Title: Are patients admitted to accident and emergency departments (A+E) with regular SVT treated appropriately?

Author: Vinit Sawhney

Co-Authors: Tim Harris
Richard Schilling

Topic: Audit & Quality Improvement

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Introduction

The NSF guidelines for treatment of patients admitted to A&E with SVT recommend that after termination of arrhythmia, patients should have thyroid function tests (TFT), be given a copy of their arrhythmia ECG, discharged the same day and referred to a heart rhythm specialist. We audited the notes of patients admitted to a tertiary centre A&E with an ECG confirmed diagnosis of SVT over a 11 month period, to investigate the implementation of the above guidelines.

Methods

The A&E notes for patients with a diagnosis of SVT were examined to determine if they had previous admissions with tachycardia and whether the NSF guidelines were being followed.

Patients with no arrhythmia ECG or with other diagnosis (AF, sinus tachycardia) were excluded.

Results

Only 7 patients were referred to the heart rhythm service. The remainder were either given no follow up (n= 19), referred back to GPs (n = 3) or to a hospital that provides no heart rhythm management (n=3). Average delay for referral to heart rhythm specialist was 40 days. The reason for overnight admissions was not clear. Four patients had holter monitors requested for diagnostic purposes despite having had a 12 lead ECG demonstrating regular SVT.

<table>
<thead>
<tr>
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<th>Hospital admission</th>
<th>Nights in hospital</th>
<th>TFT</th>
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<tbody>
<tr>
<td>N = 32</td>
<td>9(28)</td>
<td>3.2</td>
<td>14(44)</td>
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Conclusions

Patients admitted with regular SVT are often appropriately sent home the same day but a significant number are admitted unnecessarily and have inappropriate investigations, adding to the costs of the health service. Referral for definitive investigation and treatment is often delayed.
References

1. National Service Framework Chapter 8, Arrhythmias and Sudden Cardiac Death, 2008
Audit of cardiac arrests and early warning scores

Author: Dr Hannah Dahwa
Co-Authors: Dr Scott Mackenzie
Dr Richard Lea

Topic: Audit & Quality Improvement

Aim: Identification of patients and implementation of appropriate management at an early stage can reduce the number of patient deaths, cardiac arrests and intensive care admissions\(^1\),\(^2\). Initial management and early warning scores in the 24 hours prior to cardiac arrest were audited. Compliance with local protocols, the quality of documentation and use of do not attempt resuscitation orders were evaluated.

Methods: All patients having a cardiac arrest between 08/03/2010 and 02/05/2010 on medical wards in Royal Lancaster Infirmary were included. Patients were identified on wards from the cardiac arrest logbook and data was extracted for inclusion onto a proforma. 15 patients were identified for inclusion. 2 patient’s medical notes were not available to examine management.

Results: Objective data: 6.9% of patient’s physiological variables were not recorded. The most common variable not recorded was oxygen saturation. In patients scoring 2 or 3, 15% of patients had observations increased to 4 hourly. In patients scoring 4, no patients had observations increased to hourly.

Subjective data: 25% had abnormal observations, most notably hypoxia. These did not trigger a review by a doctor. 23% could have received a senior review that would have altered patient management. A do not attempt resuscitation order or escalation of care was appropriate in a further three cases.

Conclusion: Compulsory early warning score training and critical illness training should be implemented for all nursing and medical staff respectively. Hypoxia should trigger a review by a doctor to prescribe oxygen.

Word count: 242

References


AIM
The Acute Medical Unit was asked to find ways to improve patient care and hospital efficiency for common conditions. Cellulitis is a common and often relatively simple condition to treat, and makes up a large proportion of hospital admissions. The goals of the audit were to examine length of stay and management of cellulitis admissions, design and implement a care bundle to improve efficiency and optimize patient care.

