Audit & Quality Improvement

ABSTRACTS
Aim
To define team size and performance for Acute Medical Units in 2014.

Method
The Society for Acute Medicine’s Research Committee organised SAMBA ‘14 as the third annual audit of AMUs for the 19th of June 2014 [1,2]. Units were invited to submit data about the service set-up via survey monkey to describe the size of the unit, specialist input and team strength. Data about all patients admitted during a 24 hour period was recorded. We collected data on source of admission, severity of illness as measured by NEWS, frailty of patients as measured by the Clinical Frailty Scale, SAM quality indicators and deposition of patients at 72 hours.

Results
110 units filled the questionnaire: 30 University Hospitals, 12 teaching hospitals and 68 District General Hospitals. 60 units used the National Early Warning Score.

AMUs had a mean of 49 (SD20) beds, of these 8 (7) were ambulatory care, 13 (SD15) were in short stay units.

Daily input was provided by Pharmacists (107 units), Social services (56), Occupational Therapists (88), Physiotherapists (95), Cardiologists (65), Chest Physicians (54), Gastroenterologists (47) and Neurologists (24).

Consultant Physicians delivered 16 (SD8) sessions in the AMU during the working week of these 6 (SD5) were by Acute Physicians.
The strength if the on-call teams is summarised in Table 1.

Conclusion
We present for the first time data on the team strength of the AMUs taking part in the national audit. The heterogeneity of unit set-up, team sizes, number of sessions delivered by Acute Physicians and input from specialities should stimulate research into man-power required for optimal service delivery.

At the time of the deadline units are still submitting patient level data. This will be available at the time of SAM Brighton.

References
A Daily Morning Structured Handover - Improves Patient Safety?

Aim

“Handover of care is one of the most perilous procedures in medicine, and when carried out improperly can be a major contributory factor to subsequent error and harm to patients”¹. After implementation of European Working Time Directive guidelines often multiple doctors are responsible for a patient over a day.

GMC guidance states “trainees in hospital posts must have well organised handover arrangements, ensuring continuity of patient care at the start and end of periods of day or night duties every day of the week”².

We introduced a daily morning structured handover for all members of the acute medical and nursing team to consultant level and studied the impact on improving communication within the team, continuity of care and patient safety.

Method

Morning handovers were previously informal. We gained feedback based on doctor’s experience of these. We designed a ‘Morning structured handover’ (MSH) which was laminated in A3 size in the AMU doctor’s room, ensuring all key areas for discussion were covered daily. We then piloted the handover for 2 months before gaining further feedback. Following this a re-designed poster was introduced. (see figure 1)

Results

Feedback was gained from 12 members of the team before and after implementation of the MSH. They scored a variety of questions on a scale of 0-10, 0 being highly dissatisfied, 10 being highly satisfied. (see table 1)

Feedback was also gained on direct questions:

• 100% felt it improved communication within the team
• 100% felt it improved continuity of care
• 100% felt it improved overall patient care/safety

Conclusion

We have shown that a daily structured handover improved communication, continuity of care and overall patient care and safety. We aim to extend this methodology to other shift handovers.

References

(1) Prof J Lilleyman, Medical director, National Patient Safety Agency
(2) “The Trainee Doctor”, GMC Publication
A junior doctor ‘app’ – helping release time to improve efficiency on the wards.

Amal Hassan
Surrey and Sussex NHS Trust
Christopher Floyd
Natalie Powell
Oliver Redfern

Aim:
In 2003 the BMA recommended that “investment should be made in piloting technology to support real-time information at the point of care” 1. Since however, doctors still waste over 1 hour per week finding bleep numbers (at an annual cost of over £1000 per doctor 2) with 70% finding current IT solutions obstructive to the access, and use, of hospital guidelines. The implication is inefficiency, with potential risks to patient safety. We have recently trialled the Clinical Iris® ‘app’ utilising junior doctors’ smart-phones to help tackle these issues.

Methods:
A team of juniors worked to design and develop the ‘app’, uploading 69 guidelines, 196 directory entries and teaching timetables. A pre-installation survey was issued to junior doctors working in Medicine, assessing their views on how efficient they were at work. 56 doctors then trialled the ‘app’ logging 394 usage sessions during the 3-month trial period.

Results and Outcomes:
The pre-installation survey demonstrated that ordinarily, 15 minutes per doctor, per shift of time is wasted accessing contact numbers and 30 minutes per doctor, per week is wasted accessing hospital guidelines (baseline methods included a voice recognition portal, hospital switchboard and intranet). Usage data revealed an average of 48 minutes per doctor saved by using the ‘app’ (total 32.2hrs of which 22.5hrs was saved using the directory alone). Post-installation surveys suggest better use of hospital guidelines and reductions in contacting the switchboard. 100% recommended the ‘app’ to their colleagues.

Conclusion:
The ‘app’ has been well received amongst junior doctors. During the trial we identified time efficiencies that could be better used for clinical contact and educational activities. The results of this project have been presented to the hospital Trust board, which has since purchased the ‘app’ for ongoing use by all junior doctors at the Trust.

References:
1. BMA Making IT work for Hospital juniors
http://www.surginet.org.uk/misc/interview/downloads/misc/it.pdf
2. Mobile phones in health survey 2013
A study of patients with headache presenting to the Ambulatory Assessment Unit in a district hospital

Muhammad Yaqoob Ghumro
Huddersfield Royal Infirmary
Muhammad Yaqoob Ghumro
Lindsay Masson
Sarah Hoye

Aim

to improve quality of care

Methods

Retrospective review of case notes.
Study covers a period of one year from 1st May 2013 to 30th April 2014. 92 patients with headache presented in the Ambulatory assessment unit, of which we have reviewed 79 case notes. Among these 51 patients (64%) were discharged the same day and 25 (31%) were admitted for a period of 1 to 4 nights. 2 patients were transferred to tertiary centres and 1 self discharged.
Surprisingly 47 patients (59.4%) had a CT head and 9 patients (11.3%) had a MRI scan. However, the majority of scans did not comply with NICE guidance.
19 patients (24%) were diagnosed with primary headache and the rest investigated for secondary causes. Unfortunately the majority of patients with secondary headaches were not given a definitive diagnosis on discharge.
The majority of patients were discharged with analgesia with poor adherence to guidelines. 32 patients (40%) were referred to a relevant specialty.

Conclusion

Patients were over investigated and guidelines were not used correctly in the diagnosis and management of headache in Ambulatory Assessment Unit. Careful and vigilant approach in dealing with headache cases can not only save money but can provide better outcome in diagnosing and care of patients.
Acute kidney injury care bundle compliance over a 2-year period

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Gloucestershire Hospitals NHS Foundation Trust
Shiva Sreenivasan
Preetham Boddanna
Andrew Seaton

Introduction
Acute kidney injury (AKI) has a prevalence of 4.9% in hospital inpatients\(^1\), and is associated with significant mortality.\(^2\) Locally we have approximately 500 cases of AKI per month from a population of about 612000.

Methods
We devised an AKI care bundle and created an electronic notification alert in our chemical pathology reporting system based on the Acute Kidney Injury Network criteria for diagnosis/classification of AKI.\(^3\) The care bundle was outlined on a sticker to be placed within patients’ case notes (Figure 1) for all adult acute admissions electronically flagged as at risk of AKI. Monthly audit was performed over a 23-month period to ensure uptake of the care bundle.

Results
Over a period of 2 years, there has been improved uptake of the AKI care bundle since implementation, from 0% in April 2012 to 90% in April 2014 (Figure 2). We noted a significant compliance dip over Summer 2013, which was attributed to medical staff changeover and locum cover. Since its launch, compliance has generally exceeded the targets set for our AKI Commissioning for Quality and Innovation (CQuIN) project.

Conclusions
We have shown improved early detection of AKI by using an electronic flagging system which prompts use of the AKI care bundle. Further study is required to determine if this has reduced patient mortality, morbidity, and length of stay.

References
Acute Kidney Injury: Significance of Involvement of Junior Doctors in Quality Improvement

Muhammad Naveed Khan
Betsi Cadwaladr University Health Board
Dr. Sudhaker Venturi
Dr. Chris Subbe
Dr. Siva Shrikanth

AIM:
The NCEPOD Report in 2009 highlighted the magnitude and implication of AKI in NHS settings, and raised concerns that only 50% of such patients receive proper care. We checked for the AKI management in our district hospital Ysbyty Gwynedd, Bangor. An audit cycle was completed within a period of 7 months’ time, reflecting some major improvements in the management of AKI.

Method:
An initial cycle was performed in September 2013, whereby case notes of 200 consecutive admissions in AMU were retrospectively reviewed for management of AKI. The results were abysmal and matched with NCEPOD findings. A series of interventions were implemented, focusing especially on junior doctors’ involvement. The cycle was completed in April 2014, by reviewing another 200 acute admissions.

Recommendation after initial cycle (Table below)

| Bedside assessment of hydration status, and use of Urine dipstick |
| Identifying sepsis and early treatment |
| Discontinuation of nephrotoxic medications and early Renal Review |
| Junior doctor education - peer to peer feedback |
| AKI Stickers |

Outcome: (Table below)
- More than 60% improvement on the 5 parameters (assessed in both cycles)
- New parameters assessed as per NCEPOD/NICE [CG169] recommendations
- Peer to Peer feedback, leading to remarkable awareness and enthusiasm amongst junior doctors

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Number (AKI)</th>
<th>Bladder Palpation</th>
<th>Previous Creatinine checked</th>
<th>Urine Dipstick</th>
<th>HCO3-</th>
<th>Sepsis</th>
<th>IV Fluids</th>
<th>Antibiotics</th>
<th>Nephrotoxic medications</th>
<th>Urinary Catheter</th>
<th>Renal Referral</th>
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</thead>
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<tr>
<td>1st</td>
<td>n=23</td>
<td>42 %</td>
<td>30%</td>
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<td>30%</td>
<td>21%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd</td>
<td>n=26</td>
<td>58 %</td>
<td>65 %</td>
<td>62 %</td>
<td>77%</td>
<td>85 %</td>
<td>88%</td>
<td>85%</td>
<td>69%</td>
<td>58%</td>
<td>35%</td>
</tr>
</tbody>
</table>

Conclusion and recommendations:
- Improved junior doctor’s knowledge, skills and their management in AKI.
- Improvement in the bedside assessment of dehydration, use of urine dipstick and identification of metabolic status by using ABGs/Venous Bicarbonate.
- Early involvement of the renal team.
- Change in admission proforma (Adding CRASHED – Think about AKI prior to investigations).
- Re audit next year (after change over with new doctors).

References:
1) Acute Kidney Injury: Adding insult to injury, National Confidential Enquiry into Patient Outcome & Death (NCEPOD-2009)
2) Acute kidney injury: Prevention, detection and management of acute kidney injury up to the point of renal replacement therapy (NICE: CG-169)
Adequate discharge planning improves readmission rates to Acute Medical Unit (AMU)

Manish Kapoor
Severn Deanery
Sophie Glenn-Cox
Faris Al-Sulttan

Introduction
It is a concern that increasing pressure to diagnose, treat and discharge patients rapidly is leading to unacceptably high readmission rates in AMU. This has recently been targeted by health authorities because of concerns regarding quality of patient care and financial implications. One method of reducing length of stay and readmissions is discharge intervention and planning.

Aim
The aim of our study is to evaluate the pattern and trends of readmissions to AMU before and after the intervention.

Methods
Readmissions to AMU at Weston General Hospital within thirty days of discharge were studied over six weeks period before and after the intervention. Patients were identified through the hospital coding system, and electronic discharge summaries provided details of each admission. Intervention comprised consultant input in discharge planning including follow up for all patients discharged home from AMU.

Results (see Table 1)
Pre-intervention: 43 readmissions were identified, representing 4.65% of medical admissions. Of these, 22 (51%) were of older age group (>75 years), 24 (56%) male, and 19 (44%) female. Commonest cause of readmission was fall or collapse (23%) followed by seizures, pneumonia, urinary sepsis and heart failure. 35 (81%) were judged to be related to the index admission. Consultants input in discharge planning were documented in 58% of cases with appropriate follow up been arranged in 29 (67%) patients.
Post-intervention: 12 readmissions were identified, representing 1.29% of medical admissions. Consultants input in discharge planning were documented in 83% of cases with appropriate follow up been arranged in 11 (91%) patients.

Conclusion
Older patients with more complex care needs are more likely to be readmitted. Most readmissions can be avoided if consultants are involved in discharge planning in terms of suitable handover of care to community services or appropriate follow up in secondary care.

References:
Ambulatory Management of Cellulitis: The impact of a Quality Improvement project
Christopher Elliott
Liverpool
Johnathon Currie
Thomas Micklewright
Ragit Varia

Aim
To assess the impact of introducing evidence based management process for the management of lower limb cellulitis in terms of adherence to guidance, patient level and financial outcomes.

Methods
A retrospective audit of all patients diagnosed with cellulitis was conducted. The pre-implementation period was July to December 2012 and post-implementation period was October to December 2013 with the pathway commencing in September 2013. 75 patients were included for pre-implementation. 120 patients were identified for included for post-implementation. The pathway was based on modification of the 'Dundee Criteria' which were derived and revised from the CREST guidelines. Data was collected using a pre-designed proforma and analysis was completed using Microsoft Access.

Outcomes / Results
The demographics for the groups similar in period 1 mean age 64 (26-100) with 52% female and period 2 mean age of 62 (19-93) with 45% female. There was an increase in the number of patients identified as having cellulitis in the re-audit. Antibiotic under-treatment improved by 17%, mean duration and oral switch which had good adherence to policy remained unchanged. 6% reduction in mortality, 2% increase in re-admission within 7 days with a mean length of stay reduction from 11 days (1-101 days) to a mean of 6 days (0-33 days) with a median reduction seen of 1 day. 41 more patients were managed without an overnight stay equating to an additional best practice tariff of £223 each along with saving from bed release with the reduction in length of stay.

Conclusions
The ambulatory emergency care cellulitis pathway has achieved improvements in clinical management, bed release and enhanced finance for the trust and in patient choice and outcomes. There was also better identification and coding of cellulitis with higher numbers being identified and accurately coded in the post-implementation period. A sustainability audit is planned.

References
An analysis of negative microbiology results within medicine: retrospective analysis of 2 weeks of medical take and the perception of microbiology results

Elliott Lever
Royal London Hospital
Julian Emmanuel

Aim
There are no published reports of microbiology sample collection and yield on sequential patients through an acute medical take, or on the perception of yield amongst different clinicians. We investigated microbiology sample collection, actual yield and perception of yield. We hypothesized the yield would be low, and the gold standard of collecting 3 blood cultures within 24 hours was difficult to achieve.

Method
• An audit of the electronic patient records of all patients admitted over a two week period through the acute medical take at a London teaching hospital (01/01/14-14/01/14) was performed (n=361) (2800 patient hospital days). Details of microbiology samples for the hospital stay was collected.
• A questionnaire to assess perception of yield administered to medical and surgical colleagues, (n=67).
• Actual and perception yield compared.

