AIM

A national Audit by BHIVA in 2006\textsuperscript{1} showed that 24\% of deaths are directly attributable to the diagnosis of HIV being made too late for effective treatment. Based on the published literature available BHIVA\textsuperscript{2}, the HPA\textsuperscript{3} and NICE\textsuperscript{4} advocate routine testing of medical admissions where HIV prevalence in the local population exceeds 0.2\%, such as in Wexham Park’s catchment area. This QIP evaluated baseline screening compliance and the impact of measures designed to improve screening uptake.

Methods

Data was collected from all acute medical patients admitted to the AMU in Wexham Park Hospital over a one week period to obtain baseline screening data.

We then implemented an change to our electronic ‘ICE’ requesting system so that all doctors are now prompted to offer HIV screening to adult medical admissions aged <65.

One month later we re-assessed HIV screening uptake using the same methodology to assess its impact.

Outcomes/Results

This QIP demonstrated that only 10\% of acute medical patients were having a HIV screen requested on admission and only 12\% had a HIV test performed during the whole inpatient stay.

Once electronic prompting for HIV testing was initiated 87\% of patients had a test requested and 75\% had one performed within 48hrs of admission.

Conclusion

HIV screening works, it should be implemented in all ‘high’ prevalence areas\textsuperscript{2} and the use of electronic prompting systems such as ‘ICE’ to prompt testing can lead to significant improvements in screening uptake. This model has the potential to be rolled out for other key tests in other specialties.
AIM

In August 2012 multiple medicines reconciliation (MR) and prescribing errors were noted, coinciding with the new influx of junior doctors. Patient safety was compromised, and opportunities for learning were lost due to the rapid turnover of junior staff and random nature of error detection. We therefore introduced a structured process of recording and analysing errors, and delivering individual and group feedback, to allow us to detect doctors with poor prescribing skills, and detect systems failures in a timely manner.

METHODS

1. Nurses, pharmacists and consultants photocopy examples of bad MR and prescribing, and record details of the persons involved, whether harm occurred and whether feedback was given.

2. Adverse events (AE) are classified according to severity and drug error according to psychological subtype.

3. Feedback is provided individually, and via daily multidisciplinary ward safety briefs. Learning is enhanced further via Quality and Safety newsletter and presentation at our weekly educational meeting.

RESULTS

1. 40 errors led to direct feedback (33%) where there was - a clear knowledge gap; multiple or recurrent MR errors; systems failure. The response from individuals receiving constructive criticism of this nature has been generally positive.

2. For 4 doctors in difficulty evidence of recurrent drug errors formed part of an educational supervisor report.

3. MR has become a key safety message at our safety briefs, and is delivered regularly to each new group of doctors. This has led to a sustained improvement in MR compliance (attached).

4. Trend analysis has led to detection of systems problems and prompt interventions to reduce risk of recurrence.

CONCLUSION

This locally applied process of detecting and reporting drug errors is likely to improve patient safety by allowing early identification of doctors with poor prescribing skills, and systems failures. It should also enhance the learning experience of junior doctors on AMU. A daily safety brief has raised the profile of MR and the importance of this process within an AMU with regards to getting it right at the start of the patient journey.
AIMS:

In 2013 we opened an Ambulatory Care Unit, a weekday clinic, receiving patients from GPs or Emergency departments, via both condition-specific pathways (e.g. pulmonary embolism, atrial tachycardia, cellulitis and deep vein thrombosis) and generic pathways, targeting patients who needed urgent assessment rather than admission. We hoped to deliver better care, avoid unnecessary admissions and take pressure off the Emergency department.

Our aim was to assess whether there was a reduction in in-patient admissions (of < 2 days) following the introduction of this service. In addition, we wanted to identify conditions that could be managed by the service in the future.

METHODS:

Patients with an in-patient admission of <2 days, during February 2012 or February 2013, had their electronic records checked to obtain diagnoses. We calculated the reduction in in-patient admissions between these two periods and identified the types of admissions that had reduced or plateaued.

RESULTS:

In February 2012, 429 medical patients had an in-patient stay of <2 days. In February 2013, this decreased to 401. The number of patients referred to Medical Specialities from the Emergency Department remained static. In 2013, common diagnoses necessitating admission (for <2 days) included: angina, cerebral vascular accident, chronic obstructive pulmonary disease, collapse, acid-reflux, headache, lower respiratory tract infection, malignancy and poisoning.

CONCLUSION:

The Ambulatory Care Service was associated with a 7% reduction in the number of in-patient admission (of <2 days.) Future Ambulatory Care Pathways should target common diagnoses to have maximum impact in reducing the total number of admissions (of <2 days.)
**Background** Almost all of the major decisions regarding management of Community Acquired Pneumonia (CAP) revolve around the initial assessment of severity.\(^1\)

In our Emergency Department, patients with CAP are an important component of presentations and have a potentially high mortality.

There is significant variation in the management of CAP across institutions and adherence to local and national guidelines is poor.\(^2\)

We audited departmental severity assessment of CAP against national recommendations.

**Method** 50 randomly selected patients admitted with CAP via acute services over a 1 month period were analysed in December 2012 and January 2013.

They were assessed against adherence to local guidelines of CURB65 severity scoring, and appropriate antibiotic selection based upon this score and in keeping with the BTS CAP care bundle.\(^2\) Additional data collected included time to antibiotic administration.

Data was compared to Trust figures and interventions were made locally to improve outcome.

**Results** Of 50 patients included in secondary analysis admitted via the Conquest Emergency Department, 72% had a CAP severity score documented (66% prior to intervention). 88% had antibiotics appropriately selected in accordance with local guidelines or had documented a clinical reason for deviating, increasing from 86%.

96% of patients had antibiotics administered within the 6 hour guideline compared to 74% prior to intervention.

**Conclusion** Ongoing educational intervention has a role to play in the management of acute admissions of pneumonia. Appropriate management according to guidelines will improve timeliness and quality of patient care and there is further scope for research into the effects on length of hospital admission and mortality.


Aim:

The Royal College of Physicians Acute Care Toolkit 6 (ACT6) (1) highlights the need to recognise changing physiology induced by ill-health and details responses to these findings. The toolkit emphasises the role of the National Early Warning Score (NEWS), as well as use of clinical red flags to ensure patients are appropriately cared for. We audited our unit against these recommendations.

Method:

We prospectively collected data on 397 patients admitted to AMU including an enhanced care area in Spring 2013. Data collected included patient demographics, EWS(Early Warning Score), clinical status, plan regarding level of care, diagnosis, resuscitation status, mortality and discharge destination.

Results:

100% of patients had basic observations performed on admission. 95% having a EWS calculated (Graph 1).17% of patients were suitable for ambulatory care. 14% received Level 1 care monitoring (up to 31% of patients could have been considered for such care).Only 8% of patients had a documented plan. 40 patients died. Where the EWS was <5 at admission, the mortality rate was 9.2%, compared to 33.3% for those with EWS ≥5. The commonest cause of admission was sepsis. 50% of patients with an EWS of > 4 had a DNAR order compared to 11.5% of patients with an EWS score of 4 or less.

Conclusion:

The Acute Care Toolkit 6 provides useful auditable recommendations for AMU’s. Patients with high EWS have an increased mortality and appropriate care areas are required to ensure optimal care. Early assessment may help ensure, ‘Right patient, right bed’.

References:

1. Acute Care Toolkit 6, Royal College of Physicians, May 2013
AIM

Acute kidney injury (AKI) is a common condition which carries significant mortality and cost. In 2009, the National Confidential Enquiry into Patient Outcome and Death (NCEPOD) report identified a shortfall in the recognition and management of AKI in hospitals across the UK, with only 50% of patients receiving good care\(^1\). An initial audit in 2009 of Salford Royal’s Emergency Admissions Unit (EAU) recognised a deficit in our management of AKI patients in line with national data. After a series of interventions, we completed the audit cycle to review our parameters for management of AKI against existing NCEPOD standards.

METHODS

We performed a retrospective re-audit of 100 consecutive adult patients admitted to the EAU in May/June 2013, and compared the results to previous data over four years.

OUTCOMES/RESULTS

18 patients with an AKI stages 1–3 according to Acute Kidney Injury Network (AKIN) staging criteria were identified. We audited the following parameters determined in Table 1 and demonstrated consistent and sustained improvements in our management of AKI patients. This was following a period of intervention, including comprehensive junior doctor education, optimisation of nursing standards and early consultant reviews (Figure 1).

CONCLUSION

Our patients have benefitted from robust sustainable improvements in our EAU AKI management strategies. Further work is planned in this area, including improving the charting of fluid balance and urine dipstick measures, as we still have areas for ongoing development.

REFERENCES

1: Acute Kidney Injury: Adding Insult to Injury; National Confidential Enquiry into Patient Outcome and Death (NCEPOD), 2009
AIM
Previous studies have highlighted that Acute Assessment Unit (AAU) reduce length of stay, readmissions and mortality. This has led to an increase in Acute Medicine Consultants employed by NHS Trusts. With increasing financial pressures, trusts need to ensure that patient length of stay and readmissions are reduced to a minimum. However, there is no evidence to point to efficiency; we aimed to compare ICD-10 diagnosis based admissions under Acute Medicine Consultants to relevant Medical Specialty consultants.

