Clinical Excellence. Venous thromboembolic diseases: the management of venous thromboembolic diseases and the role of thrombophilia testing. NICE. June 2012; Clinical guidance 144: 1-40.
2. Kirsten Morris, Thomas Stock, Tim Cooksley, Richard Pole, Mark Holland. Suspected Deep Vein Thrombosis: A Clinical and Economic Evaluation. Acute Medicine Volume 13, Issue 4, Pages 163 - 170 (2014).

**Title: Comparing CIWA-Ar to Fixed Dose Regimes in Alcohol Withdrawal in Leeds Teaching Hospitals NHS Trust.**

**Category: Audit & Quality Improvement**

**Main Author: Amanda Barclay**

**Co-Authors: Sam Khan**

Aim

In 2012 a symptom-triggered regime for alcohol withdrawal management using CIWA-Ar was introduced in Leeds Teaching Hospitals Trust for eligible patients. Prior to this patients were managed exclusively using fixed dose reduction regimes (FDR). The introduction of CIWA-Ar was in response to concerns about staff safety due to patients experiencing severe withdrawal and over-medication with benzodiazepines. This study aimed to investigate whether there was any difference in total dose of benzodiazepine, length of stay and incidence of adverse events following the introduction of CIWA-Ar.

Method

44 cases admitted prior to the introduction of CIWA-Ar were identified from medical records using codes specific to alcohol withdrawal. This group served as a control. 42 case notes were obtained following implementation of the CIWA-Ar protocol and served as the intervention group. Data was collected using a proforma designed by the authors and analysed using Microsoft Excel.

Results

There was no difference between the groups in terms of demographic data, units of alcohol consumed, time since last drink or markers for severe withdrawal. Of the intervention group 26 were eligible for CIWA-Ar and 16 were managed using the previous FDR regime. The average total dose of benzodiazepine reduced from 590mg in the control group to 300mg in the CIWA-Ar cohort of the intervention group. The average length of stay reduced from 8.9 days to 3.6 days in the CIWA-Ar cohort of the intervention group. There was no observed difference between the groups in terms of the incidence of adverse events.

Conclusion

This study revealed clinically significant reductions in total dose of benzodiazepine and length of stay comparing the control to CIWA-Ar intervention group. Data showed that CIWA-Ar was as safe as FDR. This highlights the potential for improving the patient experience in selected patients with Alcohol Withdrawal Syndrome.

# **Title: Diagnosis and Severity Stratification of Sepsis: Are we as good as we think?**

## **Category: Audit & Quality Improvement**

**Main Author: Lucy Connor**

**Co-Authors: Micayla Telfer**

### **Aim:**

To assess the accuracy of the diagnosis and documentation of sepsis severity made by the acute care teams compared to their confidence and knowledge base.

### **Methods:**

A review of notes of adult medical patients with infection requiring admission to the Medical Admissions Unit (MAU), from 5<sup>th</sup>-31<sup>st</sup> May 2015 was performed. The criteria used to define Systemic Inflammatory Response Syndrome (SIRS), severe sepsis and septic shock are those given by the UK Sepsis Trust<sup>1</sup>. At each point of patient assessment, the presence and severity of sepsis were retrospectively determined and this compared to the diagnosis written in the notes. This follows recommendations made by the RCP to perform severity stratification assessments in all patients with sepsis<sup>2</sup>.

Additionally, an online survey was circulated to all appropriate doctors, assessing their confidence to make the above diagnoses. Respondents were asked if they knew the criteria that defined the above terms and to demonstrate their knowledge using multiple choice questions.

### **Outcomes/Results:**

73 patients were included in this study, providing a total of 197 clinician assessments/opportunities to evaluate for the presence of sepsis. Sepsis was present in 112 of these assessments. Sepsis presence was correctly recognised and documented in 42%. Correct severity stratification was only documented in 21% of assessments.

There were high confidence levels in the diagnosis of all terms. However, of the 32 respondents that answered all questions only 2 were able to correctly identify all criteria defining SIRS, severe sepsis and septic shock. It appears that while confident in their ability to diagnose sepsis syndromes in a patient, the respondents were unable to correctly identify the defined criteria.

### **Conclusion:**

This audit highlights the under-diagnosis and documentation of sepsis and an inability of clinicians of all grades to document severity stratification. This is despite a perceived high level of confidence in its recognition.

### **References:**

1. UK Sepsis Trust (2014) Acute Medical Unit Toolkit. Available at: [http://sepsistrust.org/wp-content/files\\_mf/1409313332AMUToolkit.pdf](http://sepsistrust.org/wp-content/files_mf/1409313332AMUToolkit.pdf) [Online]. Accessed: 1<sup>st</sup> July 2015
2. Royal College of Physicians (2014) Acute care toolkit 9: sepsis. Available at: [https://www.rcplondon.ac.uk/sites/default/files/acute\\_care\\_toolkit\\_9\\_sepsis.pdf](https://www.rcplondon.ac.uk/sites/default/files/acute_care_toolkit_9_sepsis.pdf) [Online]. Accessed: 1<sup>st</sup> July 2015

# **Title: Diagnosis of Pulmonary Embolism in the Emergency Department - A Quality Improvement Project**

## **Category: Audit & Quality Improvement**

**Main Author: Jenni Cooper**

**Co-Authors: Andrew Tagg**

### **AIM**

The diagnosis of pulmonary embolism (PE) in the emergency department is challenging due to the wide range of non-specific presenting symptoms, the lack of clinical diagnostic criteria and imperfect investigations. Various scoring systems exist in an attempt to limit unnecessary investigations for those with a low pre-test probability of PE.<sup>1</sup> We conducted an initial audit which identified several local issues in the diagnosis of PE and implemented a flowchart poster aiming to improve the diagnosis of PE within the emergency department.

### **METHODS**

The standard used for comparison was based on the National Institute for Health and Care Excellence guidelines for diagnosis of PE with the addition that the Pulmonary Embolism Rule-out Criteria could also be used if appropriate.<sup>2,3,4</sup> Data was collected over four week periods in two emergency departments in Melbourne before and after the introduction of our flowchart. We aimed to increase documentation of pre-test probability, reduce inappropriate investigations and increase the use of interim parenteral anticoagulation where there was a delay to imaging.

### **RESULTS**

Results showed an increase in the documentation of the Wells score from 17% to 28% as well as an increase in documentation of clinical pre-test probability from 4% to 23%. The percentage of inappropriate d-dimers was reduced from 36% to 24%; the percentage of inappropriate CTPAs was reduced from 34% to 10%; and the percentage of inappropriate V/Q scans was reduced from 42% to 14%. There was no improvement in use of interim parenteral anticoagulation where there was a delay to imaging.

### **CONCLUSION**

Implementation of a simple flowchart with a diagnostic algorithm led to an increase in the documentation of pre-test probability and a reduction in inappropriate investigations. This intervention may be applicable to other emergency departments and acute medical units where similar issues in diagnosing pulmonary embolism exist.

### **References:**

1. Clinical criteria to prevent unnecessary diagnostic testing in emergency department patients with suspected pulmonary embolism. Kline et al. *J Thromb Haemost.* 2004
2. Derivation of a Simple Clinical Model to Categorize Patients Probability of Pulmonary Embolism: Increasing the Models Utility with the SimpliRED D-dimer. Wells PS et al. *Thromb Haemost.* 2000
3. Differentiating Low Risk and No Risk PE Patients: the PERC score. Carpenter et al. *J Emerg Med.* 2009
4. National Institute for Health and Care Excellence. 2012. Venous thromboembolic diseases: the management of venous thromboembolic diseases and the role of thrombophilia testing. <https://www.nice.org.uk/guidance/cg144/chapter/1-Guidance#diagnosis-2> accessed July 2015

**Title: Does level of functional dependence on admission affect length of stay in Acute Medical patients?**

**Category: Audit & Quality Improvement**

**Main Author: Sarah Rose**

The Post-operative Morbidity Survey (POMS) is an established method of predicting the development of morbidities in post-operative surgical patients<sup>1,2</sup>. We have conducted a prospective pilot study in emergency medical admissions to investigate whether this method can be used as a predictor of morbidity and length of stay in this cohort of patients. One of our objectives was to identify whether level of functional dependence as measured at time of admission affected length of stay.

As part of our data collection, we assessed the level of functional dependence on Day 0 of patients admitted as a medical emergency. On the day of admission, each patient was assessed as whether they were functionally "independent" – ie ambulatory at the time of assessment with no care needs, whether they required help with mobilising, help with activities such as eating and washing, or whether they were fully dependent on others for all care needs, essentially "bed bound."

In total 98 patients were included in this analysis. 64 patients were deemed to be functionally independent on admission. 17 patients required assistance to walk, 9 patients required help with eating and drinking, and 8 patients were fully dependent for all care.

The mean length of stay in patients who were deemed to be "independent" at time of admission was 6.04 days. In all other patients, the average length of stay was 16.89 days. This was statistically significant ( $p=0.004$ ). In our cohort of patients, there was no significant correlation between age and length of stay, or age and level of dependence.

In conclusion, patients who are more functionally dependent for their care needs on admission have a longer length of hospital stay. Incorporating an assessment of this as at the time of admission may highlight which patients are expected to have an increased length of stay, and help with future care needs planning.

**References:**

- 1) Bennett-Guerrero E, Welsby I, Dunn TJ, et al. The use of a postoperative morbidity survey to evaluate patients with prolonged hospitalization after routine, moderate-risk, elective surgery. *Anesth Analg* 1999;89:514–519
- 2) Grocott MP1, Browne JP, Van der Meulen J, et al. The Postoperative Morbidity Survey was validated and used to describe morbidity after major surgery. *J Clin Epidemiol*. 2007;60(9):919-28.

**Title: Evaluating the impact of an Acute Medical Unit: Before & After.**

**Category: Audit & Quality Improvement**

**Main Author: Tim Collins**

**Co-Authors: Fidelis Abedo**

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**Ian Setchfield**

**Aim:**

With rising hospitals demands, an aging population and a sharp rise in the acuity of patients requiring admission, we wanted to pilot and evaluate a new acute medical model within our organisation (1). This service improvement project aimed to evaluate the impact of changing an established Clinical Decision Unit to an Acute Medical Assessment Unit (AMU) model being run by dedicated Acute Care Physicians and an Acute Care Nurse Consultant within a general hospital.

**Methods:**

The AMU service improvement trial was planned using the Plan, Do, Study, Act (PDSA) cycle (2). The change involved having dedicated acute consultant physicians clinically managing patients 7 days a week for 12 days compared to previously having an alternating daily specialist medical consultant staffing the CDU. The impact of the change was measured by comparing retrospective and prospective data which included; length of stay, admissions, discharges, readmissions, referrals to specialities & A&E 4 hour target. Staff evaluation questionnaires from health care professionals and managers were also used to gain staff feedback for the pilot.

**Outcomes/Results:**

There was no difference in admissions/referrals to the AMU but the results found an increase of 2-3 additional discharges per day with a reduction in overall length of stay for day 0 and day 1 compared to before the trial. Significant increases in discharges going home between 9am-12pm occurred. There was a reduction of patients being referred to medical specialities, prior to the trial 8 patients per day were being referred to Health Care of the Older Person speciality and now less than 5 patients per day following the trial. Indicators suggested that the 4 hour A&E wait target improved by 10.4% from the average previous weeks. Staff feedback was mostly positive with all staff stating they felt patient flow and discharges were expedited with the new model.

**Conclusion:**

This trial found that by adopting a new AMU model with dedicated Acute Physicians working 7 days a week provided more timely discharge, reduced length of stay and speciality referrals whilst expediting patient flow without compromising readmissions or patient care.