Outcomes/Results
• 90 patients had blood cultures on admission, 11 had 2 blood cultures within 24 hours and 1 had 3 blood cultures.
• The yield was poor: blood (12.2), urine (25), stool (0) (%).
• Further, the perception of yield was higher than actual. The discrepancy was: 24, 15, 17 % respectively for blood, urine and stool cultures.

Conclusion
• The adherence to gold standard was low. Another audit highlighted the lack of culture bottles as a cause.
• The results suggest that instituting guidelines for sample collection may improve the yield and improve patient management. Feedback on yield may help change clinical practice. The timing of stool and urine cultures may cause the skew towards poor yield.
An audit project on the contents of resuscitation trolleys on wards in a South African Hospital
Luke Mills
University of Birmingham Medical School

Aims
This project aims to highlight the strengths and weaknesses of following protocol and provision of resources in a South African government funded hospital.

Methods
The resuscitation trolleys in non-emergency wards of the hospital were visited. Published guidance from the Emergency Medicine Society of South Africa in the form of a checklist was used to compare the contents of these trolleys to their recommended parts. One researcher collected the data from 9 wards in the hospital over a period of 1 week. Exact numbers of insufficient or inadequate materials were recorded in each case and a percentage of the expected content was calculated for each trolley.

Results
The mean percentage of completeness was 93.9% (range 85.3-97.1) in adult and 95% (range 92-97.9) in paediatric trolleys. 100% of daily checks were conducted, but only 37.5% of nightly checks were conducted on adult trolleys. A lack of colloid fluid was noted in all 10 trolleys across the 9 wards due to reduced use of colloid in hospital emergencies.

Conclusions
As a comparison to previous work in Botswana, it is clear that the standards kept at this hospital are very high, whilst still not achieving 100% completion in any of the trolleys. In a field where auditing the quality of Cardio Pulmonary Resuscitation (CPR) is notoriously difficult to do, leading to the use of more complex measuring tools such as the ‘Utstein Template’, it is vital that the raw materials to supply a high quality of care are present. This ensures that lack of equipment is never the rate-limiting step in a rapidly evolving clinical situation.

Recommendations are to amend the hospital’s policy to remove colloid from the checklist, to improve staff awareness of equipment types and twice daily checks of the trolley, and finally to re-audit in one year.

References:
Assessment of an Ambulatory Care Service and Impact on Medical Admissions at Countess of Chester Hospital.

Tapas Kumar Chakraborty
Countess of Chester Hospital
Graeme Guthrie
Tapas Chakraborty

**Title:**
Assessment of an Ambulatory Care Service and Impact on Medical Admissions at Countess of Chester Hospital.

**Aim:**
The Ambulatory Care Unit (ACU) opened in 2013 with the aim of rapid triage, assessment and treatment of common medical conditions whilst avoiding unnecessary hospital admission. The unit accepts patients from both Primary Care and the Emergency Department via a local exclusion criteria pathway and also incorporates Amb score and the MEWS score. Specific protocols exist for key conditions.

Our aim was to examine the performance of the ACU over a 6 months (December 2013 to May 2014) period to determine the reduction in medical admissions.

**Methods:**
All ACU admissions between December 2013 and May 2014 were retrospectively analysed, focusing on patient demographics, source of referral, length of stay, diagnosis and outcome. All GP Patients outside the exclusion criteria was triaged through ACU.

We were able to calculate what proportion of the overall take was diverted to the ACU, and the resulting impact on hospital admission.

**RESULTS:**
Demographics: 56% female with mean age 51 and 44% male patients with mean age 55 were seen.
Source of referral: Primary Care (68%), Emergency Department (25%) other e.g. outpatient clinic (7%).
Average length of stay in the unit: 4 hours, 15 minutes.
Diagnosis: The 3 commonest conditions were Pneumonia/Lower respiratory tract infection, headache (including migraine) and chest pain.
Outcome: 72% of patients had same day discharge with zero length of stay out of which 21% with subsequent outpatient follow up and 28% were admitted for inpatient treatment.
Impact on admissions. Each month between 6 and 9% (equates to 155 patients) of admissions are avoided due to patients being assessed and discharged from the ACU.

**CONCLUSION**
The ACU has resulted in an average of 7% reduction in hospital medical admissions each month which helped the trust to close one medical ward and also saving money by saving bed days and increasing zero length of stay.

Further analysis of patients admitted from the unit will enable future policy planning and protocol development, including modified Amb score and NEWS.
Assessment of Standards of Ward Round Documentation in the Medical Assessment Unit
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South Eastern Health and Social Care Trust
Chiara Byrne
Ashley Warnock

Acute medical Unit, Ulster Hospital Dundonald, Southeastern HSC Trust, Northern Ireland, UK.

Introduction and Aim
Medical ward rounds are complex multidisciplinary activities to develop a coordinated plan of care. Ward rounds offer great opportunities for effective communication and task management. Within our Medical Assessment Unit we recognised the variability of ward round documentation and the need for standardisation. We undertook an audit based on RCP/RN guidelines for a ward round and also had a consultant led pilot of a ward round checklist.

Method
We conducted an audit of new admissions to MAU over 3 days to assess how our documentation compared to the standards set out by the RCP/RCN. We assessed documentation on thromboprophylaxis, blood sugars, IV fluids, medication review, cannula, EDD and preferred base ward. Evidently often fluids etc were prescribed, but this was to assess that a conscious decision had been made and documented.

Results
Of the 67 patients audited, only 17 had VTE documentation- 25%, blood sugar was documented 4 times- 6%, IV fluids documented 10 times- 15%, medication documented 18 times-27%, cannula documentation 0 times- 0%, estimated date of discharge documented 56 times- 84% and preferred base ward documented 46 times- 69%.

In the consultant led pilot scheme, there was 100% documentation rates achieved on all of the above.

Conclusion
There was poor documentation of key factors as per regional guidelines. The pilot appears to have been successful and we are implementing it to the entire acute medical team and using this as a standard of documentation on the acute medical ward rounds. We plan to arrange another re-audit to assess the entire team against the new standards set.
Audit of Utilisation of Medicines Reconciliation Form
Theodore Young
NWL CLAHRC
Shirley Kuo

Abstract:
Theodore Young, Shirley Kuo
Poster:
Theodore Young, Shirley Kuo

Aim
To assess the current state of utilisation of the latest incarnation of the medicines reconciliation page of the admissions booklet used in AAU at Chelsea and Westminster hospital. Successful use of this form should improve patient outcomes and reduce medication related errors.

Method
A 50 booklet snap-shot of forms filled in for patients admitted to AAU over several days in May 2014. An error on the form was defined as an instance of the form not being filled in as specified. For example if the dose, route or frequency of dose of a drug was not filled in each of these would generate one error. Each element of the form would generate only one error even if more than one drug did not contain a specified dose for example.

Outcome/Results
Two forms were completed with no errors and for the rest there was a modal average of 2 errors made per chart and a range of errors from 0-6.

The largest sources of error were source of medicines reconciliation information such as ‘patient’ or ‘GP’ (33 forms did not record the source) and a continuation decision for each drug such as ‘continue’ ‘stop’ or ‘review’ (27 forms did not give a recommendation for continuation) and dose (19 forms contained an error). These three areas are therefore potential targets for improvement in both form design and training.

However legibility was good across the board as was completion of allergies.

Conclusion
This audit has highlighted which areas of the medicines reconciliation form may need improvement in the next version and or areas for further training of doctors working in AAU.
AUDIT-C: ENHANCING ALCOHOL SCREENING ON THE AMU
Paul Cannon
NHS St Helens a Knowsley Trust
Ragit Varia
Aoibheann Dunlop

Aim
The NCEPOD report\(^1\) into deaths from alcohol related liver disease recommends the AUDIT screening tool\(^2\) to detect patients who consume harmful levels of alcohol. AUDIT-C is a shortened version of the tool using the first 3 questions, enabling completion within a minute\(^3\).
Our aim was to incorporate the AUDIT-C into our medical admission proforma and assess the impact it had on alcohol history documentation, education and referral to our alcohol specialist team for those deemed to be harmful drinkers.

Method
60 consecutive patients admitted to our Acute Medical Unit were asked to complete a retrospective AUDIT-C questionnaire. This data, along with patient’s admission notes were analysed to see whether those at risk had been identified and if they had received an intervention. The audit cycle was repeated with a further 60 patients after our new proforma was implemented.

Results
In the pre-intervention arm, 30/60 had a documented alcohol history. 4/30 patients were recorded as drinking greater than the recommended limit with 1/4 being referred. 6/26 with consumption documented as within normal limits and 5/30 patients with no alcohol history recorded were deemed to be potentially harmful drinkers on our retrospective AUDIT-C calculation.
Post-intervention 39/60 patients had an AUDIT-C completed in the proforma. 7/39 triggered a score greater than 5 with 4/7 being referred. The other 3/7 patients were provided with brief education. 3/21 recorded as having no alcohol intake but no AUDIT-C calculated also triggered on retrospective AUDIT-C calculation.

Conclusion
The use of the AUDIT-C screening tool improved documentation, intervention and referral to our trust alcohol team, enhancing the care of at risk patients. Although embedded in our proforma the regular utilisation is sub-optimal but warranted as shown in our data.

References
Introduction:
The misuse of urine dipstick testing is common. Urine dipstick tests are frequently positive for nitrites & leukocytes due to high prevalence of ‘asymptomatic bacteriuria’. A dipstick positive for nitrites & leukocytes has a disappointingly low positive predictive value, and therefore should only be considered in patients with LUTS (lower urinary tract symptoms), SIRS (systemic inflammatory response syndrome) or sepsis of unknown origin.

Aims:
The aim was two fold: first, to establish the correctness of the provisional admission diagnosis of UTI (especially the shortcomings in the use and interpretation of urine dipstick testing), and second to know whether or not we were offering blanket antibiotic therapy to patients who had positive urine dipstick analysis due to ‘asymptomatic bacteriuria’ (rather than UTI).

Method:
In this audit, we selected 47 patients admitted & treated for a provisional admission diagnosis of possible UTI. We audited whether clinically these patients’ had LUTS, SIRS or sepsis-related symptoms or otherwise. This preliminary information was then correlated with the prospectively collected data of urine dipstick, urine microscopy, and urine culture results.

Results:
Out of the 47 patients treated for possible UTI, only 9 (20.59%) had LUTS; SIRS or sepsis-related symptoms were present in 6 (14.41%) cases. Urine dipstick was positive in 22 cases. Prospectively, urine microscopy came back positive in 13 & negative in 20 cases; urine culture was positive in 17 cases & negative in the rest. The results demonstrated that out of the 47 patients treated for possible UTI, antibiotic therapy was possibly justifiable in only 17 cases in which clinical symptoms (LUTS, SIRS or sepsis of unknown origin) &/or urine culture were positive. 8 patients qualified the prospective diagnosis of ‘asymptomatic bacteriuria’ which shouldn’t be treated with antibiotics as a rule (except in pregnant ladies). In the remaining cases, antibiotics were blindly prescribed without any evidence suggesting or confirming UTI.

Conclusions:
We conclude that UTI is over-diagnosed, often in the absence of any supporting clinical &/or lab evidence. Consequently, antibiotics are injudiciously prescribed potentially inflicting more harm than any benefit. We recommend developing an evidence-based care bundle for UTI diagnosis and management, and incorporating the same in the admission clerking notes.

References:
1. RCP Acute Care Toolkit 3
Can joint acute medicine and microbiology ward rounds improve antibiotic prescribing in the acute medical unit?

Joanna Peters
Brighton & Sussex University Hospital
Catherine Sargent
Gary Leggatt
Wendy Munro

**Aim:**
1. To understand antimicrobial usage on an acute medicine ward
2. To evaluate the impact of regular antimicrobial ward rounds in the acute medicine setting

**Methods:**
A biweekly ward round was commenced for a period of 4 weeks. A team of an acute medicine consultant, Microbiology/Infection consultant and an Infection SpR surveyed the drug chart and notes of all admissions to the 36 bedded acute medicine unit at the Royal Sussex County hospital, Brighton. Basic characteristics such as indication, choice of antibiotic, and duration of treatment were recorded and a joint decision about the appropriateness was documented in the patient notes. Any intervention such as stopping, starting or changing antibiotic was recorded. Data collected at each round for the first two weeks were compared with the final two weeks of the initial 4 week intervention period. After 6 months, another period of antimicrobial ward rounds occurred with the same data collected.

**Outcomes:**
Overall, 40% of patients in the acute medicine unit were on antibiotics. In the first intervention period, 32% of patients received an intervention. The need for intervention reduced significantly (p=0.01) from 43% in the first two weeks to 20% in the second two weeks. This reduction was not seen in the second intervention period however the average number of interventions was lower (24%). There was, however, a trend to improved duration (p=0.05) and indication (p=0.04) documentation in the latter part of the second intervention period.

**Conclusion:**
There appears to be a significant and sustained effect on antimicrobial prescribing in the acute medicine unit using this intervention. The effect may be due to the regular presence of ‘experts’ within this environment or those involved in the unit trying to lead by example.
Can we reduce new junior doctors disorientation on acute medical takes

Yerzhan Rakhimov
Addenbrookes Hospital
Andrew Fry

Aim:
It is not a secret that medical patients admitted to UK hospital on the first Wednesday of the year experience increased mortality compared to previous Wednesday. Changing jobs is stressful and disorientating process for foundation trainees. Having considered trend towards shorter shift hours and high turnover of acute medical patient there is no doubt that impact of changeover extends beyond one day in August. During this time doctors particularly expected to maintain patient safety. The question we are asking is whether junior doctors feel they are adequately supported during changeover dates.

Methods:
We are four FY1 trainees at Addenbrookes Hospital in Cambridge. Although our hospital adheres to all compulsory forms of induction, we launched a trial of peer-to-peer of educational intervention. We produced non-clinical, succinct, portable and informative double-sided three-way folded A4 leaflet for acute medical take doctors who are new to Addenbrooke’s. Later Fourteen-item questionnaire was produced to assess participants’ sense of orientation and understanding of local procedures and protocols, awareness of patient flow and handover practices. Questionnaires were distributed to respondents before (pre-intervention group) and after (post-intervention group) leaflets became available in Addenbrooke’s Emergency Department.