METHODS
We conducted a retrospective audit of all non-elective adult acute medical admissions over a 6 week period in 2012 at the AAU in Royal London Hospital. We collected information on patient demographics, ICD-10 diagnosis, and length of hospital stay. Utilising ICD-10 codes we matched patients under the care of Acute Medicine physicians and other relevant Specialty Consultants. We recorded age, sex, length of stay and readmission rates in the two groups.

OUTCOMES/RESULTS
A total of 863 admission episodes were collected, 241 patients admitted under Acute Medicine Consultants were matched to 300 patients under Specialty Consultants. The proportion of females and male patients was similar (117 females and 124 males under Acute Medicine Consultants, 138 females and 164 males under other Medical Specialty Consultants). The mean age in the Acute Medicine group was 57.4±1.3 and 60.5±1.3 in the specialty group (p=0.11). However, the length of stay was statistically significant (p=<0.0001) between the two groups. With patients admitted under an Acute Medicine Consultant having shorter length of stay in hospital (mean = 3±0.3 against 8±0.6 days). Moreover, patients under other Medical Specialties had higher readmission rates within a week and a month (34 against 69 patients) after hospital discharge.

CONCLUSION
Despite these two groups of patients having similar demographics, Acute Medical Consultant care led to a shorter hospital stay and reduced risk of hospital readmission. However, there may be other reasons for this discrepancy, e.g. more complex patients being referred to specialty teams. Further research will help understand the differences in patient journeys in order to improve the standard and quality for hospital patients.
Title - An audit showing the impact of pharmacist independent prescribing on the admissions ward at Diana Princess of Wales Hospital in Grimsby.

Introduction - The highest expenditure within the NHS is staff. Baqir et al (2010) suggests that the full potential of pharmacist prescribing is, on the whole, far from being realised. The second highest cost to the NHS is medication. This increases by approximately 13% per annum. Medicines optimisation has recently taken a front seat in the developments within the wider NHS in England. A recent focus of the NHS Commissioning Board is the widening inquiry into hospitals with worrying mortality rates.

Methodology and research design - The audit took place on the 49 bedded AMU. The Pharmacist Independent Prescriber will not be in place of the usual ward-based pharmacist but in addition to them; as prescribers are strongly discouraged to clinically check their own prescribing. The report will compare the interventions in the month of March (absence of a prescribing pharmacist), with the month of April (addition of a prescribing pharmacist).

Data analysis - This audit has had a positive impact on the following key themes - Delays in treatment, hospital-acquired infections, inadequate VTE prophylaxis and medication issues as well as having a positive impact on Quality, Innovation, Productivity and Prevention transformational programme.

Figure 4: A graph comparing various interventions made with and without a PIP

Conclusion - This audit demonstrates the useful contribution a Pharmacists Independent Prescriber has on improving medication safety as well as on the quality of patient care.

References

Handover of patient care is a key process that occurs daily within the NHS. Poor handover can lead to neglect and harm to patients. The Francis Report emphasised the need to refocus on patient safety and continuity of care. A good quality standardised handover process can play a key role in improving these areas.

Electronic weekend handover lists were retrospectively audited against standards from the Royal College of Physicians’ Out of Hours Handover Toolkit. A survey was also carried out to subjectively assess on-call doctors’ opinions of the existing handover system.

The current handover process was accurate in terms of patient identifiers (100%) and location (91%). There was a lack of information regarding active medical issues (69%), the action the on-call doctor was expected to take (24%), the level of escalation (0%) or potential for weekend discharge (0%).

The staff survey found that the majority of doctors favoured a face-to-face handover. It was also felt that more information should be available on the handover lists.

Our recommendations were

• Increased character input space on the electronic system

• Education regarding RCP guidelines.

• Bleep-free consultant-led handover on Friday evenings for ward teams to hand over unwell patients to on-call teams.

Re-audit was performed following these changes and overall improvement was noted, particularly the action required (69%) and the level of escalation (17%). On the back of these findings, we recommend further education including visual prompts located on the wards and practical handover training for new junior staff at induction.
Aim: The electrocardiogram (ECG) is an essential investigation in the work-up of medically unwell patients presenting to hospital. Meaningful interpretation demands contemporaneous information about patients’ cardiological symptoms. We designed an audit to determine whether the labelling of ECGs at Kingston Hospital met the documentation standards laid down by the Society for Cardiological Science and Technology and the Royal College of Physicians.

Method: On a single day, all medical notes on the acute assessment unit (AAU) and cardiology ward were examined for the presence of an ECG, and for documentation of the following: name, date, time and presence or absence of cardiological symptoms. Subsequently, stickers reminding staff to record these details were placed on ECG machines in the Emergency Department, AAU and cardiology ward. We re-audited to assess the impact of this intervention.

Results: Approximately 90% of patients’ notes contained an ECG in both audit cycles (pre-intervention n=48; post-intervention n=46). Pre-intervention, over 95% of ECGs were labelled with name, date and time, but only 15% had any record of cardiological symptoms. Following the introduction of stickers on ECG machines, the recording of cardiological symptoms increased two-fold to 30%, with minimal change in standards of recording of date/time/name.

Conclusion: Knowledge of cardiological symptoms present at the time of an ECG is imperative for effective and safe management plans. A simple aide-memoire on ECG machines led to a two-fold improvement in ECG documentation. Therefore, stickers on ECG machines have a place in a wider strategy to improve standards of ECG recordkeeping.

References:


AIM

1. To improve documentation of smoking status in acute medical admission clerkings,

2. To raise awareness of nicotine replacement therapy (NRT) and smoking cessation services available within our Trust, and

2. To assess knowledge and attitude of junior doctors regarding smoking cessation and NRT.

METHODS

1. Patients admitted to our Medical Admissions Units over a 48 hour period were included. Notes scrutinised to see if (a) patients’ smoking status were documented, (b) whether NRT was prescribed/offered, and (c) whether any referral to smoking cessation service was offered.

2. A survey was sent to junior doctors to assess knowledge and opinion regarding smoking cessation and NRT.

3. Short teaching sessions were organised for junior doctors to raise awareness and improve knowledge regarding NRT and services available locally.

RESULTS

1. The majority of junior doctors feel that they have received insufficient information in prescribing NRT for inpatients, and only 5.3% feel confident in choosing and prescribing NRT.

2. A total of 89 patients were included in the pre-intervention audit. 50% did not have smoking status documented. Only 1 patient was offered and prescribed NRT. No referrals to the smoking cessation service were identified.

3. Following intervention, smoking status documentation improved significantly from 50% to 81%.

CONCLUSION

Acute medical admissions represent a frequently overlooked opportunity for encouraging smoking cessation. All active smokers admitted to hospital should be offered NRT and referral to the smoking cessation service. Junior doctors play a very important role in this ‘teachable moment’ that should not be missed.
Background –

Part 1 of the 2011 National Comparative Audit of Use of Blood in Adult Medical Patients (1) appeared to show high levels of inappropriate or excessive blood transfusions, and wide variation between hospitals. At SAM conference last year, we presented a poster showing this amongst patients admitted in acute medical units (2).

Aim and method –

We reviewed the information from case records in a random selection of patients identified in part 1 of the audit as having potentially avoidable transfusion to understand decision making for transfusion in our NHS.

Results –

Patients were randomly selected from the 4833 cases falling outside the standards set for part 1. 1742 cases were analysed by local consultant reviewers at participating NHS sites for whether the transfusion could have been avoided or whether the transfusion was appropriate.

There were 747 cases of possible reversible anaemia. 527 (71%) had a documented reason for transfusion in the case notes. Transfusion could have been avoided in 187 (25%) of the patients transfused.

In those who were transfused to more than 20g/l above the Hb threshold (over transfused), there was a strong statistical correlation between body weight and increase in Hb (P< 0.001) suggesting that the number of units transfused should be tailored to body weight.

Conclusion

This is further evidence of the inappropriate use of red cell transfusion in medical patients in the UK and we have suggested recommendations to help change nationally the medical practice surrounding blood transfusions.

Reference


2. Do we transfuse acute medical patients appropriately: analysis of acute medical patients from National Comparative Audit of use of blood in medical patients Nipah et al Poster SAM Manchester 2012
Aim

Infections due to intravenous peripheral catheters (venflons) lead to prolongation of hospital admissions, metastatic infection and increased morbidity associated with additional treatment burden. Greater Glasgow and Clyde trust guidelines require consideration be given to removal of venflons after 72 hours, with the aim of reducing infective complication rates. To facilitate this decision, the practitioner placing venflons is expected to date the associated adhesive dressing. We sought to audit current practice and the impact of a simple intervention.

Methods

Audit performed in large (1000+ bed) teaching hospital in Glasgow. Pre-intervention data was gathered from five wards representing several sub-specialist areas and hence varying patient turnover rates. Standard was set at 100% given the simplicity of labelling the sticker on insertion. Intervention comprised provision of labels with relevant date in three representative wards over three weeks. Unannounced check of uptake was performed in the third week.

Results

Pre-intervention adherence was poor at 50%. The majority of labelled venflons had been placed on arrival to hospital. Following provision of printed date stickers and subsequent review adherence still appeared to be poor at 33%. However on further investigation the undated venflons were discovered to have been placed in other wards prior to transfer. Excluding this group of patient’s results improved adherence to 80%.