**References:**

1. NHS Confederation. Changing Care, improving quality. London: NHS; 2013
2. NHS Institute for Innovation & Improvement. Plan, Do, Study & Act. London: NHS; 2008

**Title: Fast & Friendly, please – Capturing Patient feedback to Acute Physicians as part of the 2015 Society for Acute Medicine’s Benchmarking Audit (SAMBA’15)**

**Category: Audit & Quality Improvement**

**Main Author: Christian Subbe**

**Co-Authors: Sara Pradhan  
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Ivan LeJeune  
Tim Cooksley**

**Aim**

To capture the experience of patients admitted through the acute medical take as part of the annual national Benchmarking audit of the Society for Acute Medicine (SAMBA).

**Methods**

SAMBA'15 audited aspects of care of patients admitted on the 25th of June 2015. A Friends and Family questionnaire (see Figure) was disseminated by clinical teams in the hospitals participating in SAMBA (Society for Acute Medicine Benchmarking Audit). Results were collected in sealed envelopes without personal details and uploaded anonymously onto an online database. A basic statistical analysis was performed.

**Outcomes/Results**

Out of 90 hospitals taking part in SAMBA 2015, 55 (61.1%) submitted data on patient feedback. 945 patients submitted feedback of which 448 (47.4%) were male. 211 (22.3%) were less than 50 years old and 319 (33.8%) over the age of 75. 6 patients did not submit an age.

450 (47.6%) of patients were referrals from the Emergency Department (ED) and 353 patients were referred by a General Practitioner. Of the latter 184 were admitted via the ED.

824 (87.2%) would be extremely likely or likely to recommend the admitting unit (Range 67-100%). There was no significant difference between patients admitted through the ED or directly onto the Acute Medical Unit.

Patients below the age of 50 were less likely to recommend the admitting unit ( $p < 0.013$ ).

1399 free text comments were submitted. A review of the comments showed that the most important aspects of care to patients were related to waiting times and the empathy of staff (see Table).

**Conclusion**

The door of entry to the hospital did not significantly affect the quality of experience. Patients under the age of 50 were less likely to be satisfied with their care. Ultimately: What do patients want from the acute medical take? A service that is "Fast and Friendly"!

# **Title: Headache: is a directed pathway better than normal clinic assessment?**

## **Category: Audit & Quality Improvement**

**Main Author: Marco Burattin**

**Co-Authors: Glenn Fenech  
Nigel Langford**

### AIM

Headache represents one of the commonest reasons for medical review. Our Acute Medical Clinic (AMC) sees a total 4255 patients annually, approximately 261 (6.15%) have headache. We evaluated the clinical assessment and management of patients presenting with headache and investigated the impact of instituting a pathway based on national guidelines<sup>1,2</sup>.

### METHODS

The initial audit was performed retrospectively between April and July 2014 (group 1) to ensure an appropriate baseline was achieved. Data were collected from hospital records and patients notes. A second audit cycle was repeated between January and June 2015 after the introduction of a dedicated algorithm. All patients presenting to clinic with headache were included regardless of whether the proforma was used or not (Groups 3 & 2 respectively). Markers of clinical performance included history and examination details recorded, as well as investigations performed and frequency of reattendance.

### RESULTS

The study population included group 1 patients (n: 59), group 2 (n: 99) and group 3 (n: 32). In the initial group both history and clinical assessment numbers were poor (Table1). A slight improvement occurred with group 2 (cf group 1). With the proforma group (3) both history and examination were significantly better compared to the other groups. The proforma group had a reduction in both the number of CT head scans requested as well as the number of patients re-attending the clinic.

### CONCLUSIONS

- Comparing groups 1 and 2 showed that having a basic awareness of the project alone led to an improvement in some areas.
- Using the proforma resulted in a better-documented history and examination. It's use led to fewer CT scans, having a potential benefit to patients and NHS of £87501 annually.
- We would suggest that despite fewer CT's performed the reduction in numbers of patients re-attending indicate good clinical care can be as reassuring to patients as a CT scan.

### REFERENCES

1. Scottish Intercollegiate Guidelines Network: *Diagnosis and management of headache in adults (SIGN107)* [Publish date 2008 Nov; Cited 2015 May 15]. Available from: <http://www.sign.ac.uk/pdf/sign107.pdf>
  2. NICE guidelines: *Headaches Diagnosis and management of headache in young people and adults (CG 150)* [Publish date 2012 Sept; Cited 2015 May 15]. Available from: <http://www.nice.org.uk/guidance/cg150/resources/guidance-headaches-pdf>
1. Assuming a cost of 125£ for each CT head performed and an annual intake of 261 patients presenting in AMC with headache.

## **Title: How do you solve a problem like AKI?**

### **Category: Audit & Quality Improvement**

#### **Main Author: West Midlands Acute Medicine Collaborative**

### **How do we solve a problem like AKI?**

#### **Aim**

Acute kidney injury (AKI) is seen in 13-18% of hospital admissions (1) with only 50% estimated as receiving good care by the 2009 NCEPOD report (2). This study determined the prevalence of AKI in patients admitted to Acute Medical Units (AMUs) across the West Midlands. Recognition and management of AKI according to national standards was evaluated.

#### **Methods**

Multi-centre data collection occurred in 14 AMUs over a 6-day period. Each patient was screened for AKI using the KDIGO definition (3). NICE Clinical Guideline 169 and the Renal Association guideline were utilised (1,4).

Five domains were reviewed; recognition of AKI, urinalysis, renal ultrasound scan (USS) requesting, intravenous fluid prescription, and suspension of nephrotoxics.

#### **Results**

2,791 patients were included across 14 AMUs. 354 (13%) fulfilled the diagnostic criteria. In patients over 80, this figure climbed to 17%.

AKI was not documented in 99 (28%) of case notes.

Urinalysis was documented in 159 (45%) of the cases. An USS was requested in 55 of the 87 cases (63%) when obstruction was possible. 27 (49%) patients did not have their USS performed within the recommended 24 hours (49%). 145 (41%) of patients had intravenous fluids prescribed with no documented fluid status. 232 (65%) patients were on nephrotoxics; 45 (19%) did not have these medications omitted.

#### **Conclusion**

AKI is prevalent in the West Midlands and, despite national attention continues to be poorly managed across several domains. A national requirement for an electronic alerting system may improve recognition rates, however data from the USA suggests this strategy may take time to evolve (5).

By implementing changes at a regional and local level, we aim to complement national initiatives and generate improvements in all areas of AKI recognition and management. We look forward to discussing our planned quality improvements (see summary table one) and research topics in more detail.

#### **References**

1. National Institute for Health and Clinical Excellence. *Acute Kidney Injury; Clinical Guideline 169*. August 2013.
2. National Confidential Enquiry into Patient Outcome and Death. *Adding Insult to Injury*. 2009.
3. Kidney Disease; Improving Global Outcome. *Clinical practice guideline on Acute Kidney Injury*. 2011.
4. The Renal Association. *Acute Kidney Injury Guideline*. 2011
5. Wilson FP, et al. Automated, electronic alerts for acute kidney injury: a single-blind, parallel-group, randomised controlled trial. *The Lancet*. 2015 May;385(9981):1966-1974.

# **Title: How Good are we at Managing Sepsis in the Acute Scenario: A Completed Audit Cycle**

## **Category: Audit & Quality Improvement**

**Main Author: Carys Webster**

In 2010, 5.1% of deaths in England were associated with sepsis (1). The speed and type of actions that are undertaken in managing sepsis dramatically influence outcomes (2).

### **Aim**

To reveal whether we are managing sepsis effectively, and if not, to identify and improve the areas requiring intervention.

### **Methods**

This was a local, prospective audit of all patients in a 7 day period admitted to a district general hospital as medical inpatients with 'sepsis' or 'infection' as a likely diagnosis, who were then confirmed to match the sepsis criteria (3). There were 22 patients who fitted these criteria on the initial audit, 18 on the re-audit. The 10 audit standards used were developed based on the recommendations from the Surviving Sepsis campaign (4).

### **Outcome/Results**

On initial audit, the average compliance with the standards was 42.7%. Areas of good practice included antibiotic choice that was in keeping with hospital guidelines, and the monitoring of serum lactate when raised. Key areas identified as requiring improvement were the length of time between diagnosis of sepsis and initiation of management, and the low number of patients from whom blood cultures were obtained. The audit results were presented, a teaching programme for nursing staff was implemented and posters were erected; following which re-audit demonstrated average compliance of 51.5% (IRR= 1.21; 95% confidence intervals 1.07-1.36). This is a statistically significant result.

### **Conclusion**

The findings show that education and raising awareness of the importance of prompt identification and appropriate management of sepsis are effective ways of improving compliance with the sepsis guidelines. However we can also see that overall compliance is poor, with only 50% of patients receiving satisfactory care. Further action needs to take place with continuation of current education schemes plus development of resources such as the computer system to prioritise unwell patients.

### **References**

1. Duncan McPherson et al. Sepsis-associated mortality in England: an analysis of multiple cause of death data from 2001 to 2010. *BMJ Open*. [Online]August 2, 2013. [Cited:January 12, 2015.]
2. Kumar A et al. Duration of hypotension before initiation of effective antimicrobial therapy is the critical determinant of survival in human septic shock. *Critical Care Medicine*. June 2006; pp.1589-1596.
3. Bone RC et al. Definitions for sepsis and organ failure and guidelines for the use of innovative therapies in sepsis. *Chest*. 6 June 1992; Vol.101: pp.1644-1655.
4. Levy MM et al. The Surviving Sepsis Campaign. *Critical Care medicine*. 2 February 2010; Vol.38: pp.367-374.

## **Title: How organised is your acute medical unit?**

### **Category: Audit & Quality Improvement**

**Main Author: Alison Eastaugh**

**Co-Authors: Alessandra De Serio**

#### **Introduction:**

Acute Medical Units (AMU) are exceptionally busy departments, undertaking daily procedures such as: lumbar punctures, ascitic drains, ascitic taps, arterial blood gases and venepunctures.

Preparation time needs to be minimised to improve patient flow through the unit and reduce delays in essential treatment.

We identified that, on our AMU, the organisation and storage of the equipment required for these procedures was unsystematic. Moreover, many members of the on-call team are doctors not based within AMU, and are therefore unfamiliar with the organisation of the clinical equipment. This resulted in junior doctors wasting valuable time, searching through unlabeled drawers, cupboards and even having to go to different wards to source the correct equipment.

#### **Aim:**

We hypothesised that having a specific procedure trolley with all the necessary equipment required for each procedure, located in an easily accessible area and clearly identified would reduce delays, and ensure the correct equipment was used.

#### **Method:**

The time taken by junior doctors to locate the specific equipment for each procedure was measured at baseline, and repeated three weeks after the procedure trolley was introduced.

#### **Results:**

The time taken to locate all of the required equipment was significantly reduced.

Prior to the introduction of the procedure trolley, the time taken ranged from 1 min 8 sec to 11 min 8 seconds (mean 5 minutes 33 seconds) (N=30). Following the introduction of procedure trolley this was considerably reduced to a range of 27 seconds to 1 minute 30 seconds (mean 51 seconds) (N=30): a reduction in the mean of 4 minutes 42 seconds (P=0.019).

#### **Conclusion:**

An organised procedure trolley with equipment for all common procedures performed within the AMU, significantly reduces the time taken to perform such procedures and improves both patient care and flow through the unit.<sup>1,2</sup>

#### **References:**

1. Ward J, Spencer R, Soo F, Finucome K. Standardising the organisation of clinical equipment in surgical wards at North Bristol NHS trust: A quality improvement initiative. *BMJ Quality improvement reports*. 2015 Jan; 4: 1-4
2. Pedley R, Whitehouse A, Hammond S. Improving room layouts for venepuncture, cannulation and ABG equipment on surgical wards. *BMJ Quality improvement reports* 2014 Feb;2:1-3

**Title: Implementing a Structured Electronic Handover for an Enhanced Care Area on An Acute Assessment Unit**

**Category: Audit & Quality Improvement**

**Main Author: Kush Amin**

**Co-Authors: Kathleen Bonnici  
Rachel Stewart  
Rebecca Mills  
Gary Davies  
Audrey Wong**

**Aim:**

Our acute assessment unit has a 9-bedded enhanced care area for patients requiring level 1 and 2 care. Medical teams change at least twice a day with handover between the acute medical team (day) and the on-call team (night and weekends). Nursing shifts also change at different times. With changing shift patterns, good handover is key to maintaining patient safety<sup>1</sup>, especially for patients requiring higher levels of care. The previous handover system was ad hoc and unstructured. We designed a bespoke electronic handover system specific to the area and unified for all clinical staff to accommodate the complexity of the patients being treated.