Results:
50 Surveys been returned (32 pre-intervention and 18 post-intervention). Foundation doctors felt more confident that they:
1. knew what to expect (p<0.0001)
2. knew their exact role within the team (p<0.0001)
3. knew the role of team members around them (p<0.0001)

Discussion:
Foundation doctors were more confident about local procedures and protocols after the intervention. Notably, 100% of respondents reacted positively to the question: ‘Before starting first shift in acute medical take would you have found a document that explained specific roles of FY1/FY2 on take useful’. Therefore, by reducing anxiety associated with transition shock through non-clinical leaflet we are potentially promoting medical knowledge retention and clinical performance, i.e. patient safety.
Can you just write me up a bag of fluids?
Andrew Kermode
Surrey and Sussex Healthcare Trust
Harriet Cunningham
Natalie Powell

Aim
Safe prescribing including IV fluids is a key feature of the Foundation curriculum (1) yet anecdotally we felt that juniors may not be treating fluids as they would another prescribed medication. Prompted by a mortality review highlighting incorrect fluid prescription for a renal patient, our aim was to assess fluid prescription as well as junior knowledge.

Method
We audited medical notes and prescription charts for 100 in-patients against the NICE guideline (2). We also surveyed 31 junior doctors (FY1(12), FY2 (3), CMT/equivalent (9) and StR(2)) about their knowledge of and confidence in (rated 1 to 5) prescribing IV fluids and assessing fluid status. Juniors were also asked to identify which fluids (by pictures) should be used in different clinical scenarios (eg resuscitation).

Results
The audit showed 93% of IV fluid prescriptions met guidelines standards of including the type, rate and method of IV fluid administration but there was poor reassessment of fluid status (6%) once fluids prescribed and incorrect volumes used for fluid bolus administration in resuscitation (13% correct). Maintenance fluids were poorly prescribed (34% had correct electrolytes and 25% had correct glucose requirements).
74% of doctors had previous training but 45% of these had had an isolated session during medical school. 52% were confident assessing fluid status (16/31 rating 4-5). 10% were able to prescribe the correct amount of fluid and electrolytes for maintenance treatment. 23 (74%) respondents had encountered patients whom had come to harm due to inappropriate fluid administration.

Conclusion
The audit suggests that fluid prescribing is poor and our survey suggests a gap in training of junior doctors and opportunity for intervention. As a result we have drafted a hands on guide for new FY1 doctors as well as a dedicated teaching session. We would encourage all hospitals to include such training early in an FY1 teaching programme.

References:
Compliance of discharge summaries with the SIGN guideline

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Nazim Ghouri

Aim
1. To determine if discharge summaries completed on Trakcare fulfilled the criteria outlined in the SIGN guideline 128.
2. To determine if awareness of the guideline increased fulfilment of the criteria.
3. To determine if doctors are aware of the guideline and if increased awareness changes practice.

In Scotland Trakcare is used to complete 70% of discharges. (1) Evidence suggests that these do not always provide the necessary details for the ongoing management of patients. (2)

Method
Discharge letters were audited before and after a junior doctor was aware of the SIGN guideline against the criteria that should be included. A survey was completed by 79 doctors, across a range of grades. It addressed the awareness of the SIGN guideline and if increased awareness of the guideline would change practice.

Results
The results showed that post viewing the SIGN guideline there was a generalised improvement in meeting the criteria. However the allergy category remained difficult to fulfil. The more senior the doctor the more likely they were to be aware of the guideline but the junior doctors (FY1) were most likely to change their practice. Overall only 65% of doctors were aware of the guideline but only 50% who were unaware were willing to change their practice.

Conclusions
- Dissemination of the SIGN guideline should be part of the induction for junior doctors.
- A prompt to include details relating to allergies should be part of Trakcare.
- Greater fulfilment of the SIGN guideline criteria for discharge summaries could improve patient care and reduce omissions in their clinical management.

(1)SIGN guideline 128http://sign.ac.uk/guidelines/fulltext/128/index.html. Date accessed 5/1/14
(2) Jansen et al., Communication with general practitioners after accident and emergency attendance: computer generated letters are often deficient. Emergency Medicine Journal. 2003;20:256-257.http://emj.bmj.com/content/20/3/256.full Date accessed 24/4/14
Design and introduction of a clerking proforma improves clerking data quality and leads to increased documentation of key escalation decisions at admission

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Elizabeth Hardman
Edward Pickles
Nick Smallwood

Aim:
To determine whether the introduction of a medical clerking proforma would improve the completeness of documentation of a number of quality indicators. In particular, whether investigation results and escalation decisions were more regularly documented and whether these changes would be sustained.

Methods:
34 quality indicators were chosen and the completeness of documentation was audited. A clerking proforma was then introduced, and the completeness of documentation reassessed. A second re-audit was then undertaken at 3 months to assess for any long term changes in clerking quality.

Outcomes/Results:
73.5% of the 34 categories were more completely documented when using the proforma. This increased to 82.3% when the third audit cycle was completed (therefore showing sustained improvement). In particular, we saw significant improvement in documentation of DNAR/escalation decisions (6% to 44%), AMTS scores (30% to 80%) and ABG results (34% to 74%) between the first and third audits. Only two (6%) categories were less well documented 3 months after proforma introduction; exercise tolerance and urinalysis results.

Conclusion:
The majority of hospitals are likely to already have clerking proformas, but for those that don’t these results suggest they will improve clerking completeness in a number of areas, and that these improvements will be sustained. In addition, where proformas already exist these data suggest that inclusion of a resuscitation decision prompt will increase the numbers of decisions documented, which is important in this acutely unwell population with significant potential to deteriorate. The design of clerking proformas should be regularly reviewed to ensure they remain up to date and relevant (for example reflecting most recent risk stratification scores).
Does using a ‘Sepsis-Six’ form improve the adherence to ‘Sepsis Six’?

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University of Aberdeen
Snehashish Banik
Kevin Carter

AIMS
1. Assessing the compliance to ‘Sepsis Six’ in our unit
2. Assessing compliance in completing ‘Sepsis Six’ forms for patients with sepsis
3. To evaluate whether completing the ‘Sepsis Six’ form improves adherence to Sepsis-Six

METHODS
Patients with a Scottish Early Warning Score (SEWS) of ≥ 3 who met the sepsis criteria were included over a five week period (March-April 2014). Data was collected from these patients prospectively in terms of (a) ‘Sepsis Six’ form completion, (b) compliance with the ‘Sepsis Six’ protocol and (c) duration of stay in hospital and/or mortality.

RESULTS
A total of 89 patients were identified. 52% had a ‘Sepsis-Six’ form in place. The department showed 66.3% compliance to all six components of ‘Sepsis-Six’. Administration of intravenous fluids, intravenous antibiotics and monitoring of urine output were the components of ‘Sepsis Six’ with the lowest compliance. The group with completed forms had 78.3% full-compliance, whereas the group without forms had 53.5%.

Overall mortality rate was 11.2%, with the median length of stay in hospital (LOS) being 5 days. The group with completed forms had a mortality rate of 4.3% and the group without forms had 18.6%.

The median LOS for the group with completed forms was 4 days 9 hours, whereas for the group without forms it was 7 days 2 hours.

CONCLUSION
Our unit showed a better compliance to the “Sepsis Six” compared to published audit findings elsewhere. Form completion seemed to positively correlate with an increased compliance to the “Sepsis Six” and a subsequent reduced mortality rate and LOS.

REFERENCES
Dying to breathe - changing a culture of poor oxygen therapy

James Rudge
Sandwell and West Birmingham Hospitals NHS Trust
Sunita Odedra
Danielle Harrison

Aim
In the UK, safe use and administration of oxygen therapy was highly unsatisfactory prior to the implementation in 2008 of national guidelines [1]. Each year since then the British Thoracic Society (BTS) has conducted a national audit that has demonstrated a slow but steady improvement in oxygen use and administration across five key standards [2]. The Sandwell and West Birmingham NHS Hospitals Trust has participated in this audit process but has failed to show consistent improvements in line with national trends.

A quality improvement project (QIP) was undertaken in the Acute Medicine department with the aim of developing meaningful and sustained interventions to improve oxygen therapy in our Trust.

Methods
Following a working group with stakeholders, four interventions were identified: 1. new oxygen prescription chart, 2. oxygen ‘alert’ stickers for use on drug and NEWS charts, 3. point of care resources, and 4. senior led educational sessions for healthcare staff.

Before implementation each intervention was tested in the clinical environment and revised over several plan, do, study, and act (PDSA) cycles. Engagement and support from users was sought during this process. A cycle of audit was then undertaken on the Acute Medical Assessment Unit to assess the impact of each intervention. Data was collected using the validated BTS audit proforma [3]. Finally, qualitative and quantitative feedback was sought and used to make revisions before recommendations were made.

Results
The QIP improved oxygen use across each of the audit standards and the results are presented in figure one. Eighty three percent of users found the new interventions easy to use and 80% felt that the new prescription improved oxygen use.

Conclusion
Oxygen use was substantially improved within the acute medicine department during the QIP. Following engagement with stakeholders a new oxygen prescription will be rolled out within the Trust in 2014.

REFERENCES:
Evaluation of pressurised metered-dose inhaler (pMDI) use in primary and secondary healthcare professionals

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Uzma Kamdar
Joanne Thompson
Helena Cummings
Karen Thompson

Aim
Guidelines state that inhalers should be prescribed to patients following training and their use reassessed on clinical review by a competent healthcare professional. pMDIs are easily accessible, inexpensive and widely used, however the effectiveness of the administered drug may be limited due to incorrect inhaler technique.
We assessed pMDI technique in multi-disciplinary healthcare professionals from primary and secondary care using an aerosol inhaler monitor (AIM) machine and evaluated changes following a training session.

Methods
Healthcare professionals had a pMDI administration technique ‘spot check’ of the three vital steps of assessing inspiratory flow rate, synchronisation and breath-hold using the AIM indicators prior to a hands-on inhaler-use teaching conducted via the auspicious of the Hull and East Riding Airways Focus Group. Subsequently pMDI technique was reassessed.

Results
In total 43 healthcare professionals participated (6 doctors, 20 Nurses, 8 pharmacists, 3 pre-registration pharmacists, 2 pharmacy technicians and 4 physiotherapists) with 19 (44.1%) from primary and 24 (55.8%) from secondary care. Cumulatively, pre- and post-teaching measurements showed correct flow, synchronisation and breath-hold in 55.8%, 25.5% and 69.7%, and 93%, 81.4% and 90.7%, respectively. Importantly, although all 3 parameters improved following training, synchronisation improved substantially in all participants.

Conclusions
The use of pMDIs can be a challenge to healthcare professionals and effective training improves their inhaler technique which in turn may aid patient education and enhance airway disease stability
Falls on the AMU; are there common themes?
Kate Siddorn
university college hospital

Aims
There was an increasing number of falls being reported on AMU at UCLH. It was decided to undertake an audit to analyse the falls. The aim was to determine if there were any common themes such as location on the ward, the time the patient fell and if staffing levels impacted on the falls rate.

Methods
- The audit was for all patients who had a reported fall in a two month period
- Retrospective data from multiple sources was utilised and analysed
- The data was then mapped for time of fall, location within the AMU, patient demographics, such as age and gender and staffing levels when the fall occurred.
- The footwear patients had at the time of the fall was also collected.
- The percentage completion of falls risk assessments and care plans was also collected.

Outcomes/Results
There were 35 reported inpatient falls during the audit period.
There were almost twice as many falls on a Saturday, than other days of the week.
Falls were three times more likely to occur at times of increased activity such as routine vital signs observation rounds, medication rounds and nursing handovers.
Falls also increased during the highest activity period of transfers and discharges in the late afternoon
The ward is split in 4 different area and one area (where the more elderly and frail patients are) showed a higher number of falls.
There were restrictions in place for staffing at the time and only 18-29% of the shifts were fully staffed.

Conclusion
Since the audit was concluded there has been an increase in staffing levels and the staffing restrictions removed. The improved staffing level has helped to combat the falls happening during high activity periods. Safety brief have increased falls awareness. There has been a reduction in the number of falls improving the safety of patients on the ward. All falls are reviewed.
Frailty Scores To Identify Older People Who Need Specialist Care.

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EAST Surrey Hospital
Samantha Payne
Dr Natalie Powell

Background/Aim
Older people constitute around 60% of acute medical and surgical admissions and early specialist input is recommended. Such models of care could demand significant resource from already stretched hospital services with increasing pressure from 7 day service provision. A means of identifying those with the greatest need is required to direct resources and ensure targeted care. Frailty scores or indices may help to achieve this.

Methods
We retrospectively assessed frailty in 50 medical and 50 surgical admissions (over 75yrs) using the Clinical Frailty Scale, CFS (assessed by a Consultant Geriatrician), as well as major co-morbidity and functional ability at and during admission.

Results
The average patient age was 82 (56% men, 44% women) in surgery and 85 (24% men, 66% women) in medicine. In surgery, the median CFS was 3 and 21 patients had ≥1 ADL impairment on admission. Of those previously independent 16 developed ≥1 impairment during admission (CFS average 4.5 compared to 3.28 in those without acquired impairment). 6 patients with average CFS of 4.5 developed ≥1 complication (AKI and pneumonia most commonly). Those with CFS of ≥5 had average LOS of 20.08 days versus 6.02 days with CFS ≤4. In medicine, patients were generally more frail with CFS of 6 on admission and 36 had ≥1 ADL impairment on admission (and an average of 6) and none previously independent developed dependency. Only 3 patients developed additional ADL impairment during admission and only 1 developed an additional medical complication.

Conclusions
Most of our medical admissions demonstrated frailty but in the surgical elders, the frailty score was a useful predictor of developing dependency and functional decline during admission. Frailty scores on admission may help to triage older medical admissions to specialist wards and target outreach to surgical elders who might benefit from multi-disciplinary care during the in-patient journey.

From SAMBA to SALSA: Short Assessment for reLiability of Services in the AMU

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Wales Deanery
Dhivya Raju
Anwar Khan
Hassan Mohammed
Chris Subbe

Aim
Regular monitoring of quality markers is necessary to establish trends in performance of services. We aimed to test the applicability of a paradigm change in measurement philosophy in the field of patient safety [1]. We hypothesised that small samples taken at regular intervals might reliably allow to identify suboptimal performance in the AMU.

Methods
We analysed data from the Society for Acute Medicine's Benchmarking Audit (SAMBA) [2] to develop a tool for pragmatic performance monitoring and process control. We verified the resulting hypothesis during a six months period.

Results
Hypothesis generation: SAMBA '13 analysed data from 1391 admissions to AMUs in the UK. Performance against quality indicators was worst for patients entering the hospital between 17:00 and 22:00 for time to first vital signs (p<0.036), medical review, consultant review and CXR (p<0.001) in most units. Sampling during evening hours is therefore likely to be more useful to identify problems.
Hypothesis testing: We grouped data from 84 acute admissions into samples of decreasing size. Performance varied between days of the week but was worse in evenings (p<0.001). Substandard performance could be identified in samples of only 3 consecutive patients taken during evening hours in 30% of samples vs <10% in day time samples and could be tracked with process control measures [Fig 1]. An increase of sample size to 4 patients did not improve discrimination in our sample.

Conclusion
Good performance during office hours will make large improvements less likely. Performance in evening hours was at times poor. Process control measures and service redesign should focus on this time period. Small sampling in evenings might allow 'good enough' [3] measures for performance monitoring with minimum investment in time and significant learning about scope for quality improvement.