METHODS
Cases selected were all cellulitis admissions from a 6 month period (January 2010 - July 2010). A proforma was used to extract data including demographics, primary/secondary cellulitis diagnosis, co-morbidities, antibiotic selection and dosing regime, total length of stay, out-patient antibiotic administration data (referrals made/accepted, duration) and rate limiting factors. Data analysis using Microsoft Excel.

OUTCOMES/RESULTS
64 cases included in analysis. We found that 56% of patients did not have any co-morbidities, and had an average length of stay of 6 days. Multiple antibiotic regimes were used. 64% patient referred to out-patient antibiotic services, 83% accepted, reflecting local service limitations. Average length of out-patient antibiotic service duration was 5 days (compared with NICE recommendations of 3.5 days).

CONCLUSION
Lack of clear local protocol based on national guidelines result in inappropriate and prolonged hospital admissions. Implementation of a care pathway will improve patient care by safely identifying patients suitable for outpatient antibiotic therapy, and ensuring selection of appropriate antibiotic therapy.
Title: Avoidable admissions to Acute Medical Unit - patients transferred from Emergency Department discharged in < 24 hours

Author: Sarah Hoye

Co-Authors: Rob Moisey
Tende Msimanga

Topic: Audit & Quality Improvement

Aim

Why the project was undertaken: important issue - ‘avoidable admissions’ to Acute Medical Unit i.e patients transferred from Emergency Department discharged quickly impact on patient flow and waste beds

Goal: To obtain data for future liaison with ED & highlight specific presenting complaints to target to prevent unnecessary transfers

Methods

Retrospective case note audit (100 patients)

Outcomes / results

Breach time – no influence (ED length of stay 2 hours 14 minutes)

Average time spent on AMU 3 hours 56 minutes

‘Young’ patients – average 50 years

No other influencers – mobility, social support, alcohol or drug intoxication, mental health etc.

Demonstrated large quantity of ‘inappropriate’ admissions which could have been discharged from ED, suggesting possible reasons for transfer, and how admission could have been avoided using clinical experience, out-patients or established guidelines.

Highlighted:

- Specific conditions rapidly discharged from AMU:
  1. Musculoskeletal chest pain
  2. Low CURB65 CAP & LRTI
  3. Non cardiac syncope
  4. Headaches
  5. AF
  6. Overdose
  7. Seizure

- In ED
  1. Lack of risk stratification (TIMI, Wells, CURB65)
2. Unnecessary investigation (troponin, d-dimer)
3. Limited use of relevant guidelines (BTS, ESC)
4. Lack of senior review – only 20% discussed with or seen by middle grade or Consultant
5. Influence of senior presence on AMU discharging quickly 8am-5pm

Conclusions:

Raised ED team awareness to:

- Order tests appropriately
- Risk stratify / use guidelines
- Improve senior review – supports business plan for more Consultant cover

Endorsed ‘bundle’ development for highlighted conditions to facilitate consistency in practice of evidence based medicine.

Aiming to reduce transfers has cost benefit, improves patient flow, utilises less beds and reduces unnecessary workload on AMU.

References:


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Surviving Sepsis: An audit driven approach to the management of septic patients


Aim: To assess the effectiveness of a multi-faceted strategy to improve sepsis management in the acute medical receiving unit.

Methods: Patients admitted via the medical receiving unit to the respiratory ward were assessed retrospectively for markers of sepsis during three periods: a. Oct-Nov 2009, b. Jul-Oct 2010, c. Dec 2010-Jan 2011. Sepsis was defined as per SIRS criteria.

The intervention applied between periods a and b involved: (i) increasing education and awareness of sepsis guidelines at departmental MDT meetings; (ii) development of a ‘Sepsis Bundle’ on TRAK (web-based healthcare information system) (iii) development of a ‘sticky’ to be placed in the notes on suspicion of sepsis encouraging goal-directed therapy and appropriate investigation/escalation. Results were re-assessed during period c to see if changes observed between a and b had been maintained.