**Methods:**

A bespoke electronic handover system<sup>2</sup> was developed based on guidance from the Royal College of Physicians<sup>3</sup>. The system was piloted for a calendar month with the participating clinicians completing a pre- and post-intervention questionnaire assessing the following outcome measures: impact on clinician perception of patient safety, prioritisation of work, quality of handover information.

**Outcomes:**

Pre-intervention

95% questionnaire completion rate

42% felt the system was average or poor, 21% good, 0% excellent

Comments:

- *More structured handover*
- *Should be more standardised*
- *Standardised/formalised handover needed with up to date plans*

Post-intervention

92% questionnaire completion rate

82% felt the system good or excellent, 0% poor

91% felt that it helped prioritisation of work

100% felt that patient safety was improved

#### Comments:

- *Much better than before... Nursing staff appreciating better informed seniors*
- *Excellent & safe handover - big improvement*
- *Excellent for summarising patients and necessary jobs for busy night SpR. Very succinct*

#### Conclusion:

Implementation of a bespoke electronic handover system for our enhanced care area has provided a unified robust handover for all clinical staff. We are already improving on this pilot study by making the system accessible on trust mobile devices.

#### References

- 1) McEwan JR, Atkinson S, Cadigan P, Ingham J. Handover – the need for best practice. Report to RCP Council, 2010
- 2) Diagram of Electronic Handover System
- 3) Acute care toolkit 1: handover. May 2011. Royal College of Physicians 2011.

**Title: Improving an acute medical units practice of resuscitation discussions and DNACPR documentation**

**Category: Audit & Quality Improvement**

**Main Author: Duncan Tarry**

**Co-Authors: David Harding  
Rangasamy Loganathan**

**Aims**

Decision making with patients and families about resuscitation is a key responsibility for doctors. The General Medical Council (GMC)<sup>1</sup> and the National confidential inquiry into patient outcome and death (NCEPOD)<sup>2</sup>, in their report 'Time to intervene' have provided guidance. Resuscitation decisions should be made as timely as possible and considered for all acute medical admissions. With the day to day demands on an NHS acute medical unit, these discussions and the documentation are often not performed.

The objective of this quality improvement project was to assess and improve the acute medical unit's performance at decision making and documentation of resuscitation decisions.

**Methods**

This involved a fully completed audit cycle. The method involved case note review of 58 patients. The notes were analysed to see if there was clear accessible documentation about whether a patient was for resuscitation or not for resuscitation. This established a baseline performance. We then initiated a quality improvement program. This improvement campaign involved specific intervention strategies. There was an awareness campaign. There were presentations to the key members of staff. We aimed to target all level of staff and the wider multi disciplinary team. We promoted a culture shift to normalise discussions about resuscitation with patients and families. Following our quality improvement campaign we re audited a random cohort of another 58 case notes to see if we had instigated improvement.

**Results**

The baseline audit results showed that only 16% of patient had clear documentation about a resuscitation decision recorded in the notes. Following our interventions this doubled to 36%. Our intervention led to a significant improvement in documentation about a resuscitation decisions. Scope for further improvements remain.

**Conclusion**

Our interventions have worked to improve the practice of clearly documenting resuscitation decisions. This has likely led to a reduction in inappropriate resuscitation attempts. It has placed communication with patients and families higher up the agenda. I believe this quality improvement program this has lead to a culture improvement in communication with patients and families. We have demonstrated a significant improvement in the documentation of resuscitation decisions, but there is still scope for further improvements.

**References:**

1 General Medical Council. Good Medical Practice 2013.  
[http://www.gmc.uk.org/guidance/ethical\\_guidance/end\\_of\\_life\\_DNACPR\\_decision.asp](http://www.gmc.uk.org/guidance/ethical_guidance/end_of_life_DNACPR_decision.asp)

2 National Confidential enquiry into patient outcome and death. Time to Intervene? A review of patients who underwent cardiopulmonary resuscitation as a result of an in-hospital cardiorespiratory arrest . 2012

<http://www.ncepod.org.uk/2012cap.htm>

# **Title: Improving antibiotic prescription accuracy with order-sets: A quality improvement project**

## **Category: Audit & Quality Improvement**

**Main Author: Marianna Christodoulou**

### **Co-Authors: Andrew Wilson**

**David Houghton**

**Chan Yung Tan**

**Henry Ashcroft**

**Alexander Parker**

**Anu Trehan**

**Alex Peel**

**Chedia Hoolickin**

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**Laurence Josephson**

**Richard Warner**

## **Aim**

Acute physicians believe that correct treatment at the beginning of the patient's journey leads to improved patient outcomes. Adverse incidents on the Emergency Assessment Unit (EAU) highlighted issues surrounding incorrect antibiotic prescribing, treatment delays and omissions and resulted in patient harm. We aimed to achieve 100% accuracy in antibiotic prescriptions on admission to EAU in 95% of patients by October 2015. This was undertaken as part of the Trust's medication safety improvement work.

## **Methods**

Through process mapping we recognised that the antibiotic prescribing pathway was complex and multi-step with a potential for error. We collaborated with the Antibiotic Steering Group, microbiology and pharmacy teams to facilitate and peer review the introduction of order-sets; grouped items where the antibiotic agent, dose, frequency and treatment duration according to the Trust's guidelines are available on the electronic prescribing system for ten common infections. We promoted order-set use through teaching sessions, posters, computer screensavers, email and a newsletter article. The order-set prescription accuracy was calculated using the pharmacy antibiotic audit template. The order-set use on EAU and the Emergency Department (ED) was monitored weekly.

## **Outcomes/Results**

Initial testing demonstrated that the order sets were acceptable and easy to use for prescribers with 88% prescription accuracy for the first 52 order-set prescriptions. Insufficient documentation of antibiotic escalation from the CURB65 score and non-adherence to the probiotic policy mainly impacted on prescription accuracy. The order-set use on EAU and ED increased since their release indicating prescribers' preference over the previous system (Figure 1).

## **Conclusion**

The introduction of order-sets in antibiotic prescribing was well received. We will continue to promote correct order-set use to achieve our primary aim. The incorporation of order-set training in the new doctor's induction is likely to further improve the prescription accuracy.

# **Title: Improving initial assessment and management of the acutely unwell in resource limited settings**

## **Category: Audit & Quality Improvement**

**Main Author: Helen Cole**

### **Aim**

This project aimed to evaluate and improve the initial assessment and management of a mixed cohort of patients presenting to a rural health centre in The Gambia. In this setting the nursing team provide the majority of front-line care and medical education is minimal. Where resources are scarce, it is essential that assessment is accurate and management is appropriate<sup>1</sup>. We aimed to provide care in-line with the recommended WHO IMCI<sup>2</sup> and IMAI<sup>3</sup> standards.

### **Methods**

All medical presentations underwent initial nurse assessment and were secondarily reviewed by a team of four doctors. Each nursing assessment was evaluated for accuracy of severity into three broad categories of routine, priority and emergency with a sub-analysis of presentation. Following the initial audit, the highlighted unacceptable areas of undertriage were the focus of a comprehensive education programme, including lectures, visual aids and scenario-based sessions. A second audit round was deployed after three months to assess the training's impact.

### **Outcomes/ Results**

277 patients were assessed in the first audit round, revealing an undertriage rate of 6% and an overtriage rate of 1%. Emergency and priority patients comprised 7% of the presentations to clinic. The breakdown of inaccurate assessments showed that hypertensive emergencies and severe malnutrition each contributed 19%, and thus were highlighted in our education programme.

At the second audit round, 250 patients were assessed, and the accuracy of initial assessment improved from and undertriage rate of 6% to 4%. Overtriage rates increased from 1% to 7%.

### **Conclusion**

The undertriage rate reduction hopefully translates to more time appropriate care for patients attending with emergency and priority signs. This 2% reduction in undertriage will affect up to 150 patients' each year in the clinic. The increase in overtriage is viewed as an acceptable 'side-effect' of more cautious initial assessments, with less harm to patient care<sup>4</sup>.

### **References**

1. Kobusingye OC, Hyder AA, Bishai D, Hicks ER, Mock C, Joshipura M. Emergency medical systems in low- and middle-income countries: recommendations for action. *Bulletin of the World Health Organisation*. 2005 Aug;83(8):626-31
2. World Health Organisation and UNICEF. *Integrated Management of Childhood Illness*. WHO Press. 2005
3. World Health Organisation. *Integrated Management of Adolescent and Adult Illness*. WHO Press. 2004
4. Mullan PC et al. Reduced overtriage and undertriage with a new triage system in an urban accident and emergency department in Botswana: a cohort study. *Emergency Medicine Journal*. 2014;31:356-360

# **Title: Improving Multidisciplinary Severe Sepsis Management Using the Sepsis Six**

## **Category: Audit & Quality Improvement**

**Main Author: Amar Bhat**

**Co-Authors: Maryam Asghar  
Gagandeep Raulia  
Amit Mandal**

Several patients in A&E and AMU were not managed optimally, which ultimately led to increased morbidity and mortality. Many staff working in both departments were unaware of the existing trust sepsis pathway and Sepsis Six protocol for management of severe sepsis.

### **AIM**

To assess the appropriate and timely management of these patients. The objectives of the audit included discussing the six steps involved in managing an acutely septic patient, analysing appropriate and timely management of patients with severe sepsis, and actively promoting teamwork to initiate the protocol.

### **METHOD**

Prospectively patients were audited over 2 months, from the middle of September to the middle of November 2014. All clerking notes of patients with a Medical Consultant diagnosis on post take ward round of 'Sepsis' were analysed, and further screened for presence of severe sepsis according to national guidelines<sup>1,2</sup>. This was re-audited prospectively from the middle of April to middle of June 2015, after one departmental and one hospital presentation, and updating of the online blood requesting system to show a 'Sepsis' tab (would show the protocol and request bloods automatically).

### **RESULTS**

The initial audit demonstrated that only 1% of appropriate patients had been managed according to the existing guidelines, whereas, the re-audit emphatically showed a significant improvement with 85% eligible subjects adhering to the protocol. These patients were managed timely and appropriately with high flow oxygen, blood cultures, lactate and urine output measurement.

In the preceding audit a mere 6% of patients were managed appropriately within the "golden hour", for example, administration of fluids and antibiotics. We demonstrated an improvement to 67% on re-audit. ( $p < 0.01$ )

### **CONCLUSION**

There was significant improvement and a complete change in management of severe sepsis resulting in trust wide updated protocols and teamwork to guide timely management, as demonstrated above, leading to a significant decrease in morbidity/mortality.

### **References**

1. Survive Sepsis. (2008). Sepsis/Severe Sepsis Screening Tool. Retrieved July 10<sup>th</sup> 2015 from [http://www.1000livesplus.wales.nhs.uk/sitesplus/documents/1011/PHW\\_Sepsis\\_Screening\\_Leaflet\\_11.pdf](http://www.1000livesplus.wales.nhs.uk/sitesplus/documents/1011/PHW_Sepsis_Screening_Leaflet_11.pdf)
2. NHS England. (2013). Sepsis Management as a Clinical Priority. Retrieved July 10<sup>th</sup> 2015 from <http://www.england.nhs.uk/wp-content/uploads/2013/12/spesis-brief.pdf>

## **Title: Improving sepsis management at University Hospitals Bristol**

### **Category: Audit & Quality Improvement**

**Main Author: Ben Grimshaw**

**Co-Authors: Carley-Smith Alistair**

#### AIM

Our project began after a 2013 audit of compliance with the sepsis-6 care bundle demonstrated striking non-adherence to this protocol when managing patients with severe sepsis at a university teaching hospital (Fig. 1). The goal of our work was to develop and implement a strategy for change to improve adherence to the "sepsis-6" in this patient group.