References
Getting to Know YOU!! - Using One Page Profiles in End of Life Care

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Salford Royal Foundation Trust
Laura Price
Sara Barton
Fiona Murphy
Jane Hardicre
Vicky Daye

Aim:
At the Emergency Assessment Unit, Salford Royal Foundation Trust (EAU) an average 15 patients reach the end of their life every month. An acute unit is often thought to be the wrong place to die but EAU believe that excellence in end of life care can be achieved. Good communication and person centred care are key to achieving this through the use of one page profiles.

Methods:
One page profiles are a simple tool elucidating what’s important to the patient and how they want to be supported – on a single sheet of paper. The development of each profile takes around thirty minutes and is simply a discussion with the patient and their family. They are written by the patient with the support of their family (Sanderson, 2014). They are rooted in person centred planning (Robertson, 2005) and help everyone get to know someone quickly and understand how they can best provide support in a way that makes sense to the patient.

Outcomes/Results:
The profiles give both the patient and family a voice. It is about ‘what matters to me’, ‘what matters to dad’, ‘what matters to granddad’. The profile reduces the need for the family to keep repeating themselves about wishes and needs as new nurses come into their room each shift. Feedback from patients is very positive. Staff feedback suggests further education and support is required but nurses feel that it is ‘teaching us a new way to communicate’.

Conclusion:
One page profiles are proving that in a short time you can really understand the person; even in a busy acute admissions unit. It gives patients and family an opportunity to take control. It allows patients to let us know what really matters to them and how we can help support them – the way they want us to.

References:


Hitting the Mark: A Quality Improvement Project to Implement CQUIN Targets on an Acute Medical Unit (AMU)
Rainer Golombek
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Aim:
CQUINs are important levers for quality improvement (QI), as well as providing additional income for NHS Trusts. The team sought to implement CQUINs for dementia screening and venous thromboembolism (VTE) risk assessment on an AMU over 9 months in 2013.

Methods:
In the Set-Up Phase, views were iteratively canvassed from clinicians, management and the information team to inform the graphic presentation of data. In the Intervention Phase, data was collected continuously and then extracted and presented weekly to the consultant-led AMU departmental meeting. Relevant run-charts were hung in poster form in the clinical and management offices each week, as well as being circulated by email. With the exception of including a dementia-screening training for junior doctors at induction, no other process changes were made. As this was a QI project, continuous feedback from participants was solicited.

Results:
Statistical process analysis shows that dementia screening improved from 85% to 97% on average (chart 1). VTE risk assessment improved from 90% to 95% on average (chart 2).

Feedback suggested that all teams highly valued the way the information was presented and the insights that this provided. All reported feeling more engaged and more motivated to achieve the CQUIN targets.

Conclusion:
The Set-Up phase revealed that the clinicians, management and information teams had different approaches and expectations of the data. Management tended to focus on overall outcomes and financial incentives, whilst clinicians were more interested in operational aspects and patient benefit.

Presenting the agreed measures in a way that was meaningful to all groups overcame boundaries, opened up dialogue and drove changes that impacted on achieving targets. The gap between clinicians and managers can be closed through the intelligent use of data and feedback, to the mutual benefit of all.
How do you solve a problem like timely electronic discharge forms?

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Macclesfield Hospital

AIM
All patients must have an electronic discharge notification form (eDNF) completed and printed off within 24 hours of leaving Macclesfield Hospital, otherwise we are fined £100 for each failure. Average fines of up to £7000 per month in our unit [Medical Assessment Unit (MAU), Emergency Assessment Unit (EAU) and Medical Day Case Unit] led to a quality improvement project to review reasons for failure and design ways to improve.

METHODS
eDNF failure case notes for the MAU and EAU in May-June 2013 were obtained and underwent a root cause analysis (RCA). There were 50 failures, of which 34 sets of notes were obtained. 7 broad causes of failure to complete an eDNF were identified. A further RCA of failures in September-October 2013 was performed to review ongoing progress. A zero tolerance campaign entitled “All patients who leave the MAU / EAU dead or alive need an eDNF!” was commenced, recommendations from the RCA were implemented and a systematic process was designed to easily identify and complete all eDNFs.

OUTCOMES
A cultural change in attitude to eDNF occurred. Despite generating the largest number of eDNFs in the hospital, we demonstrated a dramatic and sustained improvement in compliance compared to the other wards and the respiratory ward (see graph). Pre-campaign the total yearly fine for the unit was £75,700. Post-campaign the fine was £13,200. This was a one year cost saving of £62,500.

CONCLUSION
Massive cost savings for the trust and timely discharge notifications to primary care.
Improving compliance with national CQUIN and local guidelines on the medical admissions unit

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NHS
Thomas Cairns
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Zoe Jones
Robert Dedi

Aim:
The aim was to audit compliance with national CQUIN targets and local guidelines relevant to acute medicine; the unit had demonstrated poor compliance with targets, leading to concerns regarding patient safety in several areas. An innovative method for rapidly repeating audit cycles with concurrent intervention was used. The purpose was to improve quality of care for new admissions.

Method:
Five clinically relevant areas were identified as a problem: venous-thromboembolism (VTE) risk assessment, dementia assessment, sepsis, acute kidney injury (AKI) and oxygen prescription.

Junior doctors working on the Acute Care Unit (ACU) were divided into pairs and designated to 'champion' one of the above topics with responsibility for collecting data regarding compliance with standards set. This was done through a spot check audit of the notes of all patients on ACU at a chosen time during the week.

Weekly data was published demonstrating compliance for each target. With the agreement of the ACU team, individual doctor compliance was displayed on the ward. This turned the process into a competition and acted as instant feedback for doctors not compliant with standards.

Outcomes:
Over six repeated weekly cycles, compliance with all targets improved. Non-compliant data points were more common if the doctor did not routinely work on ACU. Actions have been undertaken to improve compliance in this group.

Conclusions:
Assigning responsibility to junior staff as champions for aspects of patient care, and encouraging the competitive nature of doctors leads to improvement in performance. This results in higher quality, more uniform care for patients.

References
Improving diagnosis and management of COPD patients in the acute medical admission unit; a “right care” approach

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Irem Patel

Aim
COPD is the second most common cause of emergency admission to hospital, costing the NHS almost £500 million/annum. Characterising diagnostic and treatment differences between non-infective exacerbation (NIECOPD), infective exacerbation (IECOPD) and community acquired pneumonia (CAP) can be challenging. This study aimed to evaluate the accuracy of diagnoses/management of patients on the acute medical unit (AMU) in an inner London teaching hospital, and to develop an improvement plan.

Methods
Admission records for COPD patients admitted acutely with increased shortness of breath, cough and/or wheeze were reviewed. Diagnostic criteria and treatment were compared to trust standards. 21 AMU junior doctors completed a COPD knowledge questionnaire. An ECOPD pathway was developed, highlighting diagnostic and treatment differences between IECOPD, NIECOPD and CAP, supported by electronic prescribing order sets and targeted junior doctor education. An online module including a certificate of completion was an innovative method used to motivate learning.

Results
Only 62% of junior doctors understood the difference between NIECOPD, IECOPD and CAP. 44 COPD patients were admitted to AMU over 6 weeks (Jan/Feb2014). 20% had an incorrect diagnosis. Of NIECOPD patients (20%): 66% received antibiotics; 11% did not receive prednisolone. Of IECOPD patients (47%): 65% received IV or incorrect oral antibiotics; 14% did not receive prednisolone. Of CAP patients (32%): CURB65 <3 89% received IV antibiotics. After the improvement plan, 8 weeks later, 39 patients were admitted to AMU over 6 weeks. Incorrect diagnosis fell to 7%. Of NIECOPD patients (28%): 18% received antibiotic therapy; 100% received prednisolone. Of IECOPD patients (48%): 26% received IV antibiotics; 100% received prednisolone. Of CAP patients (23%): CURB65<3 50% received IV antibiotics.

Conclusion
Improving the poor understanding of diagnostic and treatment differences between NIECOPD, IECOPD and CAP leads to accurate diagnosis first time and correct guideline based therapy. This can shorten in-patient stay and prevent re-admission.

References:
2. Economic costs of COPD to the NHS. Thorax 2004; 59.
Improving documentation of weekend handover on the AMU

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Queen Elizabeth Hospital Woolwich
Isaacs-Itua Alifa
Tavabie Oliver

Background
We identified that there was no documented handover of a weekend plan for the majority of patients on our AMU. This compromised patient safety as poor handover is a major preventable cause of patient harm.

Aim
By the end of April 70% of patients within the Acute Medical Unit should have a documented weekend plan to include: current issues, jobs over weekend, limits of treatment.

Design/methods
Prior to starting the QIP we audited the notes of patients on the AMU using a customised data collection sheet. We collected qualitative data on what AMU clinicians felt should be included in written handover.

We created a specific handover pro forma for every patient on the AMU to be completed on Fridays as a way to improved documentation.

After implementing the handover pro forma, we completed 3 PDSA cycles over a 3 month period. We adapted the pro forma based on feedback from AMU colleagues and re-auditing the documentation after each cycle.

Results
From our survey of 35 clinicians, 90% believed a documented weekend plan was essential for AMU patients.

Prior to implementation of the pro-forma, only 33% of 80 patients on the AMU had any documented weekend plan.

At completion of the QIP 80% of 80 patients had weekend plans documented, 80% had current issues documented, 70% had jobs documented, 80% had limits of treatment documented.

Discussion
Feedback regarding the pro forma was positive, surveys showed clinicians found the handover form useful in their patient management and that they would recommend use of the form to colleagues. The pro forma is now used as part of the weekly handover arrangements in the hospital.

Conclusion
Implementation of a dedicated pro forma improved documentation of handover of patients at the weekend.

Key Words
QIP, Handover, Patient safety, Documentation, AMU

Reference:
- http://www.rcplondon.ac.uk/sites/default/files/acute-care-toolkit-1-handover.pdf RCP Acute Care toolkit May 20011
Improving hospital discharge summaries for ACS patients
Ben Corden
Severn Deanery
Georgina Bull

Aim
After their acute admission, patients with ACS are followed up by specialist cardiac rehabilitation nurses, who require specific information in order to provide the best care. Feedback from the community suggested that hospital discharge summaries missed key pieces of information. Therefore, we performed a quality improvement project to enhance this important aspect of ACS management.

Methods and Results
First we surveyed the rehabilitation nurses to ascertain what information they required in the discharge summaries. Then we measured our baseline performance over a 3 week run-in period by reviewing the discharge summary for each ACS patient being discharged from the cardiac and acute medicine wards and recording the information provided as a percentage of the total amount of correct information which could be provided per week (goal = 100%). We then implemented our first quality improvement initiative, which consisted of education sessions for junior doctors and the placing of reminder posters above computers where discharge summaries were completed. Performance was measured on a weekly basis for the next six weeks and displayed on a run-chart. Performance improved but did not reach our target of 100% inclusion of the required information. We therefore implemented a second quality improvement initiative by introducing a simple discharge summary pro forma for ACS patients, which prompted the inclusion of all required pieces of information. Following this, our performance reached goal or near-goal every week for the remaining six weeks of the project.

Conclusions
It is important to consider the potential audience for discharge summaries and the information that different stakeholders require – when surveyed we found that rehabilitation nurses were routinely not receiving information they needed to offer the best care to their patients. Pro formas can offer a simple and effective method of ensuring vital information is not missed from discharge summaries.
Improving Inpatient Referrals in Torbay Hospital: A Quality Improvement Project
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South Devon Healthcare Trust
Eva Wooding

Aim
Traditionally, specialty referrals in Torbay Hospital were via a paper-based ‘white slip’ system. These referrals are mostly consultant-led, but juniors usually generate the ‘white slips’ and deliver them by various methods. We aimed to create a reliable, electronic referral form for specialty referrals to reduce delays in treatment, discharge and to improve patient safety and experience.

Method
We developed a referral form using Torbay’s discharge summary system, in consultation with doctors, secretaries and an IT specialist. Layout was based on the Situation, Background, Assessment, Recommendations, Patient’s Perspective (SBAR-P) format, familiar to juniors for handover and documentation. NHS Mail sends the referral to the specialty team. Test of change took place on 3rd February 2014 with intranet and e-mail publicity and ‘cheat sheets’ provided for doctors. We followed up with data collection and surveyed doctors and administrators for feedback 1 month afterwards. Feedback allowed us to address education needs and edit the referral form further, completing two PDSA cycles.

Results
In the first 2 months 730 referrals were sent. 40% of consultants felt that progression of care or discharge system was “quicker or very much quicker” than before. 73% of junior doctors found the new referral system “easier or very much easier” to orchestrate.

Conclusion
This project achieves our aim of creating a reliable communication method for specialty referrals. The new staff induction will include formal teaching on the referral process, with continued support for existing staff. We are ensuring the on-going sustainability and robustness of our project, especially regarding weekend referrals and expanding to other paper-based referral systems.
Improving paracetamol overdose management in the emergency department: a clinical audit and human factors project

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North Middlesex Hospital NHS Trust
Iheoma Okpala
Michael Kim
Louise Ma
Eddie Lamuren

AIM
Paracetamol overdose is the commonest emergency presentation for self poisoning, which can cause fatal hepatocellular necrosis. The 2012 MHRA changed its recommendations in regards to simplifying the guidelines for administration of N-Acetylcysteine as an antidote. Our audit project aimed to assess the North Middlesex University Hospital (NMUH) Emergency Department (ED) staff’s compliance with the new guidelines and implement a strategy to improve compliance.

METHODS
A retrospective audit of patients with detectable paracetamol levels comparing patient management between September – November 2012 and June – August 2013. Patients’ ED casualty cards, electronic healthcare records, biochemistry and patient notes were reviewed. In between the two time periods, interactive educational sessions were held for ED nursing and medical staff to disseminate the results of the initial audit cycle and raise awareness of new guidelines. Flowchart posters were placed in each triage bay to guide triaging ED staff and simple ergonomic departmental layout changes were undertaken to increase ease of compliance.

RESULTS
Initial audit:
- 79% (11/14) patients with significant overdose were given IV AC.
- Poor documentation of paracetamol dose ingested and patient’s body weight.
- Median triage to administration of IV AC time was 210 minutes.
- 33% of patients with significant paracetamol overdose received the correctly prescribed regimen of IV AC

Re-audit:
- 100% (13/13) of patients with clinically significant overdose were given IV AC.
- 22% improvement in documentation of patient body weight.
- Shorter median triage to administration IV AC time of 120 minutes.
- 54% of patients with significant paracetamol overdose received the correctly prescribed regimen of IV AC

CONCLUSIONS:
Improved compliance was noted of ED staff with MHRA treatment guidelines in the re-audit. Multidisciplinary educational awareness initiatives and consideration of Human Factors principles are effective in enabling emergency departments to achieve clinical effectiveness targets.
Aims:
· To improve quality and safety of Lumbar Puncture on the MAU.
· To ensure adequate consent obtained for all patients.
· To minimize procedure related harm.