Results: 93 patients met the inclusion criteria for the study and had accessible notes. Reduction in time (minutes) to antibiotic administration (a 245 ± 27.0, b 206 ± 22.2, c 143 ± 18.4, P = 0.008 a to c) was seen across all cycles. Measurement rates for markers of organ dysfunction are shown in figure 1. Improvements between a and b were seen for measurement of lactate (P = 0.036), AMT/MMSE (P = 0.027) and coagulation (P = 0.001). Improvements between periods a and c were seen for urine output (P = 0.028). Reductions in measurement of swabs was seen between a and b (P = 0.025) and between a and c (P = 0.01). Measurement of coagulation reduced between b and c (P = 0.017).

Conclusions: This intervention had a positive impact on the appropriateness of investigations performed in patients at high risk of sepsis. Of particular note is the substantial reduction in time to administering antibiotics in these patients, which represents an increase in the recognition, and understanding of the potential severity, of sepsis. However, continued education regarding both national guidelines and local procedures is required to avoid reductions in the level of care once an intervention is completed.
Title: Catheter-Related Bloodstream Infections: Can we save more lives? An Audit

Author: Ruth Greer

Co-Authors:

Topic: Audit & Quality Improvement

Aims

Bloodstream infections associated with central venous access devices (CVAD) are a major cause of inpatient morbidity and mortality.

I aimed to determine compliance rates across Gloucestershire Hospitals to ‘High Impact Intervention’ (HII), EPIC and Matching Michigan guidelines, for CVAD insertion and care.

Objectives:

- Identify all incidents of CR-BSI over 6 months
- Ascertain compliance to gold standards
- Identify areas where clinical practice could improve
- Implement changes to improve compliance, reducing CR-BSI rates
- Re-audit

Methods

I searched the microbiology database for all positive blood culture results from CVADs and tips, creating a list of all patients with proven CR-BSI between 1st February and 31st July 2010 from Gloucester Royal and Cheltenham General Hospitals. The data I collected retrospectively by reviewing patients’ notes reflected standards laid out in EPIC, HII and Matching Michigan guidelines. I also carried out an anonymous spot survey of 50 nurses on medical and surgical wards to assess knowledge on key points of CVAD care as laid out in guidelines and trust policy.

Results

During this period there were 61 proven incidents of CR-BSI, 39 of which I analysed.

Conclusions

Compliance with guidelines, and documentation of CVAD insertion and ongoing care, is inadequate.

There are three different forms for ongoing care. These were used inappropriately for the wrong line types and therefore correct guidelines are not being followed, or were incomplete or incorrect.

Great variation in answers was given in the CVAD care survey, identifying a need for further teaching to
highlight essential points for correct care.

I re-wrote the ‘CVAD Insertion Document’ to be completed by an assistant who does not actively participate in the procedure, as well as the operator, ensuring insertion is carried out correctly.

I wrote a ‘CVAD Ongoing Care’ document, to be used for tunneled and non-tunneled lines, replacing two of the existing documents. The design ensures all key points in the guidelines are addressed.

These forms were launched trustwide in April, alongside a ward-based training program for healthcare professionals.

I am re-auditing to re-assess compliance to guidelines and compare CR-BSI rates with those prior to implementation of changes.
Title: NG Tube and Decision to Feed Audit

Author: Rachel O’Brien

Co-Authors: Holly Metcalfe

Topic: Audit & Quality Improvement

Aims

From observing practice of patients admitted to hospital with acute stroke it was apparent that there were often conflicting opinions regarding the feeding of dysphagic patients. No standardised local guidelines were available to facilitate clinicians’ decision-making.

1. To compare current local practice with national guidelines regarding feeding post-stroke.

2. Identify areas for improvement and implement change strategies as appropriate.

Methods

Retrospective case note review of patients admitted with acute ischaemic stroke. Patients included were those highlighted as being dysphagic with a NBM recommendation.

Data collection tool – Figure 1.

Current national guidelines were reviewed and our data compared to this.