Conclusion

Provision of printed date labels may improve adherence to local policy on venflons. Hospital wide provision is likely to ensure improved adherence and may subsequently reduce infections associated with prolonged venflon use.
Title: **Clinical audit improving consultant review times in an acute medical unit (AMU), using admission prioritisation and improved weekend consultant cover.**

Category: **Audit & Quality Improvement**

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**Aim**

To improve consultant review time, adhering to SAM’s quality indicator of review within 8 hours in hours (0800-1800), and 14 hours out of hours (OOH) to an acute medical unit (AMU).

**Method**

Intervention: Listing arrival times to AMU on a central notice board, suggesting review in admission order. Renegotiated weekend on-calls, to be shared between two consultants, no longer 24hr cover.

Data: AMU admission and consultant review time, and demographic data of all patients admitted, for 7 days, before and after intervention.

**Results**

Cycle 1 January 2013: n=163(23/24hrs). Median age 71 years, 55% female. 63% arrived OOH. 44% weekend admissions.

Cycle 2 June 2013: n=141(20/24hrs). Median age 69 years, 52% female. 50% arrived OOH. 40% weekend admissions.

In both cycles all patient in hours, were seen by a consultant within 8 hours, with a median time of 2 hours 18 minutes (2hr18) in cycle 1, and 1hr in cycle 2.

In cycle 1, 11 patients arriving OOH were seen after 14 hours, with maximum review time of 18hr35, and a median of 9hr45. In cycle 2 all patients were seen within 14 hours OOH, with a maximum review time of 13hr05, and median of 7hr05. (See fig. 1 and 2). This was statistically significant, using the Mann Whitney U test (p=0.001).

Weekend review time decreased from an median of 3hr30 to 2hr13 (p=0.038)

**Conclusion**

Attendance time directed consultant review, and renegotiating consultant weekend cover significantly improved patient review times. The chief limitation of this audit was fewer attendances in the second cycle, however this only equated to 3/24hrs.
Aim  Headache is common and healthcare professionals find diagnosis and management difficult and worry about missing rare and serious causes. A careful history and examination is still the most important part of the assessment that will guide the clinician to appropriate further investigations and management. In September 2012 NICE published guidelines on the diagnosis and management of headache in young people and adults. We completed an audit comparing our practice to standards based on NICE guidelines and then developed a headache pathway for acute medicine.

Methods  6 weeks of admissions to acute medicine and ambulatory care with a presenting complaint of headache were audited (37 notes from 61 patients). Using the results and evidence we developed an acute headache pathway.

Results

The results showed that documentation of red flag symptoms (8.1%) and complete neurological examination (24.3%) was poor but we’re good at appropriate imaging (86.5%). Other interesting points were that 24% presented with a headache that had been present for a week or longer, 83% with a query of SAH/meningitis had a LP, and only half had a discharge diagnosis of a headache disorder.

Conclusion

The headache pathway was developed incorporating these results. It included the following steps:

1. Detailed history and neurological examination.
2. Sieving off chronic headache and giant cell arteritis.
3. Checking for the presence/absence of red flag symptoms to guide further investigations.

The plan is to re-audit after it has been implemented.

Gathering the Society of Acute Medicine’s clinical quality indicators- an experience in a district general hospital.

Audit & Quality Improvement

Gideon Diamond, NHS Lanarkshire

Gillian Mulholland

NHS Lanarkshire

AIM

The Society of Acute Medicine clinical quality indicators for acute medical units (AMUs) are intended to promote improved quality of care both within and between units. Gathering of this data has proved challenging and this project was undertaken to pilot the feasibility of data collection within a 28 bedded district general AMU with an average take of 36 medical patients per day.

METHODS

Over a six month period random retrospective sampling was performed on 20 patient notes a month (five patients a week) and assessed for the time of arrival, early warning score (EWS) recording, competent clinician review and consultant review. The AMU mortality, discharge and readmission rates were also collected.

OUTCOMES/RESULTS

The mean percentage of patients with EWS recorded was 79%. Percentage reviewed by a clinician in 4 hours was 79% however, time was not recorded in 25%. Percentage reviewed by a consultant within 14 hours was 57% (time not recorded in 37%). In-hours, 50% of patients were seen by a consultant within 8 hours. Out-of-hours only 53% were seen within 14 hours. 32% of patients were directly discharged and 6.37% were readmitted within 7 days. The mortality rate was 7.48%

CONCLUSION

Poor time recording and long term collection and sharing of data- due to junior doctors rotating away from the AMU- were significant problems. Next steps: highlight importance of record keeping to all doctors and delegate data collection to colleagues with a continuous presence in the AMU. Furthermore, set up a clinical quality dashboard to allow reporting both locally and nationally.
Aims

Most large NHS hospitals, including Peterborough City Hospital now identify 50-100 times more patients with Gram negative (GN) bloodstream infections than MRSA, with antibiotic resistance rates of 10-20% and mortality of 30% reported for multi-drug resistant (MDR). We conducted an audit to determine if the introduction of a Care Bundle approach improved adherence to guidelines and mortality in our patients.

Methods

All GN bacteraemias from 2008-2009 and Nov-Jan 2012-2013 from the Emergency Department and Acute Medical Unit were included. These were classified by demographics, severity of illness, co-morbidities and outcomes; with adherence to local guidelines assessed.

Results

In 2008-09 there were 45 positive GN bacteraemias; and 45 in Nov-Dec 2012-13, a four-fold rise. The demographics remained the same. 2008-09 68.9% 2012-13 E. coli, 51.1%, 26.7% K. pneumoniae. The 2012-13 cohort had higher McCabe severity and Charlson co-morbidity scores; with a subsequent higher mortality. The proportion of mono-resistance to Tazocin and Gentamicin, and MDR also rose. There was no change in time to antibiotics, but improvements in other parameters, e.g, fluid resuscitation and balance, oxygen and so on.

Conclusions

We instituted a comprehensive rolling education programme for all healthcare professionals involved. Both sensitive and MDR GN bacteria are now the most important cause of bacteraemias in secondary and tertiary healthcare settings. While the Bundle approach improves management, there are clearly other factors involved with this worrying rise warranting further investigation.
Title: HAS CENTRALIZING CSF XANTHOCHROMIA ANALYSIS IN LANARKSHIRE RESULTED IN DIAGNOSTIC DELAY IN CT NEGATIVE SUBARACHNOID HAEMORRHAGE?

Category: Audit & Quality Improvement

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Background:
In August 2012, the laboratory at which CSF is analysed for xanthochromia in Lanarkshire was centralized at a single centre.

Aim:
To assess whether or not the change in xanthochromia processing has resulted in diagnostic delay in the assessment of CT negative possible SAH.

Methods:
CSF samples sent for xanthochromia were identified retrospectively for 6-months before and after laboratory centralization. Xanthochromia analysis for any indication other than SAH were excluded. Data were collected from case notes for: time of ictus, presentation, and discharge. Time of CT scan was obtained from PACS. Time of LP and xanthochromia result availability were obtained from TrakLAB. Whether or not xanthochromia result delayed discharge was also recorded.

Results:
Mean time from LP to availability of xanthochromia result was significantly longer following the laboratory change (22.1±3.0 hours post vs. 10.2±2.0 pre, p=0.002). The delay from presentation to CT was similar between groups (9.8±2.4 hours post vs. 15.1±2.4 hours pre, p=0.13). There was also no difference in the delay from negative CT to LP (15.9±4.4 hours post vs. 11.3±2.6 hours pre, p=0.37). Following the lab change, 72% of patients who had samples sent for xanthochromia analysis had their discharge delayed while awaiting results.

Conclusions:
The change in laboratory processing CSF samples for xanthochromia in Lanarkshire has resulted in a significant delay in diagnosis of SAH. In those patients in which the result is negative, the majority have experienced a delay to their discharge.

Change in Practice:
The laboratory has already implemented longer hours to improve this service.
Aim: To determine the incidence of hyponatraemia and establish whether hyponatraemia at presentation is a marker of mortality in patients presenting acutely to the Medical (MAU) and Elderly (EAU) Admissions Units.

Methods: Data was obtained for the month of January 2011 from the biochemistry department for all acute admissions to the MAU and EAU who were hyponatraemic (Na < 135 mmol/L) at presentation. We interrogated our electronic databases to obtain their diagnoses. The iPatient Manager (iPM) was used to determine whether the patients were alive one and 2-year post the index presentation.

Results: In January 2011, 1868 patients were admitted on the acute medical take. 140 patients (7.5%; 58 males, mean age 62.9 yrs; 82 females, mean age 70.2 yrs) were hyponatraemic: 8 with a Na < 125 mmol/L, 36 had a Na 125-130 mmol/L and 96 had a Na 131-135 mmol/L. One-year mortality from all causes was 30% (n=42, 20M, mean age 68.7yr; 22F, mean age 78.9yr). A further 10 deaths occurred within the next year (two-year mortality 37%). 38% of all deaths occurred within one month of presentation and 24% of deaths were due to infective causes. Most deaths occurred in the 71-90 age group.

Conclusion: This study confirms the high mortality in patients presenting with hyponatraemia. This association hasn't been extensively studied but correction of hyponatraemia may improve outcome. A group of drugs known as Vaptans (vasopressin receptor antagonists) has been postulated to effectively treat hyponatraemia[i]. Further studies are needed to establish the effect of this drug on hyponatraemia-associated mortality.