Methods:
· Initial audit cycle to benchmark practice,
  o All LPs performed on MAU over a two month period (August and September 2013) were recorded (100% data collection).
· Checklist was introduced October 2013, and revised December 2013 after consideration of NCEPOD[1] report.

Outcome measures:
· Number of LPs performed, indications, consent, and complications. Data collected before and after checklist implementation.

Results:
· 25 LPs (1 failure) performed before implementation (Aug/Sep)
  § 17 normal.
  § 3 insufficient tests sent to lab.
  § 9 had no pressures recorded. (total error rate 48%).
  § 1 complication: low pressure headache. (complication rate 4%).
  § 0% had written consent.
  · After implementation of checklist 1: (Oct/Nov)
    o 30 LPs performed
    § 22 normal (73.3%)
    § 3 no pressures recorded (10%)
    § 1 complication: low pressure headache (3.3%)
    § 100% written consent
  · After implementation of checklist 2: (Dec/May)
    o 71 LPs performed
    § 57 normal (80.2%).
    § 2 no pressures recorded (2.8%).
    § 4 low pressure headaches (5.6%).
    § 98.6% written consent

Conclusion
Implementation of a procedural checklist has essentially eradicated procedural and technical errors, and increased the rate of written consent from 0% to >98%.

Improving the assessment of patients admitted with falls on the Acute Medical Unit

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Tasnim Momoniat
Laura Adams
Becky Whiting
Rebecca Burns

Aim
Patients admitted with falls are commonly seen on the Acute Medical Unit (AMU.) We wished to improve the assessment of patients admitted with falls by using a multifactorial assessment and multicomponent treatment plan in line with NICE guidance.

Methods
We performed a retrospective audit of 19 casenotes for patients admitted with falls in April 2014. From 22/05/2014 we performed a weekly snapshot audit of all patients admitted with falls on the AMU. We provided teaching to junior doctors using lectures, bedside teaching and case based discussion. We also provided a "How to assess falls" guide on the intranet for juniors to refer to. We initiated an "elderly inreach" service run by registrars with support from consultants if required to see patients newly admitted with falls. This service ran three times a week, allowing for on call and leave arrangements with no prospective cover due to lack of manpower and resources. Using a structured approach, we provided multifactorial assessments and multicomponent treatment plans for patients admitted with falls and fed back our assessments to the junior doctor who had originally seen the patient.

Results
Of the 19 patients in our initial baseline audit, 4 were excluded for being too unwell to have a multifactorial assessment and multicomponent intervention. Of the remaining 15, none had a multifactorial assessment or multicomponent intervention. Only two patients had a falls history taken (enquiring about history of previous falls and the circumstances of falls). We audited 26 sets of notes post intervention from 22/05/2014 to 09/07/2014. 18/26 (69%) patients had a falls history taken. 17/26 patients (65%) had a multifactorial assessment and multicomponent treatment plan initiated in line with NICE guidance.

Conclusions
By initiating a limited inreach service and using a mixture of teaching methods and continuous feedback we have been able to improve the assessment of older people admitted with falls on the AMU. Expanding this service and continued use of these methods is likely to lead to further improvements.
Improving the Quality of Discharge Summaries From a Busy Medical Assessment Unit

Rory Carpenter
Royal Derby Hospital
Ambreen Yasin
Francesca Atkinson
Desmond Fometu

Aim
With an aging population and increasing demands on the NHS, inpatient admissions are increasing in frequency and complexity [1]. Each admission generates information that must be communicated accurately back to the GP with electronic summaries (TTO) now superseding written letters [2]. This audit assessed the quality of TTO’s, following a change in eDischarge systems, of patients discharged directly from the Medical Assessment Unit (MAU). The initial “BedWeb” system consisted of “white space” boxes with limited guidance on information required and no way of integrating with the hospitals ePrescribing software. The replacement “iCM” software was far more prescriptive and linked to the eprescribing system.

Methods
There are no nationally agreed standards for TTO’s so Royal College of Physicians (RCP) and Scottish Intercollegiate Guideline Network (SIGN) guidelines were used to generate the audit standards assessing content and accuracy. Initial data was collected retrospectively, using a standardised proforma, looking at all patients discharged directly from MAU over a 24 hour period between 4-5th October 2013 (n=19). The reaudit, using the same methods, looked at 25-26th March 2014 (n=23). Data was analysed using Microsoft Excel.

Results
Following the intervention, several areas of improvement were noted, particularly in allergies and medications. The proportion of TTO’s with a full list of medications improved by 52.1%, whilst those with no medications listed fell (5.2% improvement), along with a 69.4% improvement in recording of allergy status (Fig 1). There were further improvements in recording of inpatient investigations (28.4%), outpatient investigations (25%) and follow up (17.6%) amongst others (Fig 2).

Conclusions
The use of a more prescriptive eDischarge system that links effectively with a hospital’s ePrescribing system can improve the communication of medication and allergy status and provide a platform that gives junior doctors more guidance on the required information to produce a more accurate TTO.

References
Improving the safety of intravenous fluids prescription at North Bristol Trust: A foundation doctor led quality improvement project

Daniel Maggs
North Bristol NHS Trust
Thomas Bull
Mari Davies
Aimi Nishimura

Aim

One in 5 patients will suffer harm due to the inappropriate prescription of intravenous fluid (1). In 2013 NICE developed guidance which recommends prescribers consider indication, patient co-morbidities, and document a fluid management plan. With up to 89% of intravenous fluids being prescribed by junior doctors (2), our aim was to improve the safety of fluid prescription at a large acute teaching hospital through a junior doctor led quality improvement project.

Methods

Data were collected over a 6-month period. The team reviewed patients’ notes and fluid charts on 4 medical wards and the acute surgical unit. Data collected included documentation of: indication; fluid management plan; and relevant co-morbidities. Based on this, a new fluid prescription chart was devised incorporating the NICE guidance. The new chart was trialled whilst PDSA (Plan, Do, Study, Act) cycles continued to make improvements to the chart design. The team supplemented this with an educational programme and sought approval from the relevant multidisciplinary committees. The new chart is being implemented trustwide to coincide with the August rotation of junior doctors and will be supported by further training resources.

Results

Documentation of indication for intravenous fluids improved from 26.7% to 72.2%, with 100% of patients having a management plan. Documentation of the relevant co-morbidities on the fluid chart improved from 0% to 63.6%.

Conclusion

There was a significant improvement in all data variables following the introduction of the finalised fluid prescription chart. By increasing awareness of indication and relevant co-morbidities, the new chart provides a safer framework for junior doctors when prescribing fluids leading to a reduction in the complications and morbidity of intravenous fluids. Junior doctors now have timely, accessible prompts when prescribing and nurses are empowered to push junior doctors to think twice before prescribing fluids.

References

Increasing Productivity at Medical Handover: A Quality Improvement Project

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Jane Dean
Jamal Sajid

Aim:
The aim of our quality improvement project was to increase the productivity of medical handover, as we recognised handover time was being used ineffectively. The main driver for the project was to improve patient safety and eliminate avoidable harm, by enabling recognition of and response to deteriorating patients.

Methods:
The intervention included the encouragement of attendance at handover via medical induction materials and engagement with doctors at different levels via email and face-to-face meetings. We introduced a new handover record sheet encouraging systematic handover of information, and a new handover agenda to improve communication.

We assessed our intervention by collecting information on attendance, productivity, accuracy, and organisation. The approach was observational. We ensured internal validity by using multiple methods of evaluation, and asking clinical assistants who were independent from the medical handover process to oversee data collection.

The chosen methods of evaluation included both quantitative measures (including attendance, and quality and content of information handed over, and qualitative measures (a free text questionnaire of staff). We ensured data quality by collecting sufficient baseline measurements, and repeating measurements on a week-by-week basis (rather than a before/after comparison).

Outcomes:
The number of patients formally handed over by junior medical staff increased from 18 per week before the intervention, to 78 after the intervention. The recording of correct and sufficient demographic information improved from 50% to 75%. There were trends towards increased discussion of appropriate levels of escalation. Attendance for all grades improved during the implementation. Qualitative data indicated improvement in staff engagement and communication.

Conclusions:
This quality improvement project has led to increased handover of clinical information to an increased number of the medical team, with increased senior support. This allows the medical team to offer a better service in recognising and responding to deteriorating patients.
Introducing Treatment Escalation Plans in Acute Medicine - a Quality Improvement Project

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Princess Royal University Hospital, Kings College Hospitals NHS Foundation Trust
Kimberley Kok
Elizabeth Harrod
Nicola Stevens
Jithesh Choyi
Joble Joseph

Aim
The 2012 NCEPOD report ‘Cardiac Arrest Procedures: Time to Intervene’ and the Royal College of Physicians’ toolkit 6 for acute medicine both highlight consideration of a treatment escalation plan (TEP) to minimize futile undignified interventions\textsuperscript{1,2}. This should be considered for all patients, particularly severely ill patients as indicated by a high national early warning score (NEWS) of $\geq$5. TEPs should prompt decision-making and facilitate communication between patients, relatives and health professionals\textsuperscript{3,4,5,6}.

Methods
A TEP proforma approved by the clinical governance team was piloted in acute medicine over one week. A prospective case note review between pre- and post- intervention patients admitted was undertaken and compared. There were 111 patients in each group. Comparison parameters were demographics, NEWS, DNACPR decision documentation, TEP documentation and end of life or critical care input.

Outcomes/Results
In PDSA cycle 1, 111 patient notes were audited. 45\% had resuscitation status documented. 16/95 (17\%) had documented ceiling of care. Of patients with NEWS $\geq$ 5 24\% had documented TEP. In PDSA cycle 2, a matched sample of 111 patient notes were audited. 96/111 (86\%) had documented resuscitation status. 86\% had documented TEPs. Of patients with NEWS $\geq$5 9/11 (81\%) had documented TEP.

Introduction of a proforma lead to a significant improvement in documentation of TEPs ($p<0.0001$) and resuscitation status (< 0.00001). A post study questionnaire revealed that junior doctors (100\%), consultants (100\%) and nurses (100\%) thought a proforma was a useful tool, particularly with improving resuscitation and end of life discussions with patients, relatives and nursing staff. All groups would recommend its use in acute medicine.

Conclusion
All medical patients require TEP/DNACPR decision-making. A designated proforma can significantly improve documentation and communication. Implementation of a TEP proforma can avoid inappropriate investigation and treatment and will enhance the quality of patient care and improve patient safety.

References
1. National confidential enquiry into patient outcome and death (2012) Time to intervene
3. Improving documentation of treatment escalation decisions in acute care BMJ Quality Improvement Reports 2013
Introduction of a Post-Take Ward Round Checklist on the Acute Medical Unit

Lucy Flanders
UCLH
Louise Ma
Maurice Cohen
Sophie Edwards

Aim
Medical ward rounds (WRs) are complex clinical activities. Important decisions about patients’ management are made with few quality and safety standards. The RCP-RCN published recommendations on WRs in 2012, emphasizing a multidisciplinary approach and placing patients at the centre of decision-making. Our observations found WRs on acute medical unit (AMU) were sometimes frenetic, with poor communication between team-members and delays in patient care.

Methods
This QIP targeted the AMU post-take ward round (PTWR) with two teams, for patients over and under 75yrs. November 2012: Data collection assessing current practice against recommendations. Previously no system existed to ensure each aspect of the WR was routinely addressed. A checklist was developed for PTWRs in AMU.
Stage 1: Patients divided randomly into checklist group (13-point checklist) and control group (without checklist). Completion of the checklist was recorded. The checklist group completed 12 out of 13 points in more than 80% of occasions; the control group only completed 2 of the 13 points in more than 80% of occasions. Results presented at the grand round.
Stage 2: 4-week re-audit of stage 1 identified significant improvements in adherence to the checklist. Greatest adherence was always seen in the team with the checklist.
Stage 3: Checklist sticker designed and added to all clerking proformas on the PTWR page. Every medical take patient over a 14 day period in May had their notes reviewed for evidence of a completed sticker.

Outcomes
For each stage, checklist point completion and mean percentage of completion were audited. Checklist completion improved at each stage. Analysis using paired t-test found a statistically significant improvement comparing the control group before grand round with the PTWR checklist sticker group. (p=0.00002)

Conclusion
This systematic approach improved adherence to PTWR safety and quality checks. 62% of doctors believed the checklist was useful in their practice.

References
Investigation of stable chest pain: do we adhere to NICE guidelines?

Zhaotao Gu
Russells Hall Hospital
Muhamad Jasim
Amanda Gendy

Aim:
Differentiating chest pain caused by coronary artery disease (CAD) versus non-cardiac causes of chest pain is challenging. NICE guidelines recommend diagnosis is made clinically with, if needed, functional cardiac imaging and invasive coronary angiography (CA). However, international studies reveal a surprising variation, in the number of patients with ‘normal’ coronary arteries on elective CA (18.8–59%)\(^1\)[\(n=2\)], potentially due to an overreliance on invasive investigations and inadequate pre-procedural clinical risk assessment and non-invasive imaging.

Our objective was to investigate: What proportion of elective CA at Good Hope Hospital (GHH) were ‘normal’ and were they referred appropriately according to current NICE guidelines?

Methods
We reviewed 738 coronary angiographies performed in September 2012 - September 2013. Of these, 377 patients had elective CA for chest pain.
Angiogram findings were divided into 3 categories;
a) Interventional management.
b) Stenosis of any vessel >50% managed medically.
c) ‘Normal’ arteries <50% stenosis in any artery and not for increased medical management.
We risk stratified patients with ‘normal’ coronary arteries on CA according to the NICE guidelines in order to assess the proportion of inappropriate referrals.

Results:
Of the 377 elective CA for chest pain, 48% (182) had ‘normal’ findings. Of these, 44% were referred inappropriately. Further analysis revealed that patients had often not received the recommended non-invasive imaging.

Conclusion:
GHH lies within the international parameters for the number of ‘normal’ elective CA. Nevertheless, too many patients have invasive CA unnecessarily at GHH. Overreliance on CA and underuse of functional imaging to diagnose CAD, as well as inadequate pre-procedural clinical risk assessment exposes patients to avoidable risks and wastes NHS resources. Standardising and improving the referral system in order to adjust the threshold required to proceed for a CA may improve the procedural specificity by reducing the number of ‘normal’ angiograms.

References:
It’s The Little Things That Make A Big Difference
Andrew Allard
Surrey and Sussex NHS Trust
Natalie Powell

Aim:
Dr Granger’s #hellomynameis campaign ¹ has become a social media phenomenon and aims to remind healthcare staff of the importance of introducing yourself. In support of this campaign we have redesigned our identification (ID) cards to ensure that patients have a visual reminder of who is caring for them.