#### METHODS

Audit was conducted via examination of all patient notes with a clinical coding diagnosis of sepsis (of any description) for a two month period during autumn 2013 and autumn 2014. Notes were interrogated to ensure patients met SIRS criteria and subsequently criteria for severe sepsis. For those with severe sepsis interventions achieved were compared against the sepsis-6 standard.

The reasons for non-adherence were examined through the use of a driver diagram. We then implemented a package of interventions. These included SIM training of junior staff, targeted training of the new F1 intake, presentations to existing foundation doctors, production of a trust wide "patient safety focus" document, printed sepsis proforma placed in an accessible and publicised location and advertisement of the sepsis proforma intranet location at induction.

#### OUTCOMES

We demonstrated improved adherence to the sepsis-6 guidelines on re-audit at 1 year using identical methodology to the initial audit (Fig.2).

#### CONCLUSION

Our project demonstrated an improved compliance with the sepsis-6 protocol. However, lessons learned regarding the implementation of this quality improvement project include; targeting multiple groups with multiple interventions will improve efficacy, the drive for improvement must be maintained to ensure sustainable change, at the outset recruitment of a project team member who will stay "on site" for the duration of the work is useful.

Early antibiotics and fluids save lives<sup>1</sup>. Appropriate implementation of the sepsis-6 bundle includes this basic management, but also guides ongoing treatment decisions by initiating fluid monitoring and mandating collection of blood cultures. Improved delivery of this care bundle improves the care of patients with severe sepsis.

#### REFERENCES

1. Dellinger R, Mitchell L, Rhodes A, Annane D, Gerlach H, Opal S et al. Surviving sepsis campaign. International guidelines for management of severe sepsis and septic shock 2012. Crit Care Med 2013; 41:580-635

# **Title: Improving the safety of oxygen therapy on a medical receiving unit: a sustainable solution**

## **Category: Audit & Quality Improvement**

**Main Author: Alexander Fletcher**

**Co-Authors: Ronan Fraser**

**Angela Liaros**

**Nicola McNeil**

**Hilary Wilson**

**Christine Bucknall**

### **Aim:**

Respiratory illness is common cause of emergency admission to hospital. Effective treatment often involves oxygen therapy, however, inappropriate administration is a recognised cause of morbidity. Two local cases in which patients received inappropriate oxygen therapy, resulting in significant harm, highlighted a need for tighter control. The British Thoracic Society guideline on oxygen therapy recommends that 100% of patients receiving oxygen should have a prescribed target saturation range, reducing the risk of toxicity. We sought to address non-existent targeted oxygen prescription rates on a medical receiving unit at the Glasgow Royal Infirmary.

### **Method:**

Two closed-loop cycles over 8 months. Intervention one: lectures on importance of appropriate (targeted) oxygen therapy to full acute medical multidisciplinary team (MDT), posters prompting correct oxygen prescription and dissemination of monthly oxygen prescribing rate to acute medical staff. Intervention two (3 months after intervention one): oxygen prescribing stickers placed in the drug kardex.

### **Outcomes:**

Out of 343 patients, 121 (35%) were receiving oxygen therapy. The baseline oxygen prescribing rate (written oxygen prescription, with target saturations, for patients receiving oxygen therapy) was 0%. The national audit results demonstrate 52% of patients as having a correct targeted oxygen prescription (2013). The first set of interventions saw an unsustainable improvement (by month after first intervention, 20%-56%-0%). The prescribing stickers improved sustainability (by month after second intervention, 50%-50%-22%-50%).

### **Conclusion:**

Our patient safety initiative has improved the correct prescription of oxygen therapy and reduced the risk of poisonous oxygen administration, as well as demonstrating sustainability. During the audit period, there were no documented cases of morbidity or mortality second to inappropriate oxygen therapy. Currently only two consultants are engaged with the quality improvement project. We aim to further increase compliance to the BTS guidelines by engaging with all acute medical consultants (high influence/high interest).

### **Reference:**

O'DRISCOLL BR, HOWARD LS & DAVISON AG 2008. BTS guideline for emergency oxygen use in adult patients. Thorax, 63, vi1-vi68.

**Title: Improving weekend handover; a novel adaptation of an existing clinical handover tool**

**Category: Audit & Quality Improvement**

**Main Author: Christopher Acott**

**Co-Authors: Florence Swann  
Mridula Rajwani**

**Aims:** Handover is the vital system by which responsibility of patient care is transferred between healthcare professionals. The identification and management of unstable and unwell patients should remain optimal and unambiguous, thereby improving patient outcomes.[1] Standardised models for improving handover reduce preventable adverse events and medical errors.[2]

The John Radcliffe Hospital runs a busy Acute General Medical unit across nine wards. Our project aimed to develop the current "weekend sticker" system to provide a structure on Friday ward rounds, which in turn would improve the written handover of jobs, weekend clinical responsibility and treatment escalation plan.

**Method:** A pre-intervention questionnaire was distributed to doctors of all grades between February and March. Existing weekend stickers were modified to include headings for weekend jobs and treatment escalation/resuscitation decisions. These were trialled on half of the AGM wards, before being rolled out across the department. A post-intervention questionnaire evaluated their impact on weekend handover and continuity of care.

**Results:** Pre-intervention questionnaires revealed problems with receiving inadequate verbal handover at weekends. Treatment escalation plans by day teams were often not documented further adding decisive difficulty to often time pressured weekend clinicians. Preliminary results of the post-intervention questionnaire suggested clinicians welcomed the change and felt the stickers improved the clarity of management plans for on-call doctors.

**Conclusion:** Effective weekend handover is facilitated by non-verbal, locally adapted improvements. This adaptation to a pre-existing clinical handover tool facilitated and assisted in weekend clinician's decision making and clarifying management plans and is currently being used across all acute medical wards.

[1] The Royal College of Physicians. A scoping project: Handover – the need and the best practice. 2010.

[2] Starmer AJ, Spector ND, Srivastava R, West DC, Rosenbluth G, Allen AD *et al.* Changes in Medical Errors after Implementation of a Handoff Program. *N Engl J Med* 2014; 371:1803-12 (<http://www.nejm.org/doi/full/10.1056/NEJMsa1405556>)

# **Title: Innovative Seven-Day Working on a London Acute Assessment Unit: Achievable and Compliant with Best Practice Guidelines**

## **Category: Audit & Quality Improvement**

**Main Author: Rachel Stewart**

**Co-Authors: Aisling Hillary  
Krupa Bhalsod  
Raj Karsandas  
Brent Bartholomew  
Gary Davis  
Audrey Wong**

### **Aim**

Since 2011, our unit has piloted, audited and revised our policy of seven-day working<sup>[1]</sup>, resulting in our current model of twice daily consultant ward rounds, two on-site consultants on weekend mornings, and multi-disciplinary team (physio-/occupational therapy, discharge coordination) availability twelve-hours per day.

This third audit cycle measured the effectiveness of our model against National Seven Day Services Clinical Standards<sup>[2]</sup>, assessing current performance and highlighting areas for improvement. We focussed on three priority standards: 'Time to Consultant Review', 'On-going Review' and 'MDT Review' (key components of the North West London Commissioning for Quality and Innovation payment framework 2015-16<sup>[3]</sup>).

### **Methods**

Data was collected (pre-designed proforma) during seven consecutive days in July 2015. 70 patient notes (10/day, representing 30% of total admissions) were randomly selected and retrospectively reviewed.

### **Results**

#### 1) Time to Consultant Review:

- 70% within 14 hours of hospital arrival
  - Delayed review of 30% (prolonged emergency department stay or 'twilight hours' admissions)
- 61% were daytime admissions (08:00 – 20:00)
  - 70% of these reviewed within 6 hours
  - Delayed review of 21% ('twilight hours' admissions)

#### 2) On-going Review:

- 95% reviewed twice in 24 hours

#### 3) MDT Review

- 39% required input
  - Of these, 37% reviewed within 14 hours
  - Remaining 63% assessed the following day

#### 4) Well Performing Areas

- Time to specialist referral (mean 2.9hours)
- Estimated discharge date
- Medicine reconciliation
- Integrated management plan (mean 11 hours)

#### **Conclusions**

7-day working is already a reality. The implementation takes careful planning and auditing, but best practice standards are achievable.

'Twilight Hours' Admissions:

Up to 30% of delayed consultant reviews occurred with patients admitted during this period. This is now an area of further study.

MDT Review:

Impact on time to discharge relating to a delayed MDT review has not specifically been studied. This may be more useful than a set time of 14 hours.

#### **References**

[1] NHS London Health Programmes *Quality and safety programme: Audit of acute hospitals Chelsea & Westminster Hospital Report 2012* [Online]. Available from: <http://www.londonhp.nhs.uk/wp-content/uploads/2013/03/Chelsea-Westminster-Hospital-Quality-Safety-Audit-Report-FINAL.pdf> [Accessed 17/07/2015]

[2] NHS England. *NHS Services, Seven Days a Week Forum*. [Online] Available from: <http://www.england.nhs.uk/wp-content/uploads/2013/12/brd-dec-13.pdf> [Accessed 08/07/2015]

[3] NHS West London Clinical Commissioning Group. *West London CCG Contracting Intentions 2015/16*. [Online]. Available from: <http://www.westlondonccg.nhs.uk/media/14457/WLCCG%20Contracting%20Intentions%20201516%20vFINAL.PDF> [Accessed 13/07/2015]

# **Title: Investigating Pulmonary Embolism in Pregnancy - Is it different?**

## **Category: Audit & Quality Improvement**

**Main Author: Chaminda Jayawarna**

### **Introduction:**

Pulmonary Embolism (PE) is a leading cause of death especially during pregnancy. Majority of patients with suspected PE is managed as Ambulatory care in most of the hospitals in the UK including Stepping Hill Hospital. Pregnancy is usually an exclusion criterion in most of the Ambulatory PE pathways. According to Royal College of Obstetricians & Gynaecology (RCOG), there are differences in the way this group of patients should be investigated, compare to non-pregnant population.

In our hospital these pregnant group was investigated both by Physicians and Obstetricians and no clear guidance was available as to how this group of patients should be investigated.

### **Aim:**

The aim of this audit was to identify the way this cohort of pregnant patients was investigated and managed while waiting investigations, and to compare it with RCOG guidelines.

### **Method:**

This was a retrospective audit on a randomly selected sample. Data were collected using a proforma to check the key recommendations made in the RCOG guidelines.

A pathway (see supporting files) was formulated with the help of Physicians, Obstetricians and Radiologists after the initial audit and a re-audit was performed after 18 months.

### **Results:**

Most of the RCOG recommendations were not followed according to the initial audit, which has clearly improved after the implementation of the trust pathway for investigation of PE in Pregnancy.

Table 1: Results comparing initial audit and the re-audit

<b>Criteria</b>	<b>Initial Audit (%)</b>	<b>Re-audit (%)</b>
1 All patients should have a CXR/a clear reason given if not	91	94
2 All patients should have bilateral doppler US leg	21	100
3 When CXR is normal- VQ scan is the preferred investigation	76	100
4 LMWH dose is based on pre-pregnancy weight	48	86
5 LMWH should be given twice a day	73	100
6 Pregnant patients with? PE should excluded from Ambulatory pathways	45	77

### **Conclusions:**

The use of a clear pathway after the initial audit has resulted in positive changes in the way the suspected PEs is managed in pregnancy.