Title: ICU patients who reviews them?
Category: Audit & Quality Improvement
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Aim:

On intensive care patients are seen daily by the intensive care team. We wanted to audit how frequently the parent teams reviewed their patients on the unit. As well as looking at the interface between ICU, medical and surgical teams.

Methods:

We retrospectively collected data on medical and surgical patients who were admitted to critical care for more than 5 days over a 6 month period. We looked at several factors that were highlighted in the NCEPOD report ‘An Acute Problem’. These included if the patients received a consultant review in the 24 hours pre admission, who made the referral to critical care, if their consultant was aware of the referral, how long patients waited for an ICU review, time to an critical care bed, time to an ICU consultant review. We also audited how many times the parent speciality reviewed their patients whilst they were on the unit.

Results: (Preliminary data)

The majority of patients referred to critical care were seen by a consultant in the preceeding 24 hours 72% in medicine and 84% in surgery. The doctors making referrals to ICU in over 70% of cases were consultants and in over 90% of cases consultants were aware of the referrals being made.

Once referred to critical care 94% of medical patients had a critical care consultant review in <12 hours compared to 63% of surgical patients. For speciality reviews 100% of surgical patients were seen by their team, 89% of which were consultant reviews. However for medical patients 69% were seen by a medical team and 25% of these reviews were prompted.

Conclusion:

Most intensive care doctors on our unit are anaesthetists. We wanted to highlight that specialist input from their named consultant is needed to manage their acute and chronic conditions.

We plan to implement a notification system to the patients named consultant as most referrals are made after hours or directly from the emergency department which we believe is the reason that medical teams are not aware the patient has been admitted under them.
AIM - The Joint British Diabetes Societies Inpatient Care Group (JBDS IP) published national guidance for the management of diabetic ketoacidosis (DKA) in 2010.

Key features of this guideline are the use of fixed rate insulin infusions (FRII) to target blood ketone levels or alternative treatment targets such as glucose and bicarbonate if blood ketones cannot be measured locally.

Further emphasis is on the use of venous rather than arterial blood gases in the assessment of these patients.

METHODS - A survey of the use of the 2010 guidelines in all 20 hospitals admitting acutely ill patients in the North West of England was undertaken. DKA protocols were reviewed to establish the practice of using FRII, targeting blood ketones (or alternative treatment targets), and explicitly encouraging the use of venous blood gases.

Hospitals without an existing protocol were contacted and asked about local management of DKA. Hospitals that have not yet implemented the 2010 guidelines yet were asked about plans to do so within the next 6 months.

OUTCOMES/RESULTS

The response rate for this survey was a 100%.

90% of hospitals have a protocol for the management of DKA.

45% of hospitals have implemented national guidance and are using FRII to target blood ketone levels.

None of the 55% of the hospitals that do not measure blood ketones use FRII with alternative treatment targets.

55% of hospitals specifically recommend the use of venous blood gases in the management of DKA.

Out of the 55% of hospitals that have not implemented the 2010 guidelines yet, 50% are planning to update their protocols in line with national guidance within the next 6 months.

CONCLUSION - Three years after publication of national guidelines for the management of DKA uptake in the North West is encouraging but not yet perfect. Within the next 6 months 75% of North West hospitals will adhere to national guidance.

The practice of using venous blood gases has been implemented to a higher extent than the rest of the new guidance and a wider implementation of this would almost certainly increase patient satisfaction.
Aim: Surviving Sepsis Campaign bundles significantly improve survival rates in septic patients. The three hour resuscitation bundle includes; measuring serum lactate level, obtaining blood cultures, administering broad spectrum antibiotics and administering 30mL/kg crystalloid to patients who are hypotensive or have a lactate level ≥4mmol/L. [1] In 2012, an audit demonstrated only a 2.6% compliance rate with the resuscitation bundle in the acute setting at our district general hospital. As a result, a sepsis profile which automatically requests a septic screen was created on our computer system in order to improve compliance. Our aim was to re-audit compliance with the resuscitation bundle to see if there had been any improvement.

Methods: A retrospective audit investigating compliance with the resuscitation bundle in both the Accident and Emergency department and the Medical Admissions Unit. Compliance with the bundle implies achieving all the specified goals. Patients who met the criteria for sepsis or septic shock during a five day period in July 2013 were included.

Results: 38 patients met the sepsis criteria. Compliance with the resuscitation bundle was 15.8%. Compliance obtaining blood cultures (52.6%), administering antibiotics within three hours (65.8%), and administering crystalloid fluids when indicated (73.7%), all improved compared to the previous audit. Measuring serum lactate level (39.5%) did not improve.

Conclusions: Compliance with the three hour resuscitation bundle in the acute setting still remains poor. However, it has improved following implementation of the sepsis profile. More education needs to be done to ensure timely recognition and improve management of septic patients.

References:

Title: Improving patient care and safety: does an electronic medical take system play a role?

Category: Audit & Quality Improvement

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Background and Aim

Recent audits in our hospital showed a rise in prescription errors and incomplete thromboprophylaxis risk-assessments among acute medical admissions; majority of which occurred during night shifts. With the help of electronic medical take (ePMS, Electronic Patient Management System); we undertook a quality improvement project to identify changes that can be made to deliver a safe and timely patient care.

Method

All acute medical admissions over the month of January 2013 were included, focussing on their distribution over a 24hour period. We also looked at doctor-patient ratios and time taken to assess patients following referral from emergency department (breach times). Data was obtained from ePMS and analysed using Microsoft excel.

Results

There was a disproportionate rise in the average number of medical admissions in relation to the number of doctors in a 24hour period. (Figure1). 64% (n=7) of the 4hour breach times in initial assessment occurred during night shifts (9pm-8am). Moreover, there was an upward trend in the average time taken to assess patients between day (8am-9pm) and night shifts (9pm-8am) (Figure2).

Conclusion

A large proportion of our acute medical admissions occurred at night. We have hence recommended a redistribution of doctors following which we plan to re-audit our clinical incidents. We believe that increasing the number of doctors at night would reduce individual work load, improve efficiency and reduce errors.

An efficient electronic take system has enabled us to accurately capture data and audit our admissions practices; thereby helping to make changes required to improve patient care and safety.
AIM

Handover is a crucial element in patient flow but has also been described as one of the riskiest points in a patient’s journey (1). This study aimed to assess the handover system within an admissions unit and make changes to improve patient safety.

METHODS

Consultants, junior staff and nurses were surveyed to see how confidently they felt they knew which doctor was looking after which patient. They were also asked how well the electronic jobs list was kept up to date, and how often jobs were found at the evening handover that should have been done or acted upon earlier in the day. Changes were then made in how junior doctors divide up responsibility on the ward, including the introduction of a daily whiteboard to display which doctor has taken on each role. An afternoon ‘board round’ was introduced, during which the electronic jobs list is updated. This is led by the SpR or Consultant, with senior nurse input. Evening handover processes were formalised and shift patterns changed so the full team could be present.

RESULTS

A repeat survey four months later showed substantially increased confidence in knowing which doctor was responsible for which patient. Respondents felt the jobs list was far more likely to be kept updated and fewer jobs were found at handover that should have been done earlier in the day.

CONCLUSIONS

Overall 85% felt that the changes had improved patient safety on the unit and many positive comments about the new system were collected.

REFERENCES

AIM

Prescribing errors are a significant patient safety issue. Studies have shown errors are more frequent at admission than during the rest of an inpatient stay. Baseline data from our Emergency Admissions Unit (EAU) found prescribing error rates of 26%. Our aim was to reduce this to 5%.

METHODS

We used process mapping to identify the steps involved in prescribing, from which we derived our interventions. To assess small tests of change, members of the quality improvement team collected data on their own error rates. Overall improvement was assessed using error rates measured once weekly by pharmacists. Types of error included incorrect dosages or timings, duplications, and omission of pre-admission drugs without clinical reason.

OUTCOMES/RESULTS

Our first intervention was using patients’ primary care records to assist medication histories. As this proved effective in small-scale tests of change, we widened this intervention by promotion at handovers, teaching sessions, and via email. Error rates fluctuated despite this, therefore we looked at ways to sustain the lower error rates previously achieved. This led to the development of a prescribing checklist, which is now undergoing small tests of change. If successful we will provide this checklist to all new junior doctors joining the trust in August 2013.

CONCLUSION

We have achieved a reduction in prescribing error rates, but have demonstrated the difficulties in sustaining improvement. We are now looking at methods to maintain lower error rates, and continue to strive towards our original aim.

Aims: To assess and improve quality of care, we audited post-take ward round (PTWR) documentation for admissions under Acute Medicine. This led to a re-design of our unit’s proforma to improve practice.

Methods: An initial audit of all patients under the care of the acute medicine team was undertaken in November 2012 (n=34). All PTWR entries were reviewed and recorded investigations were noted. We also noted whether the patients’ observations had been reviewed and whether decisions were made regarding escalation of care and resuscitation status.

Subsequently, a new PTWR proforma was developed, which facilitated recording of information and prompted clinical decision-making (Table 1). Following implementation, re-audit was performed in April 2013 (n=25).

Results: The initial audit found that documentation was inconsistent, with only 41% of all investigation results recorded (Table 2). Only seven patients (21%) had escalation and resuscitation decisions recorded, all of which were ‘Do not attempt resuscitation’ orders.