Methods:
Our identity cards were redesigned with the elderly and those with cognitive and visual impairment in mind to be easier to read and clearly describe the job title (ie Junior Doctor). Lanyards were reintroduced into Trust uniform policy and designed with the #hellomynameis slogan. 64 hospital in-patients were invited to compare old cards (fig 1) held largely on waist clips and new cards (fig 2) on lanyards in terms of ease of reading and clarity of information.

Results/outcomes:
94% of patients preferred the new design. 84% were able to read the new card compared to 56% with the old style at a distance of around 1 metre. 7/10 patients known to have cognitive impairment (AMTS <8/10) were able to read the new badges (1/10 could read the old badge). One Elderly gentleman replied “Ah I know who you are!” as he had missed the verbal introductions due to hearing impairment. 86% felt lanyards made the cards easier to read than belt clips.

Conclusion:
A simple change can make a big difference to patient experience. The awareness raised by Dr Granger’s campaign and the change to visible staff identification has helped to embed a positive culture change at our Trust for the benefit of our patients.

References:
1. http://hellomynameis.org.uk/
Journey to national VTE exemplar status and improving patient safety
Arun Kallat
Bolton NHS Foundation Trust
Beatrice Fox
Wendy Morrison

Aim
Bolton NHSFT staff strives to provide harm free care. About 1 in 5 medical patients develop Venous ThromboEmbolism (VTE) without prophylaxis. VTE is common, silent and potentially preventable (1-5). Work across the Trust began in August 2010 to reduce Hospital Associated VTE.

Methods
- A process of capturing Hospital Associated Thrombus (HAT) was designed over a year to ensure that data is accurate. HAT data is sourced from Radiology dept, Post Mortem reports, Bereavement Office (VTE on death certificates) and the Doppler service provider.
- Awareness around VTE was increased by Patient Safety Newsletter’s, training/education, mandatory e-learning, audits, prompts from Nursing staff/Pharmacists and live data on the Trust Intranet.
- We appointed a Trust VTE champion nurse in 2012 to ensure implementation as well as resolving VTE issues.
- We have a live HAT database.
- The Hospital Thrombosis Committee provides the quarterly HAT report that is shared at all levels.
- The trust drug chart was revised

Outcome/Results
- Our VTE Risk Assessment figures in Sept 2010 was 24.38% and in 2014 is >96%.
- The proportion of HAT to total VTE is less than 20% with reducing avoidable HAT figures.
- Parent teams undertake 61% of RCA’s following live HAT capture at present. The HAT team does all Root Cause Analysis to ensure 100% completion, consistency and shared learning.

Conclusion
Future challenges are to sustain progress, improve risk assessment with changing clinical status and better implementation of mechanical and extended VTE prophylaxis. Team working, commitment and shared learning have improved patient safety with a change in culture.
Lessons from the Huddle: How to Better Implement Quality Improvement on an AMU
Rainer Golombek
CLAHRC Northwest London

Background:
The ‘Mind the Gap’ quality improvement (QI) project was implemented on the Acute Medical Unit (AMU) at the Chelsea and Westminster Hospital between December 2012 and December 2013. The project targeted junior doctors, with the aim of shortening the times between presentation to the AMU, key investigations and initial treatment. The implementation strategy hinged on the ‘team huddle’ method, when the junior doctors joined the project team at short notice for a standing meeting of 5-15 minutes duration. Departmental meetings were used to share project updates.

Results have been presented elsewhere; here we review the learning from this process.

Methods:
Informal feedback was captured during all huddles and departmental meetings. More formal feedback was solicited from junior doctors at the end of each rotation and incorporated into planning and handover for the next rotation.

For this study, all written feedback and meeting minutes were reviewed. Themes were sought and analysed and key lessons identified.

Results:
Key lessons included:
- **Huddles** work better than planned meetings
- Junior doctors **attitudes and understanding of QI** and their level of engagement varied across cohorts
- **Peer leaders** often were more influential than consultants
- **Legitimisation by the AMU lead** was crucial for project and project manager
- A key **motivator** for involvement was the prospect of publications or evidence for continuing professional development
- The collation and **feedback of trusted data** was vital to maintain interest and drive changes in behaviour

Conclusion:
Junior doctors can be difficult to engage with quality improvement projects. However, this study suggests that adopting the ‘huddle’ approach, being receptive to and flexible with learning needs, identifying peer leads and providing feedback and rewards can help to harness junior doctors’ interest and engagement with quality improvement.
Management of moderate and severe hyponatraemia in AMU

Maria Balas
University Hospital of North Staffordshire
Raana Haqqee

Hyponatraemia is the commonest electrolyte disturbance occurring in 15-20% of inpatients with significant clinical implication and prolongation of hospital stay.

Aim
To assess the management and clinical outcome of hyponatremia in Acute Medical Unit.
To improve the management standards for hyponatremia in the Trust according to National standards.

Method
Retrospective analysis of 50 consecutive patients admitted to AMU over 2 months with serum sodium <130mmol/L.

Results
50 patients (men: 32; female: 18) admitted in AMU were identified with serum sodium <130mmol/L. The mean age was 72 years and most patients had multiple co-morbidities (mean number of 3). Severe hyponatraemia was seen in 26 (52%) cases. The commonest cause for admission in this group included collapse/falls, drowsiness/confusion. The lowest sodium on admission was 110mmol/ with mean value of 123 mmol/L. Fluid balance was recorded in 43 (86%) cases; no patient was assessed for postural hypotension. Only 2 (4%) cases had peripheral oedema documentation. The aetiology was not mentioned in 27 (54%) cases and no other investigations except urea & electrolytes were performed in almost all those patients: 26 (52%). The change in serum sodium after admission showed a fall in 30% and rise in 70%, none having >10 mmol rise in 24 hours. Serum sodium level on discharge varied between 119-144 mmol/L, mean value of 130 mmol/L. The mean length of hospital stay was 11 days (0 to 71); 7 patients have had recurrent admission within two weeks. Discharge information regarding clear documentation of diagnosis, management and follow-up instruction was found in 8 cases (16%). Mortality rate was 20% (10 cases).

Conclusion
Management of hyponatremia on AMU can prove challenging and may contribute to prolonged stay in hospital. The results reflect inadequate management regarding fluid balance and aetiology assessment. The recommended guidelines for investigations and management plan were poorly followed.

Reference
2. UHNS Trust Medical Guidelines, Hyponatremia management
3. NICE Clinical Knowledge Summaries – Hyponatremia
MAU vs CPAU: Acute Chest Pain Unit provides rapid specialist assessment, early coronary procedure and reduced length of stay for suspected ACS patients in a DGH

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Northwick Park Hospital
Aravindhan Baheerathan
Philip Xiu
Fedde Groot
Omar Chehab

Aims
Acute chest pain is a common presentation to the Accident and Emergency department (A&E) in the United Kingdom and is responsible for 20-30% of A&E attendances. Often these patients require admission to the Medical Admissions Unit (MAU) for further assessment and treatment. We have introduced a novel Chest pain Acute Unit (CPAU) within our Cardiology unit, whereby suspected ACS patients are admitted directly from A&E to the CPAU. The aim of our study was to assess 3 important markers (1. specialist review, 2. coronary procedure, 3. length of stay) for effectiveness of the CPAU compared to our routine care, where patients were admitted from A&E to the MAU and then to the Cardiology ward.

Methods
621 consecutive suspected ACS patients who were admitted from A&E directly to CPAU over a period of 15 months (July 2011 – Oct 2012) were followed-up to assess the effect of the CPAU on time to specialist assessment, time to cardiac catheter lab and time to discharge. This data was compared to the data obtained for patients who were treated with routine care prior to the initiation of the CPAU.

Results
1. With routine care, the mean time to Specialist Cardiologist assessment was 21 hours 2 minutes, this significantly improved to a mean time of 6 hours 17 minutes following the CPAU initiation (p<0.0001).
2. Additionally, the mean duration from door to cardiac catheter lab time post-CPAU improved to 39.6 hours, in contrast to 63.33 hours previously (p<0.0001).
3. The mean length of inpatient stay was markedly reduced to 2.59 days compared to 4.66 days pre-CPAU (p<0.0001).

Conclusion
The implementation of a CPAU is an effective tool for providing a better clinical service in the management of ACS, particularly by providing timely specialist review, quicker diagnostic and therapeutic coronary intervention and by significantly reducing the duration of inpatient stay.

References
Quality Improvement Project: Improving Awareness of the Acute Oncology Service at Epsom General Hospital

Helen Hockings
St Bart’s Hospital
Ahmed Shalabi
Mohammed Al-Khaddour

Aim
As emergency admissions related to malignant disease and treatment-related complications increase, the acute oncology service (AOS) is playing an ever more important role. It offers a fast, simple referral process and easy access to oncology specialists\(^1\,\text{,}^2\). This, however, is dependent on junior doctor and consultant awareness, especially those based on the Acute Medical Unit (AMU). An initial survey and set of multiple-choice questions based on acute oncology guidelines were provided to 30 doctors at Epsom General Hospital. This group consisted of 20 junior doctors, 6 SpRs and 4 AMU Consultants. Only 67% were aware of the AOS and referral process. Our aim was to improve awareness of both the AOS and acute oncology guidelines.

Methods
To increase awareness, teaching sessions were implemented for all junior doctors in the hospital, plus doctors of all grades and other MDT groups on AMU, followed by a presentation at grand round. Handouts on neutropaenic sepsis and metastatic spinal cord compression (MSCC) guidelines were distributed and posters displayed on AMU. A repeat survey was performed 1 month later, on the same sample of doctors.

Outcomes/Results
Following our interventions, awareness was significantly increased with 100% of those surveyed now aware of the AOS referral process. Correct overall knowledge of the neutropaenic sepsis guidelines improved from 74% to 100%, and from 33% to 100% for the MSCC guidelines.

Conclusion
Increasing awareness of oncological emergencies and early involvement of oncology specialists via the AOS leads to better patient care. To maintain this level of awareness a teaching session has been incorporated into doctors’ induction programmes.

References
Reducing Insulin Prescription Errors by Introducing a New Drug Chart
Max Kelen
BSUH
Sophie Yelland
Andrew Smith

Aim
15-20% hospital inpatients have diabetes and approximately 40% are treated with insulin\(^1\). Errors in insulin prescription are common and potentially lethal. The aim of this study was to see if prescription errors could be reduced by the introduction of a bespoke insulin prescription chart.

Method
Inpatients, receiving insulin therapy on 4 medical wards, in June and July 2013 had their prescription charts audited. Errors in prescribing were categorized according to type of error, for example: “incorrect insulin prescribed”, “dose changes not rewritten in full,” “IU/U prescribed rather than Units,” “illegible prescription” and “inappropriate timing of insulin”. Following this, a bespoke insulin prescription chart was introduced onto the 4 wards and the audit repeated between January and March 2014.

Result
In the initial audit 33 prescription charts were examined. Errors were found in 28.9%. The majority of errors were simple errors such as illegible prescriptions. During the second audit 32 prescription charts were examined and errors were found in only 15.4% (reduction of 13.6%, p<0.01). There were reductions in prescribing errors of the following types: “incorrect prescription” (6%), “illegible prescription” (30.3%, p<0.01), “UNITS not IU/U” (10.3%, p<0.01) and “dose changes not rewritten in full” (58.6%, p<0.01).

Conclusion
An insulin prescribing chart has reduced the incidence of prescribing errors at PRH. The small sample size may have prevented us proving a statistical significance in more areas.

Word Count: 241

References
1) Health and Social Care Information Centre. National Diabetes Inpatient Audit 2013
Reducing the Costs of Haemolysis
Kin Yee Shiu
Royal Free London NHS Foundation Trust
Ruth Green
Nick Martin
Eleanor Woodward
Jonathan Costello
Rupert Negus

BACKGROUND
We presented an audit to the Society for Acute Medicine in 2010\(^1\) demonstrating that haemolysis occurred in 24\% of urea and electrolyte samples (U&Es) performed on acute medical admissions in the Emergency Department (ED). In outpatients haemolysis is unusual (2-4\%).\(^2\) Haemolysed samples require patients to be rebled in 75\% of cases leading to: delayed results, delayed decisions on patient care, poor patient experience, staff frustration and increased costs in equipment and laboratory assays.\(^3\)

AIM
To reduce haemolysis rates by at least 33\%, in order to improve patient care and to support a Trust Quality, Innovation, Productivity and Prevention (QIPP) target.

METHODS
Improvements in phlebotomy techniques previously shown to reduce haemolysis\(^2,4\) were achieved through educational posters on cannulation trolleys and on the backs of toilet doors; organised group teaching for nurses, ED assistants and junior medical staff; and 1:1 “on the floor” feedback. Data on haemolysis in the ED, medical assessment unit (MAU) and the rest of the hospital was collected pre-improvement (Jul-Aug 2013), and post-improvement to June 2014. Weekly audit with regular feedback to ED staff was used to help change practice.

RESULTS
Between September 2013 and June 2014, a sustained reduction in haemolysed samples was achieved: from a monthly average of 21.7\% to 13.4\% of U&Es (38\% reduction, p<0.00001) and from 9.6\% to 3.5\% of Troponins (63\% reduction, p<0.001). Haemolysis rates in the rest of the hospital did not change (p>0.05). We calculated the expected annual cost savings as £10,177 for a 33\% reduction, and £14,965 for a 50\% reduction.

CONCLUSIONS
Through the implementation of simple educational posters, group and individual teaching and regular feedback, we have demonstrated it is possible to significantly reduce haemolysis rates in the ED. This ultimately improves the quality of care for patients, with beneficial time and cost savings for front-line clinical and laboratory staff.

REFERENCES
Reducing the Length of Stay of Elderly Patients in Acute Medicine by using the Dementia and Delirium six (DD 6) bundle

Precious Osadolor
Royal Alexandra Hospital
Ronald McLarty
Iain Keith
Chris Foster
Gautam Ray

AIM
The use of bundles of care interventions as an approach to improving the reliability of care received by patients improves outcomes has been demonstrated successfully for nearly ten years. We have previously demonstrated that DD 6 bundle produces improvement in the delivery of evidence-based care to acutely ill elderly patients attending MAU assuming that giving care more reliably ensures equity of care. However it was unknown whether the DD6 bundle when done reliably actually improves any outcome for these acutely ill elderly patients.

METHODS
All elderly patients (age greater than 65 years) presenting to our AMU had six elements of care based on evidence and logic that has to be completed 100% of the time in each patient using a sticker based approach. The six elements being 1) cognitive screening for dementia and or delirium using the 4AT test 2) medicine reconciliation 3) sepsis screening 4) involvement of carers or family 5) discharge planning 6) determination of cardio pulmonary resuscitation status. Two independent reviewers did case note study of acute medical admissions of elderly patients with use of the DD6 bundle in 2014 compared to pre bundle time of 2012. The outcomes measured were a) mean length of in-hospital stay b) documentation of diagnosis of delirium and or dementia in the case notes.