**Reference:**

1. Greentop Guidelines 37b, Royal College of Obstreticians & Gynaecologists - February 2013

**Title: Investigation of suspected Pulmonary Embolism with CT Pulmonary Angiography: A Retrospective Audit over 12/12 on the admission unit at Salford Royal NHS trust.**

**Category: Audit & Quality Improvement**

**Main Author: Aleena Suhail**

**Co-Authors: Charlotte Isabel Ward**

**AIM:**

Pulmonary embolism (PE) is a serious and potentially fatal medical condition. It is therefore important that patients are managed in accordance with best practice outlined in guidelines. This audit aimed to evaluate adherence to trust guidelines for investigating suspected PE. In addition a questionnaire was conducted to gather clinicians' perceptions for investigating PE.

**METHODS:**

A retrospective case analysis was conducted on 202 patients who were investigated by CTPA for suspected PE between April 2014 and April 2015. The patient's emergency department notes, medical admission, discharge notes, laboratory and radiology results were analysed to evaluate if they were investigated in line with the guidelines. In addition to this, a 5-question survey was distributed to clinicians on A&E and EAU to gather their perceptions on investigating suspected PE.

**OUTCOMES/ RESULTS:**

202 patients underwent CTPA from April 2014 to April 2015. Wells score was documented in 24% of patients yet 87% of clinicians stated they were aware of it. 61% of patients had a scan requested appropriately. All had an appropriate history and chest X-ray.

The protocol was followed in 23% of cases (n= 46), however 83% of clinicians were aware of the guidelines. Positive rate of PE was 24.26% (n=49). Over ¼ of these patients (n=13) were picked up "outside of the protocol"

**CONCLUSION:**

Although the positive CTPA rate is similar to that reported in literature, the protocol is not being followed in a large proportion of patients. Ordering CTPAs (39%), which were not in line with the guidelines, is not solely due to lack of awareness of the guidelines. Clinicians' gestalt, acute deterioration of a patient and for "completeness" of work up for PE could be reasons to stray from them.

**Title: ITU ESCALATION AND RENAL REPLACEMENT THERAPY IN DECOMPENSATED LIVER DISEASE-  
UTILITY OR FUTILITY**

**Category: Audit & Quality Improvement**

**Main Author: Mohammed Choudhury**

**Co-Authors: Ahsan Zahid**

**Introduction:** Liver-related mortality continues to increase in the UK with alcohol remaining the leading cause. A recent NCEPOD report highlighted deficiencies in the acute care received by patients with decompensated ALD, including early management and access to specialist review and ITU care. We sought to assess outcomes and predictors of survival of patients admitted to ITU with decompensated CLD and utility of mechanical ventilation (MV) and renal replacement therapy (RRT.)

**Method:** We interrogated a prospective ITU-admissions database and identified 64 patients with decompensated CLD of any aetiology admitted between 2008 and 2013. We conducted a case note analysis collecting data on demographics, aetiology of CLD, cause for decompensation, Child's and MELD scores, interventions received and mortality. We compared outcome to a previous study between 2003-07.

**Results:** 28 patients (44%) were ventilated and 10 (16%) received RRT (all ALD patients.) The 30-day mortality was 58% for ALD and 66% for non-ALD with 1-year mortalities of 71% and 77%. Overall, survival to hospital discharge was 20/64 (31%). The best predictor of survival was escalation to ITU within 48 hours 17/24 (71%) vs 7/40 (17.5%) (p-value <0.05.) ALD patients >60 did not survive. Prognosis was better if previously under hepatology service. Receiving either MV or RRT were not predictive of a worse prognosis. Overall survival of ALD patients of 40% over this study period is favourable compared the previous study period (29%).

**Conclusion:** Outcomes for patients with decompensated CLD including ALD are improving and ITU escalation should be offered early to **all appropriate** patients. Ventilation or RRT should be considered as not always predictive of poor outcome. The best chance for survival was in patients escalated within 48 hours and those who had been under the care of hepatology prior to presentation.

**Title: Learning from mistakes: a review of clinical incidents occurring at Royal Surrey County Hospital and how we can learn from these to improve patient outcomes**

**Category: Audit & Quality Improvement**

**Main Author: Tamer Shalaby**

**Co-Authors: Andrew Ghabbour**

**AIM**

The current method of reporting clinical incidents is via the DATIX system. Despite being available on the intranet within the hospital, reporting of incidents is not always completed.

It was also felt that there was a recurrence of certain incidents, indicating that we are not learning from our mistakes. Therefore we reviewed how the results of incident investigations were cascaded to the teams.

**Methodology**

- Retrospective review of DATIX to assess for trends.
- Understanding and experience of DATIX amongst medical staff.
- Current methods of communicating incident outcome (s).
- Introduced new processes should they be needed
- e.g.: education sessions, feedback.

**Results**

We have seen trends in some incidents and have a number of presentations to educate medical staff of common errors.

Results from the survey indicated that there were problems with reporting of incidents and therefore this is a key area for improvement.

- 53% of participants declared reporting clinical incidents on DATIX. Whilst this is a majority we would like to see this increase.
- 63% of medical staff claimed to have been involved or witnessed a clinical incident that had not been reported on DATIX.
- 83% had never received feedback from their incident.

We looked at ways in which we can successfully cascade information on incidents have happened and the outcome.

**Conclusion**

We faced challenges such as changing the working practice to improve reporting of incidents.

When we questioned why staff had not completed an incident that they had witnessed 70.5% gave the reason of it was too time consuming. We assessed if we can make the process more streamlined.

Another response to not reporting incidents was that they were unsure of how to login to DATIX (41%), this is slightly easier to combat, we are doing the following:

- Incorporate information in the induction booklet.
- Quick reference guide in all clinical areas.

We looked at how feedback is delivered as 83% of participants from the online survey said they had not received any feedback. Whilst on the outside this seems relatively easy to improve it required a change in working practice

for those investigating the incident. We are looking at regular updates for all staff on communication of incident outcomes e.g. intranet, e-newsletter

This project has provided a wide range of leadership skills and a wider multidisciplinary working approach. With this in mind it was felt that it would be a valued on-going project to develop leadership of trainee medical staff and raise awareness of the importance of incident reporting, investigation and feedback

## **References**

1-Medical Error, National Patient Safety Agency.NPSA (2005)

2-[www.institute.nhs.uk/quality\\_and\\_service\\_improvement\\_tools/plan\\_do\\_study\\_act.html](http://www.institute.nhs.uk/quality_and_service_improvement_tools/plan_do_study_act.html)

## **Title: Learning from Patients how to SAMBA**

### **Category: Audit & Quality Improvement**

**Main Author: Christian Subbe**

**Co-Authors: Deysha Ratnasingham**

**Sam Pradhan**

**Waleed Khan**

**Shah Khalid Shinwari**

**Khabir Khan**

**Thi Thi Oo**

**Iman Abulela**

**Anwar Khan**

**Hassan Mohammed**

### **Aim**

To develop and test a patient feedback format for Acute Medical Units (AMU) in order to capture patients' experience [1] and inform the Society for Acute Medicine's national Benchmarking Audit (SAMBA'15).

### **Method**

[A] We conducted a literature review on patient experience for emergency hospital admissions in Internal Medicine.

[B] From the results a questionnaire was developed and tested in a single centre on the AMU of the Ysbyty Gwynedd, Bangor, UK. It was subsequently used by 55 AMUs (n=945) during the data collection for SAMBA'15 on the 25<sup>th</sup> of June 2015.

### **RESULTS**

[A] We found limited literature [2,3] beyond disease specific areas. The Friends and Family (F&F) Test has been used widely [4] but the experience for medical emergency admissions is less well documented.

[B] Pilots were performed on consecutive Tuesdays from 00:00– 23:59 on the 19<sup>th</sup> of May 2015 and the 26<sup>th</sup> of May 2015. Following the post-take ward round patients were given a hard copy of the questionnaire and a pen. Forms were collected in sealed blank envelopes in a ballot type box. Participation was voluntary. Patients with dementia or those too frail to write were excluded. Of the 48 patients who were asked to participate 31 (65%) submitted questionnaires, 20 filed comments. Distribution patterns were comparable between the two days, despite a bank holiday on the 25<sup>th</sup> of May (Fig 1). 90% of patients selected that they would be 'Very Likely' or 'Likely' to recommend the unit to family or friends. No patient chose 'Unlikely' or 'Very Unlikely' (Figure). A random sample of 60 patients subsequently showed again 92% positive outcomes with no difference in patients admitted via ED or directly onto the AMU. Comments are summarised in a Table.

### **Conclusion**

Patients feedback is feasible and adds an important element to performance reporting in Acute Medicine. Comments are key to understanding patients and guide improvement.

### **References**

1. Future hospital: Caring for medical patients. A report from the Future Hospital Commission to the Royal College of Physicians. London 2013
2. Sullivan P, Harris ML, Bell D. The quality of patient experience of short-stay acute medical admissions. Clin Med. 2013 Dec;13(6):553-6.
3. Soufi G, Belayachi J, Himmich S, Ahid S, Soufi M, Zekraoui A, et al. Patient satisfaction in an acute medicine department in Morocco. BMC Health Serv Res. 2010;10:149.
4. NHS England. The Friends and Family Test . United Kingdom:2015 [accessed on 7<sup>th</sup> May 2015]. Available from: <http://www.england.nhs.uk/wp-content/uploads/2015/03/fft-guidance-march-2015.pdf>

## **Title: Level 1 monitored beds on the Acute Medical Unit**

### **Category: Audit & Quality Improvement**

**Main Author: Tala Andoni**

**Co-Authors: Arihant Jain  
Manaf Al-Obaidi  
Sarbjit Clare**

#### **Background**

The Acute Medical Unit (AMU) at City Hospital, Birmingham, houses 8 monitored beds designated for patients requiring level 1 care and non-invasive ventilation (NIV) as ceiling of care. These beds are 29% of our capacity and were historically used inappropriately. An audit in 2013 revealed that 20% of patients in these level 1 beds were transferred to ITU not because of deterioration but due to ITU not accepting the patient after initial assessment in ED Resuscitation. This raised concerns that AMU was being kept as a "holding bay" for ITU.

To solve this issue, engagement with ITU teams as well as education and a clear directive to the medical registrars with "out of hours" escalation to Consultants was embedded. This led to a significant decrease in number of inappropriate Level 2 patients on the AMU.

#### **Aim**

The aim of this audit is to ensure that patients have been assigned the right level of care, and decisions regarding monitoring were made by the appropriate team member and escalated. Results were compared to previous audit in 2013.

#### **Methods**

Data was collected over a 4-week period in 2015 on all patients who were admitted to a monitored bed.

#### **Outcomes**

The 2013 audit revealed 26% of admissions were inappropriate, and were subsequently transferred to ITU. This figure was 3.9% in the 2015 audit revealing significant improvement.

Further results showed 60% of monitoring decisions were made by appropriate members (SpRs and Consultants). 79% of decisions to de-monitor were made by Consultants, and 95% of the time this decision was made between 0800-2100.

#### **Conclusion**

The results reveal a significant improvement in patients being inappropriately assigned level 1 beds within AMU. This is an improvement for patient safety and more appropriate use of AMU resources. AMUs must have clear guidance and pathways and to avoid being used as an ITU spillover.

## **Title: New Signage Improves Patient Experience in the Acute Medicine Receiving Unit**

### **Category: Audit & Quality Improvement**

**Main Author: Rebecca Sims**

**Co-Authors: Dawn Lapworth**

#### Aim

To improve patient experience in the Acute Medicine Receiving Unit (AMRU) by using experience based design principles to develop new orientation signage.

#### Methods

We encourage patient feedback through Comments Cards and on our website. A recurrent theme was lack of information about the processes in the Unit, what order things would happen in and why there were waits. A lack of orientation and clear journey landmarking was contributing to poor experiences and complaints. The signage project focussed on the key experiential concerns raised in patient feedback and was complementary to other work addressing pathway and process issues<sup>1</sup>.