On re-audit the proportion of recorded investigations overall increased to 90% and from 47% to 92% for chest radiographs, 53% to 92% for blood results and 62% to 96% for electrocardiograms. Furthermore, a wide variety of ‘ceiling of care’ decisions were recorded, and a resuscitation decision was made for 64% of patients.

Conclusion: We present a simple, effective, change in practice that has resulted in significant improvement in quality and consistency of PTWR documentation, and which has also improved clinical practice, as reflected by an increase in decision-making regarding escalation and resuscitation status.
AIM - The quality of recognition and management of sepsis has been shown to be suboptimal and subject to large variation. In March 2012, as part of the Scottish Patient Safety Programme (SPSP), and under the direction of Tayside Sepsis Group (TSG) we implemented the Sepsis 6 resuscitation bundle, supported by a programme of education, daily consultant supervision, and real-time data collection and feedback, with the aim of reducing mortality from sepsis by 10% by December 2014. This has led to a sustained improvement in key indicators.

METHODS

1. Bundle tool (attached) introduced after testing using PDSA methodology.

2. Formal teaching - doctors, medical students and nurses.

3. Data on process measures collected real-time. Audit of missed cases, testing of doctor knowledge, and review of balancing measures (eg blood culture costs) also used to facilitate improvement.

4. Feedback and encouragement provided directly on ward-rounds, to the team at daily multidisciplinary safety huddles.

5. TSG and SPSP events provide further learning and support.

MAIN RESULTS

1. Sustained improvement in key elements of the bundle and reduced variation (attached).

2. Improvement in cases of sepsis not triggering bundle from 50% to 20%.

3. Feedback from frontline staff has led to problem resolution and more intelligent use of the bundle. For example - obtaining adequate IV access, antibiotic delivery methods, and prioritising "high impact" antibiotics such as gentamicin.

CONCLUSION - We believe there are several critical success factors. (1) the bundle is a joint nursing/medical document and sepsis is recognised by all staff as a clinical priority; (2) the triggers for sepsis recognition are sensitive to “the deteriorating patient” and need for rescue; 3) the ward is adequately staffed and protocols exist that ensure all patients are seen in a timely fashion, and sick patients receive early senior review; 4) there is widespread senior clinical engagement at the coalface; 5) safety huddles have provided a focus for learning and motivation.

Building on this we hope to achieve our goal of mortality reduction in sepsis.
Title: Intravenous fluid prescriptions for acute medical admissions: are we doing the right thing?

Category: Audit & Quality Improvement

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Background

A significant proportion of acute medical admissions require administration of intravenous fluids (IVF). There is often conflicting advice on the appropriate fluids for maintenance therapy as specific guidance exists only for surgical patients, children and young adults, and patients with diabetic ketoacidosis¹,². We hence undertook an audit in order to evaluate IVF prescription practices within our unit.

Methods

Prospective audit was undertaken involving 30 fluid prescription charts and patient’s notes. Data was obtained and analysed using Microsoft Excel (version 2010).

Results

78% (n=47) of the IVF prescriptions included 0.9% Saline whereas only 5% (n=3) comprised of Hartman’s solution. 63% (n=19) of patients did not receive maintenance potassium supplementation. 2 patients became hyperchloraemic with worsening metabolic acidosis and 1 patient hypernatraemic due to excessive use of 0.9% sodium chloride solution. There was poor documentation of fluid status in the clinical notes and fluid balance was incompletely recorded in the majority.

Conclusion

We revised our IVF prescription policies by promoting the use of more iso-osmolar fluids like Hartmann’s solution and ensuring adequate potassium supplementation when appropriate. We have also developed a new IVF prescription chart and we plan to introduce a mandatory e-learning module for junior doctors involved in fluid prescription. We plan to re-audit our practice in order to ascertain the effectiveness of our interventions. We believe that all acute medical units should review their fluid prescriptions in order to ensure that we are doing the right thing as per the current available evidence.

References


Aim: This audit was conducted to determine how reliably and effectively patients admitted to an acute medical unit (AMU), were triaged to medical specialties by admitting doctors and senior nurses in comparison to the admitting consultant hence right patient for right bed as suggested by RCP Acute medicine toolkit 6.

Method: A prospective audit of patients admitted to AMU over a two week period was performed. Table 1: Admission categories.

Results: 287 patients; 53 men 234 women 65% above 60 years old (range 18 to 103 years). Consultant triage categories (cat) were 26% cat 1, 22% cat 2, 3% cat 3, 44% cat 4 and 5% others. Junior doctors and senior nurses’ categories matched the consultant’s assessment in 56% and 65%, did not match in 34% and 30%, unrecorded in 10% and 5% of patients respectively. Overall patient’s triage 44% AMU, 13% cardiology, 13% elderly care, 10% gastro, 6% endocrinology, 4% pulmonology, 4% oncology, 1% renal, 1% neurology, <1% rheumatology and 4% to day unit. AMU junior doctor’s diagnosis matched consultant diagnosis in 76.3%, did not match in 9.7%, no diagnosis made 11.6% and incomplete data in 3% of patients. Diagnosis of A&E doctors matched consultant diagnosis in 76.1% of patients.

Conclusion:

The majority of diagnoses and categorisations made by doctors above FY2/ST1/2 grade and senior nurses were concordant with the consultant hence most of these patients could have been moved to speciality wards after discussing with doctors and senior nurses on duty instead of waiting for consultants next morning. All new admissions receive consultant review whether on AMU or specialty ward.
Aim:

Junior doctors based on the AMU don’t get the opportunity to express their experience of the day to day job. Compounded with the impact of such high intensity workload and demands comes the need for their continued professional development.

This survey reflects the opinions of junior doctors working on AMU.

Methods

We conducted a questionnaire based survey distributed to AMU junior staff in hospitals in the Greater Manchester area. 50 responses were obtained from eight hospitals.

Results

A third of respondents were core trainees. 26% of juniors surveyed stated their AMU had 50-60 patients. Despite patient numbers, there were less than 4 doctors present in the majority of cases (1 doctor : 15 patients)

Two thirds of respondents were not satisfied with AMU bedside teaching. Up to half of the AMUs do not have dedicated weekly teaching programmes.

The majority of juniors (60%) feel Acute Medicine is a stressful specialty and do not consider it as a future career. However, more than 50% would still recommend the placement to their peers and consider themselves part of the wider AMU team.

Conclusion

This is an interesting insight as to what junior doctors consider about working on AMU. As a specialty, we need to have discussions surrounding the educational opportunities presenting on AMU and how we can enhance the professional development of our juniors. Dedicated teaching sessions and educational lead roles should be more emphasised within AMU.

The issues raised with our survey become more significant in light of progression towards a 7-day working week.
AIM

Paracetamol overdose is common and a leading cause of acute liver failure. MHRA recently published updated guidelines on treatment of paracetamol overdose with the adoption of a simplified single treatment line [1]. Concerns have been raised that this will lead to more inpatient admissions with 1 centre predicting an increase from 33% to 50% [2]. This audit aimed to assess numbers of patients attending with paracetamol overdose and compare treatment to MHRA guidelines.

METHODS

All patients attending Glasgow Royal Infirmary A&E and Acute Medical Receiving with positive paracetamol levels were retrospectively identified over 1 month. Clinical records were reviewed for details on management, outcomes and length of stay.

RESULTS

91 patients attended with drug overdose of which 47 patients had detectable paracetamol levels. 35 patients (74.4%) were admitted with 29 (61.7%) receiving treatment with IV Acetylcysteine. 12 patients (25.6%) had taken a staggered overdose. Average length of stay was 1.9 days.

There was one prescribing error due to weight miscalculation and 1 adverse hypersensitivity reaction which did not require treatment. Inadequate blood tests were performed in 2 patients prior to treatment and in 9 patients (31.0%) following treatment. No patient suffered significant acute liver injury. 3 patients required inpatient psychiatric care.

CONCLUSION - Paracetamol is the commonest drug used in overdose. The majority of patients (61.7%) required admission for treatment. This number is higher than previously expected and has implications for bed management requirements.

Treatment is well tolerated and well prescribed but blood monitoring should be improved to meet guidelines.

www.mhra.gov.uk/Safetyinformation/Safetywarningsalertsandrecalls/Safetywarningsandmessagesformedicines/CON178225

www.bmj.com/content/342/bmj.d2218/rr/605656
INTRODUCTION and AIMS

Structured M&M meetings have been shown to improve hospital governance arrangements, accountability and support quality improvement\(^1\). However, there is a wide variation across organisations and within divisional departments on the process of these meetings. Aims: to introduce a standardised proforma for reviewing all deaths in our acute medical unit and to identify systems/processes contributing to deaths.

METHODS

A standardised proforma was developed which included a list of factors thought to contribute to deaths\(^1\). The NCEPOD Classification of Care was used to grade the standard of care for each patient \(^2\). The proforma was used to review all deaths in our AMU over 9 months (1\(^{st}\) August 2012-31\(^{st}\) March 2013).

OUTCOMES

82 deaths were reviewed; average age was 82. Two thirds of patients received good quality of care (58 of 82). Room for improvement was identified in a third (n=24) with aspects of clinical (n=21) and organisational care (n=4) being highlighted. The main factors contributing to death were delay in diagnosis/unsuspected diagnosis (n=13), resource issues with surgical patients on medical wards (n=5) and delay in prescribing/giving antibiotics (n=4).