Important standards highlighted:

1. Patients highlighted with difficulty swallowing post-stroke should have a specialist assessment of swallowing, preferably within 24 hours of admission and not more than 72 hours afterwards. [1]

2. People with acute stroke who are unable to take adequate nutrition and fluids orally should receive tube feeding with a nasogastric tube within 24 hours of admission. [2]

Outcomes and results

1. 20 patients admitted over 1 month period with acute ischaemic stroke, dysphagia and subsequent NBM recommendation.

2. 80% of patients presenting received a specialist swallow assessment within 24 hours of presentation.

3. 45% of patients NBM had NG tubes inserted (average time to insertion 15.5 days – national guidance of 24hrs).

Conclusion

Early swallow assessments are performed well.

However, our hospital is currently not complying with current national guidelines; NG feeding needs to be considered early in the acute admission by the admitting team.
Our Acute Stroke Proforma has been adapted to facilitate this process (Figure 2).


Title: Documentation of a differential diagnosis: Dying art or essential part of current practice?

Author: Tehmina Bharucha

Co-Authors: Oliver Clifford
Sabih Huq
Mike Okorie

Topic: Audit & Quality Improvement

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The formulation of an impression is an essential part of a medical assessment and enables a framework for further management\(^ 1\). However, anecdotal evidence suggests that documentation of diagnoses is less than ideal. This audit aimed to review the documentation of a differential diagnosis in an acute medical care setting.

Methods: Patient records of 100 consecutive acute medical admissions were reviewed for the documentation of a diagnosis (or differentials) at various stages of the medical admission. A diagnosis was considered to be any impression that attempted to explain the symptomatology. The standard was 100% in view of current widely accepted views\(^ 1\).

Outcomes: Impressions were documented in 51% of patients assessed by A&E staff, 75% of patients assessed at Initial Medical Review, 63% of patients assessed during Senior Medical Review and 32% of patients assessed at the Post-Take Ward round. 69% of patients had a diagnosis documented on discharge. Overall, 6% of patients had no diagnosis at any stage. The results were presented at the hospital grand round and clinical governance meeting. In a re-audit of a further 100 case-notes in the same setting there was no significant change in the results.

Conclusions: Our results suggest that documentation is poor, and shows an almost inverse correlation with the level of experience of the doctor performing the assessment. Root cause analysis might facilitate better documentation of diagnosis during medical assessment. We did not address the, perhaps more important question, as to whether the documented diagnosis was correct.

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Title: CURB 65 ? Is it applicable to geriatric patients?

Author: Arma Yaqoob

Co-Authors: Lisa Price
Anupama Nandagudi
Ayo Ahonkhai

Topic: Audit & Quality Improvement

AIM:

Pneumonia is a major cause of morbidity and mortality in the United Kingdom affecting 8 in 1,000 people every year. The CURB-65 model was recommended by the British Thoracic Society for the assessment of severity of pneumonias. Many geriatric patients present with pre-existing co-morbidities which renders the assessment difficult to interpret. Our aim was to address this debate about the utility of CURB 65 for pneumonia in the geriatric population.

METHODS:

We retrospectively studied 102 pneumonia patients aged over 75 years over a six month period with questionnaire.

OUTCOME/RESULTS:

Of the cohort, 63% were female. The most common presenting complaints were dyspnoea and cough. 74% of patients were admitted from home, whilst the remaining from residential/nursing homes. The most common co-morbidities that affected the elderly population were hypertension (62%), hypercholesterolaemia (38%), dementia (36%), diabetes (35%) and COPD (35%).

The CURB-65 score was completed in 47% of patients. Patients CURB score from 1-5 scored 20%, 46%, 30%, 2% and 2% respectively. 70% were found to have new onset confusion and from this 65% scored six or below on AMTS form. Out of the patients who had a urea of greater than 8 (49%), this was new finding in 59% of patients. Whilst 51% of patients returned back home, and 28% went into Residential/Nursing Home, 21% of patients died.