OUTCOME/RESULTS
Our results are in Table 1. Wilcoxon two sample test was used as statistical method to compare the data using SPSS software.

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<tr>
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<th>2012 (n =60)</th>
<th>2014 (n=75)</th>
<th>P VALUE</th>
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<tr>
<td>Male : Female</td>
<td>25:35</td>
<td>35:40</td>
<td>p &lt;= 0.1922</td>
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<tr>
<td>Mean Age</td>
<td>76.8 years</td>
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<tr>
<td>Mean Length of Stay</td>
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<tr>
<td>Cognitive Screening</td>
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<tr>
<td>7 day readmission</td>
<td></td>
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</tbody>
</table>

CONCLUSION
A bundle approach to elderly patient care in front door acute medicine using the DD6 bundle with high reliability not only ensures equity of care but also improves the outcome. Focusing on reducing the length of stay by using DD6 bundle for acute elderly medical admissions may have a potential for reducing hospital bed use.

REFERENCE
1. Institute for Healthcare Improvement. Raising the bar with bundles: treating patients with an all-or-nothing standard. April 2006.
www.ihi.org/IHI/Topics/CriticalCare/IntensiveCare/Literature/RaisingtheBarwithBundles
Safety following seizures; essential patient information

Reshma Amin
East Sussex Healthcare Trust
Alexander Stilwell

Aim
Seizures account for 3% of Emergency Department attendances. The cumulative lifetime incidence of seizures is estimated as 5-10% and secondary seizures occur in between 6% and 82%. People with epilepsy are known to have 40% more serious road traffic accidents than others. Patients presenting for the first time are often appropriate for discharge, however require further investigation and follow up. We audited departmental provision of safety information and DVLA guidance to patients and appropriate specialist referral against national recommendations.

Method
All patient admitted to acute services with a first seizure over a 3 month period were retrospectively analyzed. They were assessed against adherence to NICE guidelines to provide written information for patients on safety and DVLA guidance, and urgent neurology referral. An information leaflet was created and distributed to patients on discharge, providing the necessary information. Staff were trained on the neurology referral process. Following a 3 month period of intervention, patient care was again assessed.

Results
All 39 patients who presented over two 3 month periods with a first seizure were assessed. Of the 21 patients presenting in the initial cycle, 60% received written driving and safety advice. This figure rose to 100% after intervention. Initially, 50% had referrals to a neurologist, after intervention this figure rose to 78% as evidenced by neurology clinic letters.

Conclusion
Providing written information is necessary to improve seizure related morbidity and mortality in patients presenting with a first seizure. This information can prevent road traffic accidents and enables carers to provide basic first aid in the event of a further seizure. Educating staff on the referral process results in a greater number of referrals to an epilepsy specialist, leading to more timely diagnosis and initiation of treatment. There is further scope to research mortality following first presentation with seizure.

References
Sulphonylurea induced hypoglycaemia: Are we seeing it too often?

Conor McQuillan
Northern Ireland Medical and Dental Training Association (NIMDTA)
Carl Brennan
Mona Abouzaid
Saiful Kasim

Aim
Sulphonylureas are oral medications used to reduce blood glucose levels in Type II Diabetes. NICE guidelines currently recommend their prescription as second line agents where blood glucose control is suboptimal while treated with metformin. While effective at lowering blood glucose levels they are associated with serious adverse effects especially in the elderly population. These include hypoglycaemia and increased cardiovascular risk. The ultimate outcome can result in falls, fractures, psychological fear and frequent hospital admissions. The aim of this audit was to ascertain the commonest cause of hypoglycaemia in hospitalised patients. Secondary review points included reviewing the investigations, cause and contributing factors to hypoglycaemia. We plan to use the data collected to discourage the prescription of sulphonylureas in the elderly population.

Methods
All patients admitted with hypoglycaemia to a district general hospital over a 6 month period had their clinical records reviewed. Particular focus was applied to medication prescription and contributing factors such as alcohol excess and prescription errors. The results were collated and statistically analysed for audit purposes.

Outcomes / Results
Analysis revealed the commonest cause to be insulin related hypoglycaemia. 14.3% of cases were related to sulphonylureas, much higher than anticipated from the UKPDS study where sulphonylurea associated hypoglycaemia is quoted at approximately 1.8%.

Conclusion
Sulphonylureas are contributing to a higher than expected percentage of hypoglycaemia in hospital. There are contributing factors with this audit: A relatively small number of patients were used in the audit and the district general hospital is located near a seaside resort with a predominately retired population. Regardless of this the rate of hypoglycaemia caused by sulphonylureas is too high. It is also likely that we are underestimating the impact and frequency of hypoglycaemia as patients are treated by ambulance services, seen by GP’s and are non-concordant with medications. From this data we recommend avoiding sulphonylurea prescription in elderly patients. We also recommend discontinuing them where patients are at risk of falls, isolation and acute kidney injury. NICE guidelines recommend DPP-4 inhibitors and Thiazolidineones as alternatives. This data is being used to raise awareness with GP’s in the local area.
Surviving Sepsis at Surrey and Sussex NHS Trust
Shuaib Quraishi
Surrey and Sussex NHS Trust
Cathy Pye
Chris Martin
Neerajen Ponnuthurai
Ravi Saibaba
Gaurav Agarwal

AIMS
It is estimated annually that more than 100,000 people are admitted to hospital with sepsis and it claims 36,800 UK lives, carrying a 35% mortality.\(^1\) Rapid diagnosis and treatment are critical to survival.\(^2\)
The ‘Sepsis 6’ was launched in 2007 as goals that need to be achieved in the first hour. It has been shown that each hour in delay increases mortality by 7.6%.\(^3\)
We conducted a trust-wide audit to assess our adherence to the ‘sepsis six’ bundle and implemented changes to improve care and mortality.

METHODS
A retrospective audit assessed adherence to ‘Sepsis 6’ bundle on patients that had positive blood cultures and met severe sepsis criteria.
An extensive trust-wide education program was rolled out for doctors and nurses where teaching in ED, AMU and grand rounds took place to increase awareness. ‘Sepsis 6’ protocols were made available on the trust intranet and posters were placed in clinical areas. Simulation based training on sepsis for doctors was initiated.
A prospective audit assessed patients that were suspected to have severe sepsis to assess whether there was an improvement in adherence to ‘Sepsis 6’. The 30-day mortality rate was compared to assess if there was any impact on mortality.

RESULTS
Results revealed the following percentage adherence (retrospective % vs prospective %) of each of the ‘Sepsis 6’ targets: (figure 1)
1. Oxygen Administration (52% vs 90.7%)
2. Blood Cultures (38% vs 55.5%)
3. Antibiotic Administration (52% vs 62.9%)
4. Fluids (58% vs 81.5%)
5. Lactate/Haemoglobin (33% vs 55.5%)
6. Urinary Catheter (14% vs 20.4%).
We were able to demonstrate a 50.3% (38% vs 18.9%) relative risk reduction in 30 day mortality. (figure 2)

CONCLUSIONS
Education and training promoted early recognition and better management of patients with severe sepsis resulting in a 50.3% relative risk reduction in mortality without added healthcare costs.

REFERENCES
Suspected anaphylaxis audit

Jane Donald
Gloucestershire Hospitals NHS Trust
Zoe Jones

AIM
An audit was undertaken as inconsistencies in the management of patients coded as anaphylaxis were noticed in Gloucester Royal Hospital. The aim was to audit our practice against NICE guidelines 1.

METHODS
A retrospective audit was conducted of all patients admitted onto the acute medical unit coded as ‘anaphylaxis’ or ‘allergic reaction’ between August 2013-March 2014. Those patients meeting the NICE 1 criteria were selected.

OUTCOMES/ RESULTS
22 of 42 patients met NICE 1 criteria
- 68% compliance documenting time of onset
- 95% compliance documenting trigger circumstances
- 95% compliance meeting observation period of 6-12 hours
- 54% of patients were given adrenaline as acute treatment

However,
- 45% of patients had initial mast cell tryptase (MCT) taken, of which only 4 had raised levels
- 13% had second MCT taken
- No GPs received instructions for a repeat MCT to be taken as a baseline
- No patients were referred to Immunology
- 22% of patients were given an adrenaline injector on discharge with 3 patients told to go to the GP for this to be issued instead
- 23% of patients were given allergy avoidance advice and 63% of patients had no documentation of any follow up plan or advice given.

CONCLUSION
Anaphylaxis is a potentially life-threatening condition. Currently patients in the Gloucestershire NHS trust have inconsistent management and follow up. Of particular concern is the approach to follow up and the lack of education which may increase the risk of further events and prevent them from accessing healthcare services. Having identified the need to improve patient safety in this area we have designed a pathway to guide doctors in such patient’s management. We are instituting this and will re-audit in the near future.

REFERENCES
System Redesign Improves Timing and Appropriateness of blood tests in the MAU.

Ruridh Allen  
NHS GG&C  
Laura Connell  
Christopher Jones

**Aim**
In small hospitals like ours, patients often remain in the MAU for more than 24 hours. It's important to have robust systems to coordinate ongoing investigations for these patients. Many patients in our MAU were not having blood tests requested prior to the morning phlebotomy round. These investigations were then requested on the consultant ward round, with samples not being taken until later in the day. This consumed FY1 time and delayed decision making. In many cases the need for these investigations could have been anticipated prior to the phlebotomy round. We explored whether junior doctors could use quality improvement methodology to create a system to ensure appropriate timely blood tests.

**Methods**
Quality improvement methodology was used to identify and analyse the effects of tests of change. Data on numbers of blood tests taken by FY1 doctors were collected on a daily basis.

**Outcomes/Results**
A column was added to our admissions whiteboard. Admitting doctors could record which blood tests were needed the following day. Introduction of this column increased rates of blood tests carried out on the phlebotomy round and decreased rates of inappropriate blood tests as shown in figure 1.

**Conclusions**
A small change has brought about a number of improvements. FY1 doctors now spend less time taking blood, freeing them up to carry out other tasks. Timely blood tests mean clinical decisions can be made earlier in the day with the potential to enhance both patient flow and safety. The reduction in inappropriate blood tests should reduce phlebotomy and laboratory workloads in addition to reducing unnecessary patient discomfort.

We've demonstrated that junior doctors can bring about positive changes in their workplace.
Tackling Blood Culture Contamination Rates in the Acute Setting
Nicola West
Mid Essex Hospitals NHS Trust
Syed Haydar

Aim
Contaminated blood cultures cause a diagnostic and therapeutic challenge for microbiologists and physicians. There is potential risk to patients and expense to hospital Trusts from inappropriate antibiotic administration and further tests. Data collection by the Director of Infection Prevention and Control (DIPC) found high contamination rates for blood culture sampling in the Emergency Department (ED) and Emergency Assessment Unit (EAU). From August 2013 to January 2014 ED contamination rates were 6.7% compared to an acceptable 2% for the medical and surgical wards.

This project was undertaken to identify the factors causing this unprecedented increased contamination rate in the acute setting. The objective was to implement changes based on these findings that would reduce contamination rates and thus increase diagnostic precision, save money and improve the accuracy of patient treatment.

Methods
Notes of 50 patients known to have contaminated blood cultures were audited against local guidelines for whether sampling was performed and documented correctly in accordance with local guidelines. Groups of staff with high rates of contaminant sampling were identified.

Contamination data was collected for six months following changes made, and the results analysed for any reduction in contamination rates.

Results
Gaps in training were identified, and human factors in technique and beliefs were addressed. We established re-education of non-medical staff members who take blood cultures, advised increased accountability, and introduced changes to how doctors working in the acute setting will be trained.

Data collected for contamination levels since the changes were implemented are ongoing from April to August 2014. To date, a 1% reduction in contamination has been achieved.

Conclusion
Reducing blood culture contaminants means clearer decision making in cases of potential infection. Fewer patients will be subjected to unnecessary antibiotic treatment, reducing both the potential for antibiotic resistance and the financial implications from actively treating these patients.

References
Taking Positive Actions To Deal With A Serious Occupational Hazard in the Acute Medicine Department (AMD) – Violence and Aggression (V&A)

Claire McCusker  
NHS GG&C  
Gautam Ray  
Chris Foster  
Iain Keith

**Aim:** Work related V&A is one of the most serious occupational hazards facing the staff working in Acute Medicine. However the scale of the problem and the effectiveness of training in this area in our own AMD was unknown.

**Method:** A survey of 100 staff members in our AMD was conducted using a structured questionnaire followed by an acute medicine focussed training session with help of the V&A management coordinator of NHS Greater Glasgow & Clyde to evaluate its effectiveness to improve staff confidence and capability.

**Results:** 73% (n=73) of staff members have experienced violence. The most likely to experience violence are healthcare assistants (100% n= 12) and staff nurses (86.6% n=39). Only 32 % (n= 32) previously had formal training on V&A management while 21 % (n=21) felt equipped to deal with violence. 27 staff (27 %) had experienced verbal abuse or threat of physical violence and 2 % (n=2) had been physically assaulted. 44 % had been both verbally & physically assaulted. The majority of violence occurs within normal working hours with 71% (n=52) receiving it from patients and 29% (n=21) from both patients and visitors.

12 staff members attended the first training session. 8 out of those 12 (67%) staff members felt the V&A management training was useful and majority (55.5 %) felt confident and capable of dealing with violence post training compared to only 25 % pre training.

**Conclusion:** V&A is high in our AMD and an acute medicine focused training improved the staff confidence to deal with it. Training must not be seen as a standalone solution to violence and should be considered within the wider context of an integrated organisational response.
Aim
The level of information received by patients in the Acute Medical Unit (AMU) has been highlighted as an area requiring significant improvement; however there is currently limited research on this topic.\textsuperscript{1} This study aimed to assess patient experience in order to evaluate information patients require during their stay in the AMU at the Royal infirmary of Edinburgh. The results were utilized in the development of an information leaflet for patients with the goal to promote more effective hospital care.

Method
A qualitative survey was created and interviews were conducted with 73 patients (mean age 69, 58% female) over a three week period. Data was analyzed to identify key themes in patient responses, providing the basis for the leaflet content.

Results
The underlying themes identified included the functions of the ward, medical professionals responsible for patient care, investigations performed, noise issues, meal and visiting times, ward contact details, what to bring to the hospital, movement and discharge, boarding, smoking, and patient medical conditions. Specific information concerning medical conditions was omitted from the leaflet as this was too variable to address.

Conclusion
The survey indicates that current approaches to providing patient information in the AMU could be enhanced by greater personalization and clarity, promoting stronger communication between patients and medical staff. Patient responses suggest such interventions will further benefit staff due to reduced frequency of routine questions. The leaflet is currently being distributed to patients on admission for a three month trial period to allow a report on patient response.