CONCLUSIONS

A structured approach to mortality reviews has identified areas for improvement in the care patients received in our AMU. Most patients received good quality care but in a third there was room for improvement mainly in aspects of clinical care as opposed to organisational. An electronic database of all deaths in our AMU and Consultant review of selected cases is planned to be implemented.

References


2. 2. NCEPOD Classification of Care
Aim:

High flow nasal cannula (HFNC) oxygen therapy can deliver 15-40 litre of oxygen per minute.1 It has been shown to reduce respiratory rate and improve oxygenation.2 We have been using this device in our Intensive Care Unit for 18 months. We wanted to evaluate the effectiveness of nasal high flow (NHF) oxygen therapy and patient compliance of HFNC in respiratory failure.

Methods:

A prospective pilot observational study was performed over a three month period from March to June 2013 in an Adult General Intensive Care Unit.

Outcomes/Results:

A total of fourteen patients were identified; six had a full data set. In four patients NHF was used post extubation as a step down therapy and in one patient as the ceiling of treatment. Based on the nursing feedback, thirteen patients were comfortable and compliant. None of the patients needed intubation.

Four out of the six patients who had full data set, showed improvement in respiratory rate, oxygen saturation and oxygen requirement (FiO2); two patients who did not respond were on NHF for palliation. The PaO2/FiO2 improved in five patients.

Conclusion:

NHF appears to be effective in managing patients with respiratory failure. It is well tolerated by patients and easy to manage and titrate for the nursing staff. It might be used in a high dependency setting as an intervention to avoid intensive care admission. Well-designed larger studies need to be performed to prove its effectiveness.

References:


AIM

The DECAF score\(^1\) is a novel severity scoring system recently proposed for patients admitted with acute exacerbations of COPD. It has been suggested that the use of this score could help identify those needing higher-level care or suitable for early discharge. To date, however, this score has not been validated. Our study aimed to practically validate this score in a busy urban Acute Medical Unit.

METHODS

93 consecutive admissions with acute exacerbations of COPD were retrospectively scored according to the DECAF model at Queen Elizabeth Hospital, Woolwich. The in-hospital mortality rate was then recorded, stratified by DECAF score, and compared to that at the proposing institution.

OUTCOMES/RESULTS

Mortality rates overall were similar between the proposing and validating institutions. In agreement with the proposing institution, our cohort demonstrates increasing in-hospital mortality with increasing DECAF score. Importantly, those with a DECAF score of 0 had a 0% in-hospital mortality. Those with a DECAF score of 1 or 2 had a much lower in-hospital mortality compared with those with a DECAF score of 3 or 4 (5% vs 42%).

CONCLUSION

Our practical validation would favour an early discharge of patients with a DECAF score of 0 from the AMU. It would also favour higher-level care for patients with a DECAF score of 3 or above. This could have an impact on length of stay and service provision on the AMU. Further, more powerful validation of the DECAF score should take place before deciding whether to support its application in acute medical practice.

Reference:

Introduction - Unplanned emergency medical readmissions are being targeted by health authorities because of quality of care concerns and economic burden.\(^{(1)}\) The predictability of readmissions within 7 days of discharge would appear to be an essential prerequisite for any reduction strategy. We examined predictors of 7-day medical readmissions in our institution spanning a 10-year period (2002 - 2011).

Aim - The aim of this study is to evaluate the predictability of 7-day readmission rates and question the misnomer that these readmissions represent “failed discharges”.

Methods

Hospital in-patient enquiry (HIPE) dataset for all emergency admissions to St James’s Hospital, between 1st January 2002 and 31st December 2011. We examined readmissions occurring within 7 days of discharge. Multivariate Logistic Regression with Area under Receiver Operating Curve (AUROC) determined predictability.

Results

Of 53,091 episodes over the 10 year period, there were 31,882 total readmissions with 1,684 occurring within 7 days of discharge. The average 7 day readmission rate was 3.17%

Older age (OR 0.99), female (OR 0.84) and longer LOS (OR 0.97), were associated with reduced odds of a readmission within 7 days (95% Confidence Interval)

Positive predictors of 7-day readmission were: previous readmission (OR 2.31), alcohol dependency (OR 1.46), respiratory diagnosis (OR 1.45), CCF (OR 1.29), anaemia (OR 1.28), illness severity score (OR 1.09), and uraemia (OR 1.01) (95% CI). The AUROC was 0.66.

Conclusion

We showed weak predictability for readmissions within 7 days of discharge. This suggests that 7 day readmission rates should not be used as an outcome indicator and that penalties to Trusts in this patient cohort cannot be justified.

Reference

Title: Providing Level 1 Care on the Acute Medical Unit
Category: Audit & Quality Improvement
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Aim:
A wide range of patients present to AMU. Some are discharged home immediately; others require admission for diagnosis and management. A smaller group of patients need Level 1 care. Increasingly this level of care is provided on AMU.

Method:
Patients admitted to a level 1 area from a selected Acute Medical Take (non-geriatric respiratory and cardiac patients excluded) were prospectively reviewed over a 30 day period. Data was collected regarding demographics, observations and outcomes.

Results
78 patients required Level 1 care on AMU. 60% came from ED, 28% from the Medical Assessment Area following assessment and 12% were readmissions from medical wards. 76% of admissions were out of hours. The mean age was 66.3 years, though 41% of patients were > 75 years. 76% of these had significant co-morbidities. The median Early Warning Score fell significantly (p<0.001) between admission and discharge (graph 1). 41% of patients required admission principally for monitoring (15% required level 2 monitoring): 59% required treatment (13% required level 2 treatment). The mean length of stay was 2.6 days. By 30 days 25.3% of admissions requiring enhanced care had died (18% from ED: 35% from AMU and 42% of readmissions from medical wards) cf. the general AMU mortality rate of 10%. 13% of admissions were deemed inappropriate.

Conclusion:
- Level 1 Enhanced Care can be provided on the AMU
- The age distribution of patients, needing enhanced care is often elderly, and frequently has multiple co-morbidities
- Robust patient selection is required to ensure that scarce resources are appropriately targeted
AIM

• Pyrexia is a frequent presentation in acute medicine however definitions and management are not standardized. Evidence suggests pharmacological pyrexia suppression may be harmful in certain contexts.1-2

• Aim: Describe incidence, prevalence, cause and management of pyrexia in an Acute Admissions Unit, and correlate with clinicians’ knowledge of pyrexia.

METHODS

• Service evaluation over 6 weeks (Mar-Apr 2013) in UCLH AAU. Bi-weekly data collection with piloted, self-designed proforma.

• Design and distribution of self-designed piloted questionnaire.

RESULTS

• 450 patients’ notes reviewed. 42 patients (9.33%) had recorded fever (>37.5°C). 36 (85.7%) presented with pyrexia, 10 (14.3%) developing pyrexia subsequently. Infection was suspected in 97% (41).

• Oral paracetamol was prescribed in 64% (27), regularly in 50%. Despite pyrexia cessation, paracetamol continued in 80%. The temperature triggering anti-pyretic administration ranged from 36.9°C-39.7°C.

• Wide variation was seen in clinicians’ (20, FY1-Consultant) definitions of fever (mode = 37.5 °C, range = 1.5 °C) and prescribing policy (figure 1). Patient discomfort was the most frequently stated indication for treatment (84%), despite there being no evidence to support its efficacy. 36% of doctors did not appreciate the importance of treating pyrexia in neurological and myocardial injury (figure 2).

CONCLUSION

• Inconsistency in definitions and understanding of pyrexia, and its management, were apparent. Stated views do not correlate with current practice.

• Pyrexia is a key marker of pathology and an evolutionarily conserved physiological response. Clinical decisions to pharmacologically suppress fever are made in an arbitrary fashion, on limited expertise, and may be injurious.

• Evidence-based guidelines are required to prevent harmful prescribing practice in acute medicine.
REFERENCES


AIM and METHODS

An audit was carried out at Wirral University Teaching Hospital NHS Foundation Trust acute medical unit focusing on patients admitted into hospital with acute kidney injury (AKI). Initial objectives were to assess how well AKI was identified on the acute medical wards, whether appropriate investigations and monitoring were completed, in keeping with local guidelines and whether patients were managed suitably. We created a pathway which could be used to help identify and manage such patients and could be available on the trust intranet (figure 1). Re-auditing involved comparing before and after data to see whether the pathway had an influence on patient management. Initial data collection was completed in October 2011 and re-audit data collected in October 2012.

RESULTS

Results showed that the pathway improved adherence to daily U&E's being ordered, commencement of fluid balance charts and stopping nephrotoxics. There was no improvement in completion of urinalysis or renal ultrasounds being ordered, but did show that these were requested on more severe and hence more appropriate cases. It also showed that diagnosis of AKI improved and more appropriate patients were referred to the renal team for management. Other statistical data that was analysed included length of stay, 30-day mortality, where patients were admitted from and patients who were undiagnosed but subsequently had AKI.