CONCLUSION:

Irrespective of the CURB score all were admitted. Overall CURB 65 score was a good predictor of outcome. However in patients with pre-existing conditions CURB 65 remains debatable, needing further review.
Title: Improving Medicine Reconciliation in Acute Medicine

Author: Calum McGregor

Co-Authors: Immo Weichert
Gautum Ray

Topic: Audit & Quality Improvement

Aim

Adverse drug reactions result in approx 1100 deaths and cost the NHS £500 million annually (1), and 7% of these are due to preventable medical error (2). The Scottish Patient Safety Programme (SPSP) requires improvement in medicine reconciliation (med rec) as a national priority (3), with a target of over 95% for an accurate medication history to be documented and reconciled (4). Our aim was to improve medicine reconciliation from a baseline of 20% to over 95%.

Methods

Interventions used to improve medicine reconciliation:

Proforma - A standardised admission proforma including a med rec form for all patients admitted under medicine was introduced.

Educating junior medical staff rotating to the Acute Medical Unit regarding medicine reconciliation.

Weekly publication of results showing medicine reconciliation completion.

Emergency Care Summary (ECS) access for junior medical staff.

Med rec tick box on medical admission board.

Regular e-mail reminders to all clinical staff from acute medicine consultant.

Rewarding junior staff with sweets when 100% med rec compliance was achieved.

Results

Weekly audits were performed by pharmacists to measure performance (See uploaded diagrams).

Medicine Reconciliation in our hospital has improved over the past year and has now reached reliability according to the SPSP required standard of 95% +/- 5% compliance for at least 3 consecutive months.

Conclusion

Improving medicine reconciliation in our hospital was a challenge which required many staff and several interventions to improve performance. Better medicine reconciliation reduces medication errors and improves patient safety (5), and is therefore important for all Acute Medical Units.
References


Title: Documentation of resuscitation orders in general medical inpatients; mortality, in-hospital length of stay and the relevance of primary diagnosis.

Author: Campbell Thompson

Co-Authors: Diana McNeill
Jordan Li
David Spriggs

Topic: Audit & Quality Improvement

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Aim: Documentation of resuscitation status in hospitalized patients has relevance in the management of cardiopulmonary arrest. Our goal was to assess the association of the documentation of resuscitation status with mortality, Length Of hospital Stay (LOS) and the patients’ primary diagnosis in general medical inpatients in hospitals in Australia and New Zealand adjusting for severity of illness and other covariates.

Methods: The admission notes of 1681 medical admissions to the four tertiary care teaching hospitals across Australia and New Zealand were reviewed retrospectively for frequency and nature of resuscitation documentation and its association with mortality, LOS and primary diagnosis.

Outcomes/Results: Resuscitation orders were documented in 741 patients (44.7%). For the 232 patients with a Not-For-Resuscitation (NFR) order, the in-hospital mortality rate was higher than in control patients (14% vs 1.2%, p<0.005). The mortality rate remained significantly higher in the NFR group after propensity matching of the controls for age and comorbidity (14% vs 5%, p<0.005). The death-adjusted LOS for the NFR group was also significantly higher compared to the control patients (9.7 days vs 4.7 days, p<0.005) and this difference remained after propensity matching (9.7 days vs 7.7 days, p<0.05). Those patients with a primary diagnosis of respiratory tract infection or cardiac failure were more likely to be documented NFR compared to those with cellulitis or urinary tract infection.

Conclusion: The documentation of NFR in a patient’s admission notes is associated with increased in-hospital mortality and LOS. This is only partly explicable in terms of these patients’ greater age and co-morbidity.

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Title: THE SIGNIFICANCE OF RENAL INSUFFICIENCY IN PATIENTS TREATED AT AN ACUTE ASSESSMENT UNIT

Author: Campbell Thompson

Co-Authors: Jie Fok
Jordan Li
Tuck Yong

Topic: Audit & Quality Improvement

Background

Stage 3 chronic kidney disease has been reported to be present in about 17% of acute medical admissions. In hospitalized patients, the incidence of acute kidney injury varies between 5% and 7%. The effect of acute or chronic renal insufficiency (defined as eGFR <60ml/min/1.73m²) on short and long term mortality and length of stay (LOS) has not been well described.