New signage was designed with a bright contemporary look and modern colour palette. The format was inspired by the Design Council project "ABetterA&E"<sup>2</sup>. Pictograms supported the wording. The main focus is a large "map" of a typical patient visit [See Figure 1] displayed in the main waiting area. The map is supported by more detailed signs located in the areas where each step occurs. These are vertical "slices" with essential information highlighted and an indication of waiting time provided [See Figure 1].

The signage was written by the AMRU team and underwent patient and staff consultation. It was produced by local signmakers and funded by NUH Charitable Funds.

#### Outcomes/Results

The new signage was installed in September 2014 . Receptionists used it to orientate patients on arrival. Both nursing and medical staff found the signs were useful to help them keep patients informed about progress. Staff reported a reduction in recurrent progress enquiries which meant more time was available for caring for the patients and progressing cases more quickly. Negative patient feedback and complaints reduced and positive feedback increased [Figure 2].

#### Conclusion

New signage has addressed concerns raised by patients and has been a simple, inexpensive and effective way of improving patient experience.

#### References

1. Experience-based design: from redesigning the system around the patient to co-designing services with the patient. Qual Saf Health Care. Paul Bate and Glenn Robert. 2006 Oct; 15(5): 307–310.
2. Reducing Violence and Agression in A&E through a Better Experience. Design Council, CAFE, Department of Health.

**Title: Procedural Skills Competencies on the Acute Medical Take**

**Category: Audit & Quality Improvement**

**Main Author: Helen Leitch-Devlin**

**Co-Authors: Madhavi Kasi  
Elizabeth Hart  
Anette Freyer**

**AIM**

The curriculum for physicians requires competency in essential procedural skills<sup>1</sup>. Many of the procedures are necessary for patients admitted as an emergency, but anecdotally the competence and confidence of doctors expected to perform these on the acute medical take is variable. We therefore set out to better understand the procedural skills of the medical admission team.

**METHODS**

We surveyed core trainees, specialist registrars and consultants contributing to the medical take in a large teaching hospital on whether they had ever achieved competency, mode of training, ultrasound use, number of procedures in the past year, willingness to perform in an emergency, willingness to supervise, and whether the skill should be mandatory for their grade. We specifically asked about pleural taps, chest drains, lumbar puncture, ascitic taps, ascitic drains, central line insertion, DC cardioversion and arterial line insertion.

**RESULTS**

The survey was completed by 111 doctors representative of a wide spread of grade and specialties. Competency and confidence in procedural skills varied widely. Whilst consultants had achieved competency few had used ultrasound or carried out 5 or more procedures in the past year. They were less likely than other grades to think the skill mandatory. Competency increased with trainee seniority, as did the number of procedures performed in the previous year, though apart from lumbar puncture and chest aspirations few had exceeded 5. Junior grades were more likely to have been trained in a skills lab and in the use of ultrasound.

**CONCLUSION**

The number of procedures appears insufficient for everybody to gain and maintain competency in all procedures. Most consultants had not been trained in the use of ultrasound, limiting their ability to supervise trainees using it. We suggest that in the interest of safety more procedures should be carried out by experienced specialist teams.

**REFERENCE**

Specialty Training Curriculum for General Internal Medicine August 2009 (Amendments made August 2012). Joint Royal Colleges of Physicians Training Board 2012

# **Title: Reduction in ICU Mortality at a Large University Hospital Suggests Success of Early Warning Score Implementation**

## **Category: Audit & Quality Improvement**

**Main Author: Rachel Kidney**

### **Introduction**

Early Warning Scores (EWS) have been developed to facilitate early detection of patient deterioration, prompting medical review <sup>(1)</sup>. The National Confidential Enquiry into Patient Output and Death (NCEPOD, 2005) reported that 66% of inpatients admitted longer than 24 hours, displayed physiological instability for more than 12 hours prior to ICU transfer <sup>(2)</sup>. Based on these findings the Health Information and Quality Authority (HIQA) in Ireland instructed the Health Service Executive to implement a National Early Warning Score (NEWS) <sup>(3)</sup>.

### **Aims**

To compare mortality, and other outcome indicators of patients admitted to ICU from medical wards before and after EWS implementation (2012 vs 2014)

### **Methodology**

ICU patients admitted medically in 2012 and 2014 were included in this audit. We excluded patients from the Emergency Department; with ward LOS greater than 60 days; and patients from CCU and one Oncology ward. The cohort of patients was selected from our ICU electronic database (ICIP). Information collected included age, gender, ward, Pre-ICU diagnosis, LOS prior to ICU transfer, ICU LOS and mortality.

### **Results**

- The number of ICU admissions was stable (78 versus 80), although there was a 7.6% increase in hospital medical admissions (n=7223, 2014 versus 6711, 2012).
- There was a significant reduction in mortality in ICU for the 2014 cohort, post EWS implementation at 24.36% (19/78) versus 40% (32/80) in 2012. Overall, patients admitted to ICU were 49% (95% CI: 0.23, 1) less likely to die in 2014 than 2012.
- There was a relative reduction in Pre-ICU Ward LOS of 11% (9.31 days versus 10.46).

### **Conclusions**

This audit suggests that the successful implementation of a NEWS at this acute hospital was significantly associated with decreased ICU patient mortality, indicating improved recognition and management of deteriorating patients since its introduction. Continued vigilance and adherence to triggers to escalate care, can lead to further improvements in quality of care and patient outcomes.

### **References**

1. Mitchell I., McKay H., Van Leuvan C. et al.,(2010) "A prospective controlled trial of the effect of a multi-faceted intervention on early recognition and intervention in deteriorating hospital patients". *Resuscitation* 81:658 – 666
2. *The National Confidential Enquiry into Patient Output and Death (NCEPOD, 2005)*
3. Steen, C. (2010) "Prevention of deterioration in acutely ill patients in hospital". *Nursing Standard*, 24 (49):49-58

**Title: Review of Emergency Readmissions to Ward B3 Acute Medicine at QMC, Nottingham in February/March 2015**

**Category: Audit & Quality Improvement**

**Main Author: Charlotte Peal**

**Co-Authors: Ivan Le Jeune**

**Aim**

To consider and evaluate hospital, community and patient factors contributing to medical readmissions to hospital.

**Method**

Patients were interviewed during the readmitting spell between 5-6pm on weekdays, using a questionnaire designed to identify factors relating to the readmission. Subjective responses were sought regarding information given, emotions at discharge, safety-netting and perceived reasons for readmissions. This data was analysed to identify themes and help direct a patient-focussed readmission avoidance strategy. Patients discharged prior to interview could not be included. In the event patients were cognitively impaired, an informant was interviewed instead where possible.

**Results**

Over the study period, 2753 patients were readmitted to NUH, of which 499 (18%) were readmitted to AMU. We captured 36 (7%) patients on the readmitting spell each of whom was interviewed for 20minutes. 26 (72%) recalled receiving a printed discharge summary. Of the 15 (42%) patients who reported medication changes in hospital, 12 (80%) said the changes had been explained to them or their carer. 11 of 34 (32%) reported predominantly negative emotions at the time of discharge from the primary spell and 23 (68%) felt their symptoms had not resolved (2 carers responded on behalf of patients and thus subjective responses could not be elicited). 24 of 33 (73%) felt confident of who to contact after discharge if they were concerned and 52% of respondents had sought advice prior to coming back to hospital. 10 (28%) felt a longer stay in hospital might have prevented readmission and 21 (60%) felt nothing could have been done to prevent readmission.

**Conclusion**

Pertinent themes regarding discharges and readmissions have been identified, with a varied response. Time constraints and man-powered limited the number of interviews that could have been conducted, but this review has served as a pilot for further assessment of readmissions.

## **Title: SLOW DOWN - The use of a ward round checklist in Elderly Care**

### **Category: Audit & Quality Improvement**

**Main Author: Mustafa Kadam**

#### **Aim**

Ward rounds form the cornerstone of patient care and are crucial in establishing the current issues relating to the patient's condition and allows a management plan to be devised based upon all the information gained. Ward rounds often occur in very busy environments and due to the need to complete them in a timely manner, omissions can often arise of issues which are important to patient care. The aim of this audit is to establish whether the use of a memorable checklist would improve ward round entries, and therefore patient care.

#### **Method**

An initial audit of twenty-seven patient case notes was carried out on one particular day on an elderly care ward to assess if important issues including patient nutrition, venous-thromboembolism prophylaxis or fluid status were being recorded. A memorable checklist (Diagram A) was subsequently devised which was laminated and attached on notes trolleys. The checklist was also incorporated into induction packs for incoming doctors into the firm. The audit cycle was completed with a re-audit 2 months later.

#### **Outcome / Results**

The initial audit found that certain components were documented scarcely. For instance, fluid status was documented in 14% of patients (improved to 81% when re-audited following the introduction of the checklist), urine output and bowel symptoms documented in 20% and 22% respectively (improved to 59% and 63% respectively) and skin integrity / cannula site inspection was documented in 7% of patients (improved to 54%).

#### **Conclusion**

The introduction of the checklist helped reduce omissions during ward rounds. It enabled members of the multi-disciplinary team to consider all aspects of patient care. In particular, it also assisted the junior members of the team in ensuring key components are clearly documented in the ward round entries.

#### **References**

1. Royal College of Physicians, Ward rounds in Medicine: Principles of best practice, October 2012 [Online]. Available from: <https://www.rcplondon.ac.uk/sites/default/files/documents/ward-rounds-in-medicine-web.pdf> [Accessed 18th July 2015].

## **Title: Spread the NEWS**

### **Category: Audit & Quality Improvement**

**Main Author: Stephanie Drinkwater**

**Co-Authors: Harriet Lewis  
James Coulston**

#### **Aim**

Early recognition of the acutely deteriorating patient is crucial in reducing the incidence of cardiac arrests, intensive care unit (ICU) admissions and death. Numerous early warning scores (EWS) exist across the NHS. Musgrove Park Hospital (MPH) utilises the 'Patient at Risk' (PAR) score. Its use is limited to MPH, making it unfamiliar territory for new healthcare professionals. The goal was to implement the National Early Warning Score<sup>1</sup> (NEWS) and develop an innovative training model to improve education of frontline staff in its use and ultimately improve patient safety at MPH.

#### **Method**

Questionnaires provided a general consensus that the PAR score was unpopular. An audit (n=208) identified 52% of PAR charts were incorrectly completed. 32% PAR scores were incorrectly calculated and in 68% of cases the escalation protocol did not occur. The audit identified a 10% rise in patients requiring escalation to critical care outreach teams with the use of NEWS. #Spreadthenews educator teams were developed for each ward. Internal communications, Facebook & Twitter provided publicity of the change to NEWS and its escalation plan. Clinical ward-based training, drop-in sessions and tailored online training modules have provided a multimodal training method.

#### **Results**

A test of change was conducted following a week of using the NEWS score along side #Spreadthenews. 88% of NEWS charts were correctly filled in, 19 % of patients required escalation via NEWS compared to 13% of PAR scores.

#### **Conclusion**

#Spreadthenews is a multidimensional, multidisciplinary training model developed to train and educate 4000 healthcare professionals within the trust. It has so far improved the compliance in the use of EWS and ability to recognising the deteriorating patient. #SpreadtheNEWS will continue to be evaluated to assess its effectiveness as a modern training model following the implementation of a new trust wide early warning score at MPH.

1. The Royal College of Physicians. National Early Warning Score.(2012)  
<https://www.rcplondon.ac.uk/resources/national-early-warning-score-news>.

**Title: Stand up for Independence - A simple intervention to reduce inappropriate bed-rest in older people on the Emergency Assessment Unit**

**Category: Audit & Quality Improvement**

**Main Author: Philip Holmes**

**Co-Authors: Jane Wallace  
Tim Pattison  
Jenny Fox  
Arturo Vilches-Moraga  
Olivier Gaillemin**

**Aim:**

Inappropriate bed-rest is damaging to frail older patients. Adverse outcomes include muscle deconditioning, increased falls, increased frequency of delirium with subsequent prolonged hospital stays.