Reference
**The development and impact of an online system for acute medical admissions and a SAM quality indicator dashboard.**

Louise Powter  
Southmead hospital, Bristol  
Tom Brougham  
Chris Gillett

**Aim**  
Our paper based system of tracking medical admissions was disorganised, difficult to use and it was impossible to assess our performance. We created an online system to track medical referrals which aimed to help with co-ordination of the medical take and bed management, improve safety, improve multi-disciplinary communication and allow us to continuously audit against SAM quality indicators (QIs).

**Methods**  
We developed an online whiteboard and underlying database system (figure 1). We ran a series of live tests, initially parallel running the paper system. We canvassed all users for feedback and made changes as needed. We collected real-time data which is collated and displayed weekly in a dashboard to continuously assess our performance (figure 2). We carried out further audit rounds to assess the impact of interventions (change in the junior doctor rota, consultant rota, move to a new hospital).

**Results**  
The paper system met none of the SAM QIs, due to poor data recording (0% full data collected). The online whiteboard showed 87% data collected, 90% seen within 4 hours by a doctor and 85% seen by a consultant within 14 hours. The user survey showed 96.8% preferred the electronic whiteboard system. The change to the consultant rota made little difference to the SAM QIs, but the move to a new hospital has seen significantly increased waiting times.

**Conclusion**  
The online whiteboard is a more practical and efficient system. It allows multiple users simultaneous access from any computer in the hospital. It allows continuous audit of the acute medical workload and easy assessment of any changes made. It has now been expanded to include surgical referrals to the hospital, and we aim to roll out further. We have developed the AAU dashboard which allows real-time assessment of our performance against SAM QIs (figure 2).
The diagnosis and management of community acquired pneumonia in an Acute Medical Unit: a Quality Improvement Project

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Joseph Wheeler

Aim
Community acquired pneumonia (CAP) is a diagnosis made frequently in Acute Medical Units (AMU), and is associated with significant morbidity and mortality. Its diagnosis relies on radiological changes suggestive of presence of infection. In unstable patients treatment must be initiated promptly. However, in the stable patient, confirmatory investigations should be carried out prior to treatment with antibiotic therapy. From experience, we felt that there was a delay in diagnosis and therefore appropriate treatment and possible discharge due to a delay in patients having chest x-rays (CXR) performed.

Our aim was to reduce the time between patient arrival to AMU and performing CXR (door to CXR time), thus reducing time taken to make decisions regarding management.

Method
We conducted a quality improvement project, collecting pre- and post-intervention data over periods of 2 weeks, specifically looking at patients attending AMU ambulatory area with symptoms suggestive of CAP. We excluded all patients referred from ED. The interventions we made were prioritisation of CXR requests by the radiology department and prioritisation of patient transfer by porters from AMU to the radiology department.

Results
Our results showed that post-intervention door to CXR, CXR to antibiotic, and overall door to antibiotic times were significantly reduced (by 1.01, 3.53 and 2.38 hours respectively). We also found an increase in the proportion of patients that were discharged on the same day in the post-intervention group (22% compared to 12%)

Conclusion
The British Thoracic guidelines for management of CAP suggest that CXR should be performed in time for antibiotics to be administered within four hours of presentation to hospital. Although the patient journey from hospital arrival to antibiotic administration is complex, we have demonstrated that addressing individual processes in that journey can have a significant impact in reducing delays in diagnosis and management of CAP in an AMU.

References
The introduction of a homeless healthcare team has efficiently improved patient care and discharge outcome at Gloucestershire Royal Hospital.

Vivienne Barrow  
University of Bristol Medical School  
Dr Pippa Medcalf

Introduction
Since 2010, homelessness in England has increased by 34%(1). Homeless individuals attend A+E five times more often(2), admission is four times more common(3) and three times longer(4), costing the NHS £85m annually, 8 times more, per person, than housed patients(3). The Department of Health recommends referral to housing support agencies during hospital admission to improve patient outcome(5). However, nationally, 70% of homeless patients are currently discharged without being offered any relevant advice(3).

In 2013, we introduced an in-reach homeless healthcare team (HHT), co-ordinated by a hospital consultant, housing officer and two nurses.

Methods
Retrospective analysis was made of 50 of 147 homeless patient admissions from June 2011-June 2013, including documentation of homelessness, length of stay; onward referrals and discharge destination. Staff knowledge and patient experience were explored by questionnaire. The situation was re-audited, prospectively, following recommendations from the initial audit.

Results
Only 1 of the 50 patients audited was referred for housing advice before the introduction of the HHT. Documentation of patient housing was sparse and disorganised. 68% of patients were discharged to an unknown location. 78% of staff from A+E and ACU stated that patients were routinely discharged with nowhere to go.

Within the first 6 months of its implementation, 57 (54 first-time) referrals were made to the HHT (56% men, average age 43). 98% of patients were seen within 24 hours, 82% were discharged into housing (most commonly bed and breakfast) and 80% of patients were referred to drug and alcohol services, compared to 4% previously.

The average length of stay reduced from 2.2 to 2.1 days. Discussion between staff and patients regarding accommodation increased from 10% to 79%.

Conclusions
HHTs are invaluable in efficiently improving standards of care for homeless people in hospital, without increasing length of stay, to the satisfaction of staff and patients.

5.Homeless Link, Mungo’s S. Improving hospital admission and discharge for people who are homeless: Analysis of the current picture and recommendations for change.2012.
The introduction of an Information booklet for Acute Medical patients and their carers

Sarah Walcot
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Anthony Eidan
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The introduction of an Information booklet for Acute Medical patients and their carers

Aim
We highlighted patients are poorly informed regarding the admission/discharge process to our wards and were aware of instances where patients’ end-of-life wishes (EoLW) hadn’t been discussed prior to their deterioration, attempted resuscitation and death. As a team we wanted to improve our communication with patients, and their carers, to help them understand what to expect during their time in the department. Although Information leaflets are commonplace in AMUs they are rarely tailored to the service.

Methods
We completed a questionnaire with every patient on the AMU within a 24-hour period to check patient understanding of their stay and gauge enthusiasm for the concept of introducing subjects like EoLW, organ donation and HIV testing in a leaflet.

Outcome
Responses showed a high proportion of patients didn’t understand a typical admission pathway and were poorly informed regarding discharge/possibility of transfer to another specialty. Patients welcomed the idea of receiving written information detailing an expected patient journey, and they would not be offended for this to introduce subjects like EoLW, organ donation or HIV testing. We collated this information and produced a bespoke Acute Medicine Welcome booklet with input from the medical and nursing team. Many of our patients said this booklet would be very informative and they would peruse if supplied. Success will be measured by repeating the questionnaire after the booklet is established and checking patient/staff satisfaction.

Conclusion
This booklet changes the way we communicate with patients. Patients will be more informed about their stay and ways in which we can support them during the process. We anticipate dissemination of similar booklets across the Trust and interest has been shown in other hospitals locally. Introducing EoLW, organ donation and HIV testing information in the booklet encourages an open doctor-patient relationship and may improve discussions of these sensitive but important subjects.
The Lumbar Puncture Proforma: Audit of a Novel Intervention to Improve Patient Safety

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Laura Grunsell
Wendy Munro
Basil Ridha

Aim:
Lumbar puncture (LP) is a common procedure in acute medicine. The potentially serious associated risks of headache, bleeding and cerebral herniation can be reduced using safety checks and optimal technique. Following several near-miss incidents involving LPs in our Trust, we undertook an audit cycle in order to improve patient safety.

Methods:
We audited a representative sample of 11 sets of patient medical notes who had undergone an LP in our Trust over a one month period. Based on these results we designed a novel LP proforma in order to facilitate best practice. Printed copies were made available and an electronic version was placed on the Acute Medical Unit’s intranet site. To assess its long-term effect and direct further work, a reaudit of 16 representative sets of medical notes was undertaken over June 2013, six months after the initial intervention.

Results:
The initial audit demonstrated universally poor documentation of safety checks and LP technique. No patient had their clotting or platelet count documented, nor was needle gauge, stylet technique and needle point-type mentioned. 9% had documented cerebral imaging review prior to LP, 9% documented the presence or absence of complications, and 36% documented the total number of LP attempts.

Significant improvements in all key domains were found in the reaudit following introduction of the LP proforma. Every patient had clotting, platelet count, needle point-type and number of attempts documented. 94% of patients had needle gauge and the presence or absence of complications documented. 81% had stylet technique recorded and 62% had documented review of pre-LP cerebral imaging.

Conclusion:
Standardised LP proformas can have a significant effect on improving documentation, promoting best practice and safeguarding patient safety. We encourage other Trusts to implement their own LP proformas, and offer ours as a template for their use and adaptation.

References:
Timing of CT and Lumbar Puncture for Diagnosis of SAH

Thomas Cozens
Royal Gwent Hospital
Gethin Pugh
Aled Huws
Benjamin Jones
Eleanor Lewis

The National Clinical Guideline for Stroke[1] and NCEPOD[2] recommend that following diagnosis of aneurysmal subarachnoid haemorrhage, the aneurysm be secured within 48 hours. No formal targets exist for timing of LP so we developed targets of:

- 100% LP results available within 24 hours of pain.
- 100% LP results available within 24 hours of admission, if presentation >24hrs after pain.

Timings and results were collected for 71 consecutive LPs over six months from 1/12/2013. The only exclusion criterion was abnormal CT.

Of these 31 were to investigate for SAH (CT normal, no focal neurology) and 3 positive; giving disease prevalence 9.67%.

- 11/31 (35.5%) had results available within 24hrs of pain
- 25/31 (80.6%) had results available within 24hrs admission.
- Mean time from first presentation to LP result available: 17.75 hrs.

Main driver for failure was late presentation.

- In 16/31 (51.6%) the patient had not presented at 24hrs after pain.
- Of the 9/31 (29%) with results unavailable at 48hrs, 8 had not yet presented.
- 1 avoidable delay

In conclusion, the target of having CSF results available 24hrs after onset of pain (thus coiling within 48hrs) is unachievable without public education of the potential importance of thunderclap headache.

The targets of having CSF results available within 24hrs of onset of pain (or admission where this is delayed) are achievable and if adopted will lead to better outcomes for patients with this disease.

Two small sips or one big gulp? Two-step screening more reliable for identification of alcohol dependency syndrome at risk of Delirium Tremens for routine care

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BCU HB
Salman Khan
Rahul Mudannayake
Jonathan Sutton
Gargan Swami

Aim
To improve compliance with pathways for treatment of alcohol dependency syndrome [1] for patients in need of medication to prevent delirium tremens during hospitalisation.

Method
We re-designed the pathway for recognition and treatment of alcohol dependency as part of a 12-month service improvement project in the AMU using methods described elsewhere [2].

Results
Needs assessment: Audit data from 2013 showed over-prescription of Chlordiazepoxide for detoxification treatment (DT) leading to 470 hospital admissions with an average length of stay of 5.5 days in 2012/2013.
Acceptability of tools: Common screening tools (CIWA [3], AUDIT [4]) were rejected by junior doctors due to the high number of questions as too cumbersome for routine practice. Compliance with usage in random samples over a 3-months period was persistently <10%
Tool testing: An abbreviated AUDIT questionnaire based on [5] with only two questions and a specified threshold showed a AUROC of 1 (p<0.001 for correct identification) in sample of 40 patients.
Implementation PDSAs: Progressive iterations of the pathway were tested over three months. In the final sample 100 patients were reviewed for pathway compliance. 86 were screened with the two-question tool. Of these 18 patients were correctly identified as at possible risk. Of these 16 patients had the full AUDIT questionnaire, only 8 patients with elevated values were started on DT. Overall compliance with the pathway increased to 84%.

Conclusion
A two-step screening protocol backed by local data lead to improved acceptability by junior doctors and reliability of a pathway for DT. Data on impact on length of stay as well as referral for specialist input is needed.

References
Using additional risk factors to the Well’s score for the diagnosis of suspected DVT: An audit of practice.
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University Hospital of South Manchester
Stock Thomas
Morris Kirsten
Tim Cooksley
Mark Holland

**Aim**
The Well’s score combined with a D-dimer is validated to decide if ultrasound imaging is required for a suspected deep vein thrombosis (DVT). It is the decision making process recommended by NICE CG144. However, it is recognised that DVTs can still be missed using this method.
Our DVT pathway has been in place since 2004. Intuitively, we felt that certain important risk factors were excluded from the Well’s score. Therefore, we perform full leg venous duplex scans on patients with one or more of either a high risk Well’s score, positive D-dimer or an additional risk factor.
The aim of this audit was to see if using additional risk factors is a useful diagnostic tool or whether it generates unnecessary scans.

**Methods**
We reviewed a selection of notes from patients attending our ambulatory care ‘Suspected DVT Pathway’. We collected the Well’s Score, D-dimer result and additional risk factors from the pathway proforma (Table 1).

**Results**
268 sets of notes were reviewed. 265 patients were scanned.
35 patients with a low risk Well’s score and a negative D-dimer were scanned, of which 8 were positive. However in only 7 of these cases was an additional risk factor recorded, of which 2 were positive. Of these 2 positive cases (additional factors smoking and prolonged travel respectively) both were below knee DVTs.
Overall 78 (29.1%) patients had one or more additional risk factors, Table 1.

**Conclusion**
Using additional risk factors to the Well’s/D-dimer model does help identify patients with a DVT who would otherwise be missed. From this case-note audit the number of positive scans in patients with a low risk Well’s score and negative D-dimer DVTs makes us reluctant to stop collecting additional risk factors.
WARD ROUND EFFICIENCY IN AN ACUTE MEDICAL UNIT. IS TIME ADEQUATE?

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Lucie Abbott
Irene Kourbeti
Richard Lea
Bengo Obale

Aim
Literature has proven the importance of ward-rounds in terms of patient care and safety¹, professional development and multidisciplinary collaboration² ³. Best practice guidance has since been published⁴. The study aims to observe the general processes occurring on the medical assessment unit (MAU) ward-rounds at Furness General Hospital, with a particular focus on the identification of time spent to complete specific key components.

Methods
Ten morning post-take ward-rounds were observed over a 5-week period. Key components were identified and each activity timed to the second by a medical student. Discussions were held with multidisciplinary members seeking their ideas of the ideal ward-round, experiences and perceived challenges.

Outcomes/Results
Twenty-seven hours and fifty-six minutes of ward rounds were documented. The average ward-round length was 168.54 minutes. Key components were grouped into preparation time (38%), consultation time (38%) and documentation/admin time (22%). Components generally adhered to best practice. Timings were influenced by the frequency of professionals present and availability of paperwork/IT facilities. Discussions revealed time-pressures as the main challenge to achieving best practice.

Conclusion
This report provided an insight into general time frames associated with ward-rounds - a matter which has received little attention in current literature. Post-take and general ward-rounds on MAU generally conformed to best practice guidance but areas for improvement were also identified. One of them was inadequate time that involves a certain amount of medical assessment risk. Similar observations in other hospitals could inform services of the duration and resources required to perform safer, more effective and efficient ward-rounds.

References