CONCLUSION

The recommendations from the audit include education for junior staff members, introducing a trust wide AKI pathway with renal approval , re-auditing in 12 months and introduction of AKI stickers for clinical notes with investigation prompts. (figure 2)
Aim

Delirium is common in older people. It can be an atypical presentation of an acute medical illness and is associated with significant mortality and morbidity. Early diagnosis of delirium is essential to ensure optimal investigation and management on the frontline. Our project aimed to:

1. Determine the prevalence of delirium in an Acute Medical Unit (AMU)

2. Improve the rate of diagnosis by introducing routine screening and using a delirium tool.

Method

Baseline: All patients aged 75 or older admitted to AMU at Ninewells Hospital, Dundee over 1 week were objectively assessed by the project team for the presence of delirium. Notes were screened for diagnosis and management of delirium.

Intervention: Education sessions were provided to doctors and nurses. For one week nurses performed a 4AT screening test on all patients aged 75 or older. If screening indicated delirium, doctors were asked to start a delirium tool to prompt timely investigation and management. Data was collected during the study week.

Results

Baseline: 68 eligible patients were admitted. Delirium was likely in 38 (56%) patients but only diagnosed in 4 (11% of those with delirium).

Using screening and Delirium Management Tool: Delirium was diagnosed in 66% of those with delirium.

Conclusion

Delirium is common in older people admitted to hospital but the diagnosis is often missed. Education, implementation of routine screening, and the use of a delirium management tool can improve the rate of diagnosis which ultimately leads to good quality care and reduced length of stay.
Background

Pyelonephritis is a common diagnosis in acute medical units. European Association of Urology 2013 Guidelines\(^1\) state that in all cases of acute uncomplicated pyelonephritis “evaluation of the upper urinary tract with ultrasound should be performed to rule out urinary obstruction or renal stone disease”, but do not specify clearly when this should be done. We interpreted the guidelines as suggesting an in-patient renal ultrasound scan (USS) to all pyelonephritis patients suffering from vomiting and thus requiring parenteral antimicrobial therapy, if anomaly of the urinary tract is suspected or if no clinical improvement is seen within 72 hours.

Aim

To audit how often, and when an USS was organised.

Methods

All admissions to acute medicine in Aberdeen Royal Infirmary with a diagnosis of pyelonephritis between September 2010 and August 2012 were extracted and compiled from an electronic patient management system (PMS). Guidelines were reviewed along with medical records to confirm diagnosis and investigations.

Results

118 patients were screened and 114 inpatient episodes analysed.

- 76% (n=87) had a renal tract USS, of which 91% (n=79) were inpatient investigations
- 20% (n=23) did not have an USS organised
- 14% (n=12) of USS revealed significant abnormalities

Conclusion

The majority of patients obtained the recommended USS, however as many as a fifth of patients did not. A very high proportion of scans were conducted as an inpatient investigation. The departmental protocol has been revised to ensure all patients have an USS organised, including clear definitions of uncomplicated pyelonephritis along with criteria for conducting outpatient USS.

AIM

Guidelines recommend the setting of an Estimated Discharge Date (EDD) at admission\textsuperscript{1,2,3}. The majority of acute admissions come through Acute Medical Units (AMU) and setting an accurate date of discharge encourages both team and patient to work towards this date\textsuperscript{1}. This audit sought to determine if introduction of a ward round safety checklist sticker on the Acute Medical Unit (AMU) could improve the rate of EDD setting.

METHODS

Post take ward round (PTWR) note entries were retrospectively reviewed before and after introduction of the check list sticker, which included a prompt to set an EDD. The accuracy of the date set was assessed in the re-audit.

RESULTS

Pre-intervention 26\% of patients had an EDD recorded (n=100). After introduction of the check list on AMU, 68\% had an EDD set (n=117). Rates were higher for those seen by Acute Physicians (83\%). Accuracy was poor with 4\% discharged before, 15\% on and 81\% after their predicted date. For those >75 years, the EDDs were underestimated with 36\% of patients discharged more than 72hrs and 12\% more than two weeks after their predicted date.

CONCLUSION

A ward round check list sticker can increase the rate of EDD setting. The inaccuracy of the dates set may reflect variability in the definition of EDD being used or a lack of consideration of multidisciplinary needs particularly for older people. We suggest that more Geriatricians embedded in AMUs, as recommended in the Acute Care Toolkit\textsuperscript{4}, may enhance multidisciplinary EDD setting and improve the accuracy of these dates.

References


AIM

Almost one third of hospital admissions require antibiotics (1). Antibiotic allergy is frequently reported, most commonly penicillin allergies. The correlation of self-reported allergies and true IgE mediated allergies (anaphylactic) is poor, with true IgE allergy found on skin prick testing in only 10-15% (2).

The widespread reporting of penicillin allergies during hospital admission places a financial cost on an already stretched healthcare system; requiring the use of second-line drugs, which are more expensive and often cover a broader spectrum. This introduces bacterial selection pressures, potentiating resistance to important second-line drugs.

We formulated a patient questionnaire to identify common themes of penicillin allergies in order to identify patients where IgE reactions were low risk and with whom beta-lactam antibiotics could be retested.

METHODS

Forty patients admitted under acute medicine or surgery who self-reported penicillin allergies were questioned.

OUTCOMES/RESULTS

Most patients questioned had poor knowledge of their “allergies” and subsequent treatment; 80% did not know to which penicillin antibiotic they had a reaction to, perhaps reflecting that for >80% of these patients the reaction was >5 years ago. The majority (72.5%) of reactions were in the community setting and only 3 required steroids and/or adrenaline to treat the reaction. Many of the reactions were non-specific and none of the patients had had formal allergy testing.

CONCLUSION

With these results we identified that: i) we should introduce clear written information to patients and GPs about reactions that have occurred during the admission; ii) expand this survey with a view to developing an algorithm to help future decision making.

REFERENCES

1- Western Sussex Hospitals NHS Foundation Trust, Antimicrobial Prescribing Policy

2- Solensky, R. Allergy to penicillins. UptoDate. December 2012
AIM

This Quality Improvement Project was undertaken at a London teaching hospital. There was confusion over roles and responsibilities for patients, and difficulties obtaining contact numbers. This was caused by the move to a new building with enlarged AAU and restructuring of the medical take/outlier system, without updating induction procedures. The goal: evaluate these problems using questionnaires and mapping, implement measures improving efficiency and productivity, and therefore improve patient care.

METHOD

Key problems were identified with all healthcare professionals via questionnaire. For medical staff: roles and responsibilities, handover, time contacting colleagues and switchboard. For nursing staff: ascertaining understanding of ward structure, who to contact and difficulty in contacting relevant teams.

In each case a mapping process was undertaken of all the steps involved in contacting others, so improvements could be found.

OUTCOME/RESULTS

Firstly, we created a ‘handbook’, written by an FY1/SHO/SpR, with information on bleeps, duties, handover and ‘on-call’ sections, distributed at changeover induction.

Secondly, we created ward-based posters for staff to contact doctors. A list of ‘useful numbers’ was incorporated into the ‘handbook’.

Finally, we improved induction, focussing on areas highlighted by our questionnaire.

Our findings were presented to the department. Staff responded positively. New induction practices have resulted in improvement in staff ‘preparedness’. Repeat questionnaires demonstrated improvement from our intervention.

CONCLUSIONS

The recent hospital move and rota restructuring caused challenges to our department. Self-evaluation and simple interventions delivered a significant improvement in patient care, through better organisation of take responsibilities, easier communication and a more tailored induction.
**Background:** Sepsis is an inflammatory response to an infective pathogen. Early detection and treatment is associated with improved survival\(^{(1)}\).

The Sepsis Six (S6) is composed of:

1. **Blood Cultures**
2. **Lactate + FBC**
3. **Urinary Catheterisation**
4. **IV Fluid bolus**
5. **Oxygen**
6. **IV Antibiotics**

It has been shown that completion of S6 within 1 hour reduces mortality\(^{(2)}\). This audit aims to assess compliance with this standard and evaluate the effectiveness of a sepsis improvement plan.

**Method:** A baseline audit was performed, examining case notes of "septic patients" retrospectively (those on intravenous antibiotics). Compliance with each element of the sepsis six plus TTFA was assessed. A sepsis improvement plan was introduced consisting of staff education, reinforcing vigilance, regular multidisciplinary meetings and incorporating a standardised approach through the use of a sepsis proforma.

**Results**

<table>
<thead>
<tr>
<th>Element</th>
<th>First Cycle (n=11)</th>
<th>Second Cycle (n=11)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Completed within one hour</td>
<td>Percentage (%)</td>
</tr>
<tr>
<td>SIRS Documented</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>FBC and Lactate</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Blood Cultures</td>
<td>3</td>
<td>27</td>
</tr>
<tr>
<td>Urine output</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>IV Fluids</td>
<td>6</td>
<td>54</td>
</tr>
<tr>
<td>Oxygen</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>IV Abx</td>
<td>5</td>
<td>45</td>
</tr>
</tbody>
</table>

**Time to First Abx**

- **First Cycle:** SIX HOURS
- **Second Cycle:** 1.4 HOURS

**Conclusion:** An educational drive along with a systematic change in process has seen reduced TTFA along with enhanced compliance with most elements of S6. Involvement from Scottish Patient Safety has allowed continued audit since introduction of the S6 Bundle. Using this continuing audit process we aim to continually improve our systematic processes to enhance compliance with S6, leading to fewer preventable deaths through delayed treatment.
References


BACKGROUND

Non stroke (NS) diagnoses represent a significant proportion of suspected strokes admitted to acute stroke units. The need to rapidly assess patients with suspected acute ischaemic stroke to identify those eligible for thrombolysis may increase the rate of NS diagnosis.