Our aim was to determine the prevalence of inappropriate bed-rest amongst older patients on the Emergency Assessment Unit (EAU), identify staff knowledge about the same, implement our "Stand up for Independence" intervention and evaluate the effect.

**Methods:**

We have a 55-bedded EAU open to all specialties. In excess of 90% of patients are under the medical team. Embedded within the EAU is a 12 bed Frailty Unit.

We established baseline levels of bed rest occurring between 10:30 and 11:00am in consecutive patients aged 75 years and over. Alongside basic demographics, we determined whether bed rest was appropriate based on such parameters as National Early Warning Scores >3, end of life care etc. Data was also gathered on the presence of healthcare-imposed barriers to mobility (eg elevated cot sides) and other factors including cognitive impairment.

A sample of all types of staff was surveyed to assess knowledge of effect of bed-rest on older people.

The **Stand Up for Independence** (Fig1) poster was designed then launched alongside staff education as to positive interventions available.

The point prevalence survey was then repeated.

**Results**

109 patients were surveyed before launch and 100 after. Cohorts were well matched with mean age of 85 years.

Staff had good pre-intervention knowledge of negative effects of bed-rest.

Overall there was a 53% reduction in inappropriate bed-rest amongst patients aged 75 and over on the unit ( $p < 0.01$ ) (fig2) post intervention.

**Conclusions**

Our **Stand up For Independence** poster and initiative has enabled staff at all levels to use already established knowledge to implement positive changes to the care of older people on our EAU.

We recommend this simple intervention to other EAUs and hospital areas caring for older people.

# **Title: Structured Huddle in Acute Medicine effectively supports Team Building, Safety Culture and Ward Efficiency**

## **Category: Audit & Quality Improvement**

**Main Author: Anette Freyer**

**Co-Authors: Helen Malia  
Beniko Lawrence  
Alison Watson  
Kate Knowles  
Rebecca Sims**

### AIM

The rapid turnover of medical staff results in individuals unfamiliar with the admission ward working together in a stressful high risk environment. A huddle describes a meeting of the troops at the start of battle to bond the team, deliver key information, affirm goals, identify immediate priorities and share important learning. We tested to see if the methodology achieves similar outcomes in a ward environment. <sup>1</sup>

### METHODS

A consultant leads all doctors, advanced practitioners, pharmacists and the charge nurse at the start of the day in a structured standing meeting around the Huddle Board where key points are recorded. Participation is encouraged around:

- Introductions - social language ± team building exercise
- Safety Message – recent incidents, near-misses or audits to facilitate learning
- Process Message – current data to improve ownership
- Nursing report
- Pharmacy report
- Night team highlights – highlight sick patients and issues
- Ward performance update – current pressures and priorities
- Allocation of patients, roles and responsibilities – supported with photographs
- Any other business

Feedback was collected in a structured survey.

### OUTCOME/RESULTS

32 members of the multidisciplinary team provided feedback, with unanimous agreement that the huddle was useful and effective. Respondents agreed that the huddle met its objectives with 'introductions', 'safety message' and 'clarification of roles and responsibilities' scoring most highly. This correlates with external assessment of the huddle's contribution to an improved safety culture (including making it easier for juniors to speak up), its usefulness in clarifying tasks, and trapping errors<sup>2</sup>. Huddle discussions have further provided the impetus for audit and service improvement projects.

### CONCLUSIONS

The huddle is a quick, cost effective way of building a team with a focus on delivering safer and more efficient care. It has operational, educational and service improvement value. The Huddle Board supports structure and efficiency and allows the issues to be promoted and referenced throughout the day.

1. Royal College of Physicians, Royal College of Nursing. Ward rounds in medicine: principles for best practice. London: RCP, 2012.
2. Mary Dixon-Woods, Graham Martin, Carolyn Tarrant, Julian Bion, Chris Goeschel, Peter Pronovost, Liz Brewster, Liz Shaw, Liz Sutton, Janet Willars, Diane Ketley, Tom Woodcock Safer Clinical Systems: evaluation findings. Learning from the independent evaluation of the second phase of the Safer Clinical Systems programme. Health Foundation, 2014

# **Title: Study of Acute Kidney Injury (AKI) at a Remote DGH. Are We Compliant with NCEPOD Recommendations and NICE Guidance?**

## **Category: Audit & Quality Improvement**

**Main Author: Amelia Robinson**

**Co-Authors: Georgina Cooper  
Kirsty Thompson  
Daisy Clark  
Ahmed Shalabi  
Victor Lawrence**

### **Aim**

In 2013 the Isle of Wight NHS Trust was noted to be an 'outlier' for mortality from AKI by the CQC's Intelligent Monitoring Report<sup>1</sup>. Since then, improvements have been implemented based on the 2009 NCEPOD report on AKI 'Adding Insult to Injury'<sup>2</sup> and NICE clinical guideline 169<sup>3</sup>. Our study looked at medical admissions at St. Mary's Hospital, to monitor the recognition, management of and mortality from AKI.

### **Methods**

A retrospective study of medical admissions during October/November 2014. 900 admissions were screened; 9% (83) were found to have an AKI. Data for this subset was collected to assess adherence to NICE guidance. We used a modified NICE data collection tool to incorporate NCEPOD recommendations.

### **Outcomes/Results**

91% were seen by a consultant within 12 hours of admission. 49% of these patients had a diagnosis of AKI documented. Of all patients with an AKI, 14% had a completed AKI risk assessment. 55% had a documented urine dip and 60% had acid-base balance assessed. 88% of those at risk of obstruction had an USS KUB. 48% of which were performed within 24 hours. 26% of patients with a stage III AKI were discussed with a nephrologist, 58% had nephrotoxic drugs withheld and 80% had urine output monitored. 23% died.

### **Conclusion**

Our study shows that AKI mortality has improved and is comparable with the national average (25-30%) but challenges remain; especially in an isolated population on the Isle of Wight. Although we have excelled in some areas, particularly with regards to access to medical consultants, further improvement is needed in many areas of AKI detection and management. We plan to implement several changes:

- **Educate new FY1s**
- **Posters in MAU outlining detection and management of AKI**
- **Monthly competitions for best compliance of completed risk assessment proformas**
- **Computer alerts to highlight AKI on blood results**

### **References**

1. 'Intelligent Monitoring Report on Isle of Wight NHS Trust'. Care Quality Commission (2013)  
[http://www.cqc.org.uk/sites/default/files/old\\_reports/R1F\\_101\\_WV.pdf](http://www.cqc.org.uk/sites/default/files/old_reports/R1F_101_WV.pdf)
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3. 'Acute kidney injury: Prevention, detection and management of acute kidney injury up to the point of renal replacement therapy'. NICE Clinical Guideline 169 (2013)

**Title: The development of a Level 1 enhanced care unit on AMU at a District General Hospital**

**Category: Audit & Quality Improvement**

**Main Author: Adrian Li**

**Co-Authors: Constantine Masoura  
Jithesh Choyi**

**AIM**

This Quality Improvement Project aimed to monitor and improve our current practice within Level 1 Enhanced Care Bays at the Princess Royal University Hospital.

**METHODS**

PDSA cycle 1 was a prospective study looking at all adult patients admitted to AMU over a five-day period. We measured the percentage of our acute take requiring monitoring, based against the guidelines set by the Royal College of Physicians Acute Care Toolkit 6<sup>1</sup>. We also assessed the availability of the Level 1 enhanced care bays and our documentation of monitoring needs for these patients.

PDSA cycle 2<sup>2</sup> was a further prospective study which focussed on assessing our documentation of patients in the Level 1 enhanced care bays following our intervention in the form of a checklist sticker. In particular, we were interested in clear step-down and treatment-escalation plans.

**OUTCOMES/RESULTS**

116 patients were admitted during the five-day period of PDSA cycle 1. 25% of the acute take required monitoring but 41% of patients who required a monitored bed were admitted onto one. Of the patients who were admitted into our Level 1 enhanced care unit, 0% had a clear action plan, 1% had a documented step-down plan and 1% had a treatment escalation plan.

After introducing the monitored bay checklist, 86% of patients had a clear action plan, 36% had step-down criteria and 64% had treatment-escalation plans documented.

**CONCLUSION**

The introduction of the monitored bay checklist significantly improved the documentation of monitoring needs for patients in the Level 1 enhanced care unit. This has many beneficial implications for the unit, including facilitation of early step-downs to maximise availability of these monitored beds for patients requiring them. There is further scope for improvement but the project has been a good starting point in the development of this Level 1 enhanced care unit.

**REFERENCES**

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2. Langlely G.L. Nolan K.M. Nolan T.W. Norman C.L. Provost L.P (2009) The Improvement Guide: A Practical Approach to Enhancing Organizational Performance (2nd Edition). Jossey Bass, San Francisco

**Title: The Introduction of Safety Huddles and their Impact on the Incidence of Inpatient Falls on the Calderdale Acute Medical Unit (AMU)**

**Category: Audit & Quality Improvement**

**Main Author: Adrian Kennedy**

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**Aim**

Safety Huddles (also known as Team Huddles) include all members of staff involved in the direct care of patients. They are led by the senior clinician and provide an important space for discussion of patient safety issues such as falls risk or presence of invasive devices. [1] They aim to create a safety culture within a department and provide a visible platform for strong clinical leadership.

Our aim has been to make Safety Huddles an integral part of the AMU ward round and to measure their impact on quality indicators such as number of inpatient falls per week.

**Method**

With the help of the Improvement Academy (part of the Yorkshire and Humber Academic Health and Science Network), Safety Huddles have been introduced at the end of each ward round on the AMU at Calderdale Hospital. They are consultant led but involve all members of staff involved in the patient's care. This includes for example Housekeepers and Healthcare staff as well as Nurses and Doctors.

Pre and post staff surveys were carried out to provide guidance and feedback to the initiative. Quality indicator data, (such as number of inpatient falls per week) were compared pre and post intervention. Work done by the Improvement Academy demonstrated the Calderdale AMU to work well as a team, improving the likelihood of success with the initiative. [2]

**Results**

The Safety Huddles commenced in February 2015. By March they had become an integral part of each daily ward round and continue to be so. Feedback has demonstrated that all levels of staff value the Safety Huddles. Inpatient falls have been below the average for the previous 10 months since the introduction of the initiative.

**Conclusion**

We have quickly and successfully introduced Safety Huddles into the normal working day at Calderdale AMU. They have been well received by all members of staff. Since their introduction the number of inpatient falls has consistently stayed below the average rate for the previous 10 months. We are now looking at their impact for other quality indicators such as development of pressure ulcers.

**References**

[1] <http://www.improvementacademy.org/patient-safety/team-huddles.html>  
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[2] Learning through "huddles" for health care leaders: why do some work teams learn as a result of huddles and others do not? Little J. Health Care Manag (Frederick). 2014 Oct-Dec;33(4):335

**Title: The Key Role of Data Analytics; Essential for successful service improvement in the Acute Medicine Receiving Unit**

**Category: Audit & Quality Improvement**

**Main Author: Susan Hammond-Pears**

**Co-Authors: Mike Christopher  
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## AIMS

The NUH Acute Medicine Receiving Unit is a dual function admissions assessment and process led ambulatory care unit. In 2013 performance was poor, clinical risk high and both patient and staff satisfaction were low. No area based data reporting or analysis was in place. Existing analytical resource was engaged to work with the clinically led service improvement team to inform and measure meaningful change.

## METHODS

A clinically driven framework for an hourly status indicator tool was developed by the analysts. "AMRULive" weights seven clinical parameters [Figure 1] to give an overall unit status (green, amber, red or black). This makes clinical risk visible and attributable and allows early de-escalation.

The analysts produced a "Knowing How We Are Doing" report, incorporating locally agreed measures and those recommended to benchmark against SAM Quality Indicators<sup>2</sup> and WMQRS/SAM AMU Quality Standards<sup>3</sup>.