This study aimed to assess rate and characteristics of NS diagnosis in a tertiary care acute stroke unit and the implication for stroke training.

METHODS

The discharge database of the acute stroke unit, Aberdeen Royal Infirmary was retrospectively interrogated for data on all admissions between July 2011 and August 2012. Demographics, length of hospital stay, final diagnosis, hypertension, cholesterol, AF, smoking status, discharge modified rankin and destination were recorded.

Patients with uncertain diagnosis were classified as non stroke.

RESULTS

81/637 NS admissions were identified (13%).

Compared with stroke/TIA group, NS patients were significantly younger (61yrs Vs. 72yrs, p<0.0001); had shorter hospital length of stay (3 Vs. 9 days, p<0.0001);less disabled (discharge mRS 0 Vs. 2 p<0.0001); more likely to be discharged home (90% Vs 38% P<0.0001) and are less likely to be in AF (7.8% Vs. 24.7% p<0.001).

There was no difference in smoking status, serum cholesterol and blood pressure. 3/81 (4%) patients with NS diagnosis received thrombolysis with no adverse consequences. Common NS diagnoses were migraine (25%), functional neurological disorder (19%), seizure (11%), brain tumors (7%) and syncope (4%). The diagnosis was uncertain in 10/81 cases (12%). 55% of NS diagnoses are neurological conditions.

CONCLUSION

Non stroke diagnosis made up 13% of suspected stroke admitted to the acute stroke unit. They are younger and have better discharge outcome. The pattern of vascular risk factors may be similar. Neurological conditions make up over a half the diagnoses mimicking stroke. Experience in neurology should be proportionately represented in the stroke training curriculum.
AIM

To establish a collaborative group encompassing representation from all the acute medical units in Scotland to undertake regular data collection with the aim of improving data accuracy and the quality of care delivered.

METHODS

The Royal College of Physicians of Edinburgh (RCPE) convened a group of those working in acute medicine in Scotland with an interest in improving the service. A list of all the AMUs in Scotland was generated and each were invited to provide a representative.

The Society for Acute Medicine has produced quality indicators (QIs) for application to AMUs¹ and these form the basis of the initial data collection.

Regular meetings are being held to discuss accuracy of data collection and interpretation of the QIs. Each unit has agreed to review 5 randomised cases weekly on pre-specified days. The data is submitted to RCPE with the results to be fed back to the group anonymously.

OUTCOMES/RESULTS

1. We have representation from 90% of units.*

2. We have produced detailed guidance notes for data collection of each QI.

3. The results from July’s data collection are awaited (but will be included in the poster).

CONCLUSIONS

1. There is significant variation in the delivery of acute medicine within the Scottish AMUs.

2. There is significant variation in individual interpretation of the QIs and we provide a standardised method of data collection.

3. This group is still in the early stages of development and we aim to consolidate and expand this national data set.
REFERENCES

1. The Society of Acute Medicine (2012). Clinical Quality Indicators for Acute Medical Units (AMUs).

*Subject to change prior to production of the poster
The National Patient Safety Agency (NPSA) recommended trusts identify a list of critical medications and carry out an annual audit. The University of Wales Health Board identified antimicrobials, anticoagulants, diabetic, epileptic and Parkinson's disease medications as time critical medicines (TCMs).

**Aims**

1. Assess the awareness and understanding of time critical medicines amongst healthcare professionals.

2. Determine the incidence of omitted and delayed TCMs.

**Method**

1. Over a 6 day period in March 2013 all medication charts of patients admitted to the acute medical unit (AMU) for >24 hours were reviewed.

2. Healthcare professionals working in AMU were asked to complete a short questionnaire to assess previous training on and awareness of TCMs.

3. The questionnaire highlighted issues with training on TCMs (table.1). As a result an education program was delivered.

4. The audit was repeated in July 2013 to complete the cycle.

**Results**

232 medication charts in total were reviewed, with 61% having one or more TCMs prescribed. 14.7% of all TCM doses were delayed or omitted, which significantly improved to 8% (p= 0.033) following our training program (table.1). The most commonly prescribed TCM were antimicrobials. Only 58% of patients had intended administration times documented on the initial audit; delays in administration were longer where a time was not recorded, which significantly improved following our education program (figure.1).

**Conclusions**

The NPSA have identified that serious harm or even death can result from omitted or delayed medicines. Improving awareness through various methods can reduce the incidence of delays/omissions in medication administration.

**References**

AIM

Patient experience is a key theme of recent healthcare reform and has been shown to correlate with certain clinical outcomes including mortality. The Friends and Family Test (FFT) introduced in April 2013, is a headline metric that hospitals must publish about patient experience. Our Trust embraced this with a web and telephone based survey. Completed after discharge patients can rate their experience, commend individual staff and answer the Friends and Family question.

METHODS

Feedback from January to June 2013 was analysed by ward, including the Acute Medical Unit (AMU). Statistical correlation was used to determine which aspects of care were most influential to the Friends and Family Test score.

RESULTS

An overall inpatient response rate of 17% was achieved (10043 discharges), exceeding the Government target of 15%. The response rate for AMU was 11% (1538 discharges). The top five predictors of a better FFT score were: being treated with dignity and respect ($r=0.66$), confidence in the nurses (0.60) and in the doctors (0.54), cleanliness of the ward (0.50), and privacy and dignity during examinations (0.42). Similar correlations were found for overall experience ratings. 805 staff received commendations (56 for AMU).

CONCLUSIONS

Web based feedback systems (ie NHS Choices) have been shown to be a reliable method of obtaining patient feedback. Our new approach has identified key predictors of the FFT. This allows our Trust to rectify urgent issues and track changes to patient experience and clinical outcome. Commendations aim to motivate and empower staff to drive quality further.


**Background:** Hyperkalaemia is a potentially lifethreatening emergency which requires urgent treatment. The incidence of hyperkalemia in hospital patients has been reported to be between 1.1% and 10%. National guidelines are published, but clinical practice often varies considerably.

**Aim:** This audit was carried out to compare our current practice in the treatment of Acute Hyperkalemia against the standards published in recent UK Renal Association Guidelines.

**Patient and Methods:** This retrospective audit included 42 adult patients presenting to AMU and A&E with serum potassium greater than 6.0mmol/L, from September 2012 to November 2012.

**Outcome and Results:**

Contributing factors identified for hyperkalemia were AKI (69%), ACE Inhibitor (21%), hyperglycemia and dehydration(10%).

Our audit highlighted several pitfalls in our management of hyperkalemia:

- Many patients with serum potassium $\geq$ 6.0 mmol/L had no ECG performed prior to treatment. (12%)
- Few patients with serum potassium $\geq$ 6.0 mmol/L and hyperkalaemic changes on ECG had a repeat ECG following treatment. (33%)
- A high proportion of patients with severe hyperkalemia ($K > 6.5$ mmol/L) had no Continuous ECG monitoring. (84%)
- Intravenous calcium salt was frequently administered to patients with no hyperkalaemic ECG changes. (45%)
- Calcium resonium and sodium bicarbonate were used in 5% and 22% of patients with severe hyperkalemia respectively. National guidelines do not recommend these treatments for acute sever hyperkalemia

**Conclusion and Recommendations:**

1. **To update our local hospital guidelines** in accordance with national guidelines for the management of hyperkalemia (New pathway, in progress).

2. **Dedicated teaching** for medical students, junior doctors, and nurses on prevention, recognition, treatment and potential hazards of hyperkalemia.

3. **Re audit** to establish change in practice.

Background & Aims:

Recently a 32-bedded Short Stay ward (SSW) was added to Acute Medical Unit (AMU). Bed flow in the hospital was to be mainly driven by efficient utilization of beds in SSW. We conducted this audit to assess if appropriate patients are being selected for SSW, as per advice of Post-take ward round (PTWR), 2. To ascertain whether, estimated-length-of-stay (ELOS) was reflected on patient’s selection for SSW and their discharge planning, 3. To assess the impact of weekends on bed efficiency, when there is no routine senior round in SSW.

Methods:

All patients occupying beds in SSW on the mornings of 4 consecutive Mondays (Group-A = 128 patients) and Thursdays (Group-B= 125 patients) were included and data collected on age, ward allocation in PTWR, ELOS and in-hospital stay till data collection. Group-A was to reflect impact of weekend when comparing with group-B.

Results:

In group-A, a significantly higher proportion of patients did not have ‘ward’ allocated in PTWR (45.3% vs 20.8%), higher number of patients expected to stay over a week (ELOS> 1 week) were placed in SSW (14.8% vs 7.2%), hence blocking beds in SSW over the weekend. In group-A higher number of patients exceeded their ELOS (27.3% vs 20%) and more patients stayed longer (> 4 days) indicating lack of senior cover over the weekend.

Conclusions:

Our data, clearly show that beds in SSW get blocked over the weekend due to inappropriate selection of patients and inadequate direction by PTWR. In addition, absence of full round by senior clinician leads to increased LOS for the weekend patients in SSW. This supports 7-days working model for AMU and SSW for improved effectiveness.