As local data experts, the analysts are involved early in all service improvement projects to advise on data management for PDSA cycles.

## OUTCOMES

AMRULive has provided data-based evidence to focus clinical risk reduction measures and understand what support is needed at times of escalation. Over time the number of alerts has reduced and green is now the normal status. Each successful intervention has seen meaningful improvements in the KHWD report with times to triage, medical assessment, LOS all improving. Patient satisfaction is consistently high.

A close and productive working relationship has come with increasing analytics maturity: Analysts understand context and exceptions, clinical leads and managers gain data driven intelligence. Communicating proof of impact with "facts not feelings" has helped maintain the support, funding and momentum to try new initiatives and to embed successful ones.

## CONCLUSION

With increasing constraints on workforce, resources and funding, good quality data, communicated well by locally expert analysts, is vital for productive service improvement.<sup>1</sup>

## References

1. The RCP Acute Care Toolkit 11 Using Data to Improve Care. January 2015
2. SAM Clinical Quality Indicators for Acute Medical Units (AMUs).
3. June 2012 Acute Medical Unit Quality Standards published jointly by WMQRS and Society for Acute Medicine.

**Title: The SAFE MEDICS Ward Round Checklist and Audit of Ward Round Standards.**

**Category: Audit & Quality Improvement**

**Main Author: Akash Saxena**

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**Aim**

Medical ward rounds are complex processes and it is easy to sometimes forget to review and document key aspects of care. The Royal College of Physicians and Nursing recommend usage of a ward round checklist.<sup>1</sup>

A checklist with the mnemonic acronym SAFE MEDICS<sup>2</sup> (Figure 1) was devised and implemented in November 2013 in the Acute Medicine Department at King's College Hospital. The aim was to improve the quality and safety of ward round reviews.

**Method**

An audit of ward round standards relating to the checklist was performed before and after implementation.

Data was collected prospectively over 2 weeks in October 2013 and again in June 2014 when it was re-audited.

**Results**

Following implementation of the checklist there were improvements seen, even more so in those where the checklist usage was documented (in 37% of cases, a sub-analysis of these are shown as (%\*)).

Results from the initial audit (n=55) vs the re-audit (n=75) include the following:

Documentation of Blood Sugars in Diabetics – 43% vs 62% (90%\*);

Resuscitation status – 11% vs 31% (64%\*);

Escalation plan – 10% vs 34% (65%\*);

MUST nutrition screening – 11% vs 65% (75%\*);

Estimated discharge date – 45% vs 43% (86%\*);

VTE re-assessment – 42% vs 36% (81%\*);

Catheter insertion – 67% vs 63% (100%\*).

There were no improvements seen in fluid (65% vs 56%), food (24% vs 19%) or stool (87% vs 87%) chart completion or Oxygen prescription (67% vs 24%).

**Conclusion**

Improvements were seen in multiple domains, especially in cases where checklist usage was confirmed. There are certain domains however which need focused improvement.

Our notes are recorded in Electronic Patient Records so documentation and adherence to usage of the checklist may improve if this was in-built into the same system. As part of the improvement process a regular multi-disciplinary approach to the ward round review may help.

**References**

1. Royal College of Physicians, Royal College of Nursing. Ward rounds in medicine: principles for best practice. London: RCP, 2012.

2. Saxena AK. SAFE MEDICS Ward Round Checklist. London: King's College Hospital, 2013.

**Title: Trainee led Sepsis quality improvement project: Improving time to Antibiotic administration and usage of the Sepsis Six Bundle**

**Category: Audit & Quality Improvement**

**Main Author: Tamim Akbari**

**Co-Authors: Anshul Deshraj  
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**AIM:** To improve the identification and management of Sepsis by using manageable interventions led by Trainee Doctors. We have initiated two PDSA(Plan-Do-Study-Act) cycles. The first one was conducted to quantify and reduce the delay between prescription and administration of the first dose of IV antibiotics in patients clinically identified as having severe sepsis. The second cycle has begun with the aim of raising awareness,improving education and rolling out the Sepsis-Care-Bundle.

**METHODS:**

**PDSA Cycle One**

Retrospective audit conducted at Ealing hospital during the period of 01/May-22/May 2014. All patients started on IV antibiotics with clearly documented severe sepsis were included. The time of prescription,administration and indication for antibiotics were retrieved from medical notes and drug charts

**RESULTS:** N=40.58% of patients who met the inclusion criteria received the first dose of IV antibiotics within the first hour of prescription and 42% received it after. The shortest delay was 5 mins and the longest 123 mins.

**INTERVENTION:** A plan of action was implemented which included formal teaching sessions,training for nursing staff and junior doctors and a poster campaign.

**RE-AUDIT RESULTS.** A re-audit was conducted during 01/Oct-25/Oct.N=38. 82% of patients had received the first dose of antibiotics in severe Sepsis within the first hour. Only seven cases were identified whereby the delay was over 60 mins. The shortest delay being 1 min and the longest 242mins.

**PDSA Cycle Two**

We have presented at the weekly Grand round, furthered our reach to involve Intensivists,A/E Consultants,Matrons and have presented at the monthly Antibiotic Stewardship meeting.

We are in the process of auditing whether the 'Sepsis-6' is being used prior to the next round of interventions.

**CONCLUSION:** It is clear that such Trainee-Led projects have a positive impact on patient safety and delivery of a cost effective service. In particular, our audit has shown that administering antibiotics promptly can be achieved with little effort. This reinforces the view that small changes can lead to significant improvement.

## **Title: Unprovoked DVT screening - 2 year follow up**

### **Category: Audit & Quality Improvement**

**Main Author: Muaz Umer**

**Co-Authors: Farooq Hameed Toor  
Farique Leet  
Ivan Le Juene**

#### **Aim**

Patients with unprovoked deep vein thrombosis (DVT) who are not already known to have cancer should be offered timely investigations for cancer <sup>1</sup>. The purpose of this review was to evaluate adherence to this quality standard and diagnosis of cancer in 2 year follow up of unscreened patients.

#### **Methods**

New patients with a DVT were identified from the anticoagulation clinic (Queens Medical Centre, Nottingham) database between January and June 2013. From this group patients with unprovoked DVT who were over the age of 40 years were selected.

Data was obtained from electronic records and notes. Cancer screening was recorded through history, examination and investigations including urine analysis (UA), full blood count (FBC), urea and electrolytes (U&E), liver function test (LFT), calcium (Ca), chest x-ray (CXR), CT abdomen and pelvis (CTAP) and in case of a female; mammography.

A new diagnosis of cancer was noted over a period of 2 years in screened and unscreened patients.

#### **Outcomes / Results**

61 (34 male, 27 female) patients over the age of 40 years were identified to have unprovoked DVT out of 169 patients. All had FBC, 98% U&E, 90% LFT, 51% Ca, 52% CTAP and 49% had UA. 15% (4 out of 27) females had a mammogram.

In screened group we found only one patient with metastatic lung cancer. In unscreened group one patient had a new diagnosis of lung cancer and one with cancer of the prostate over the period of 2 years.

#### **Conclusion**

Clearly from the results 5% (3 out of 61) patients developed a cancer following a diagnosis of DVT within 2 years. Though there may be a difference of opinion in the screening of patients with DVT, more awareness, clear management plans and pathway implementation is required to pick all patients early with an underlying cancer.

**Title: Use of the Clinical Institute Withdrawal Assessment (CIWA) score in patients admitted for acute alcohol withdrawal at Ealing Hospital: completed cycle audit**

**Category: Audit & Quality Improvement**

**Main Author: Jack Carruthers**

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**Aim**

We assessed the use of the Clinical Institute Withdrawal Assessment (CIWA) scale in patients presenting with alcohol withdrawal to Ealing Hospital over a six-month period. Patients presenting with alcohol withdrawal require a standardised scoring system to accurately dose chlordiazepoxide treatment. NICE guidelines recommend the use of the CIWA, a validated tool for guiding symptom-based chlordiazepoxide prescription. A National Confidential Enquiry into Patient Outcome and Death (NCEPOD) into alcohol-use disorders underscored the importance of appropriate chlordiazepoxide prescription to avoid potentially dangerous side-effects. The enquiry also revealed general poor documentation of CIWA across the country.

**Methods**

We collected the details of patients in alcohol withdrawal contemporaneously in both the initial audit and the re-audit. We recorded whether the CIWA had been documented, whether the chlordiazepoxide prescription was appropriate based on a retrospective calculation of the CIWA from patient clerking notes, and whether there were any adverse effects from the withdrawal.

**Outcome/Results**

Between August and October of 2013, only 8% of patient notes (n=26) had a documented CIWA scoring system. Of these, 42% were started on an inappropriate reducing regimen of chlordiazepoxide according to documented clinical signs and symptoms. One of these patients had an alcohol withdrawal seizure.

To facilitate CIWA documentation, we developed a proforma to guide chlordiazepoxide reducing regimens based on the modified CIWA. A re-audit for inpatients (n=33) between May and July 2015 revealed increased compliance with the new proforma (67% uptake of the proforma), increased documentation of the CIWA score (73% vs. 8%; p

**Conclusions**

This completed audit cycle was part of a comprehensive re-structuring of Ealing Hospital alcohol withdrawal guidelines by a multidisciplinary team. It is an example of an audit that identifies the need for a change in practice, implements a meaningful intervention, and demonstrates improved outcomes after a period of education. It also validates the use of the CIWA as safe and effective in the clerking of patients presenting with alcohol withdrawal, and provides a model for other trusts to emulate.

**References**

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Wisniacki, F, A Pal, C Hilton, A Jugdoyal, J Carruthers, London Northwest Healthcare Trust Inpatient Alcohol Withdrawal Guidelines, Ealing Hospital (2015).

**Title: Using ambulatory care (AMB) scores to identify patients suitable for ambulatory emergency care (AEC): How effective are they?**

**Category: Audit & Quality Improvement**

**Main Author: Richard Young**

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Catriona Horner**

**AIM**

Royal College of Physicians' acute care toolkit no.10 mentions the usage of AMB score as one of the measures of identifying patients suitable for ambulatory emergency care (AEC). Patients with AMB score of  $\geq 5$  are deemed suitable for AEC. We undertook a service improvement project to identify patients from our current acute medical admission cohort who can be managed in our ambulatory care area using the AMB scoring system.

**METHODS**

All acute medical admissions admitted over one weekend were prospectively assessed using a specially designed proforma (Fig. 1). The admitting physicians used their clinical judgement in establishing the suitability for ambulatory care. AMB score was then calculated on all of these patients to check its validity. Data was analysed using Microsoft Office 2013 edition.

**RESULTS**

38 patients were included out of which 22 were male and 16 female. Average age was 68.2 years (range 15 -97 years). All 18 patients that were deemed not suitable for ambulatory care had an AMB score of  $< 5$ , indicating a good predictability for patients requiring admission. Interestingly, out of the remaining 20 patients that had an AMB score of  $\geq 5$ , only 6 (30%) were deemed suitable for AEC, indicating the need for having additional criteria.

The findings of this project helped us to identify patients with various ambulatory sensitive conditions who were currently being admitted and also enabled us to create additional criteria for selecting these patients (Fig. 2). This has been successfully introduced within our Emergency Department and we plan to review these criteria to evaluate their potential for effectively identifying patients for AEC.

**CONCLUSION**

Our finding showed that AMB score was an excellent tool for identifying patients that needed admission, although further research is required to develop additional criteria for selecting patients suitable for ambulatory care.

**REFERENCES**

1. Royal College of Physicians. Acute Care Toolkit 10: Ambulatory Emergency Care; 2014. Available from: [https://www.rcplondon.ac.uk/sites/default/files/acute\\_care\\_toolkit\\_10\\_-\\_ambulatory\\_emergency\\_care.pdf](https://www.rcplondon.ac.uk/sites/default/files/acute_care_toolkit_10_-_ambulatory_emergency_care.pdf)