Methods

A retrospective cross-sectional study was undertaken of 575 acute medical admissions to an Acute Assessment Unit (AAU) in a university teaching hospital. Patients’ eGFR was calculated using the MDRD 4 formula based on the creatinine measurement at the time of admission.

Results

Data from 575 patients (age: 72.7±18.2 years, 59% female) were analysed. The mean eGFR was 71.1±65.4ml/min/1.73m². Strikingly, 238 (41%) patients had eGFR <60ml/min/1.73m². By December 2009, there had been 149 (26%) deaths from this cohort. Compared with controls (eGFR >60ml/min/1.73m²), patients with eGFR 30-59ml/min/1.73m² had an unadjusted relative risk (RR) of two-year mortality of 2.0 (95%CI, 1.5-2.7; p<0.0001). Patients with even greater renal insufficiency (eGFR 15-29ml/min/1.73m²) had an unadjusted RR of death of 2.9 (95%CI, 1.9-4.0; p<0.0001). In-hospital mortality was 4.8% without relation to degree of renal dysfunction. LOS increased with worsening degree of renal function (r=-0.088; p<0.034). Patients with eGFR 15-29ml/min/1.73m² stayed three days longer than those with eGFR > 60ml/min/1.73m².

Conclusion

A large proportion of patients have renal insufficiency on admission to AAU. The degree of their renal insufficiency is associated with their two-year mortality and LOS. eGFR on admission may be a useful indicator of patients’ outcomes.
Title: Timeliness in discharge summary dissemination is associated with patients’ clinical outcomes

Author: Campbell Thompson

Co-Authors: Jordan Li
Tuck Yong
David Ben-Tovim

Topic: Audit & Quality Improvement

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Aim:

To determine the relation of the readmission rate of General Medical patients to either the existence of a discharge summary or the timeliness of its dispatch.

Methods:

Retrospective study on discharge summaries of all discharges from the General Medical service at a tertiary referral teaching hospital from January 2005 to December 2009.

Results:

16,496 patient admissions were included in the analysis. Of these discharges, 3397 (20.6%) patients did not have a summary completed within a week of discharge. There were significant linear trends between patients’ readmission rates within 7 (p<0.001) or 28 days (p=0.002) and categories reflecting the delay in dispatch of their discharge summaries. The absence of a discharge summary was associated with a 79% increase in the rate of readmission within 7 days (p < 0.001) and a 73% increased rate of readmission within 28 days (p < 0.001). If aged less than 80 years, the absence of a discharge summary was associated with a significant increase in readmission rate within seven days (relative risk = 2.27; p < 0.001) and within 28 days (relative risk = 1.55; p < 0.001) after discharge.

Conclusion:

Delayed transmission or absence of a discharge summary is associated with readmission of the patient; more so in patients less than 80 years old. If no summary is generated by 7 days after discharge, the rate of readmission within 7 or 28 days after discharge is indistinguishable from no summary being written at all.

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AIM: To assess the effectiveness of a focused educational campaign upon the quality of drug allergy and symptom documentation in a Medical Receiving Unit (MRU), to prevent patient harm, and less effective, more toxic or expensive medications being prescribed. ¹

METHODS: Prospective audit in Wishaw General Hospital’s MRU. All medical patients admitted by a receiving team-member, in the MRU at 5pm on day of analysis, had their admission document and prescription chart assessed for documentation of drug allergy status and allergy symptoms. This was collected on 5 shifts over 5 weeks before and after the implementation of an educational campaign, which involved an oral presentation to medical staff, a poster and weekly league-table of documentation performance overall and by staff grade (FY1 vs. FY2-ST1 vs. >ST3) displayed in the MRU doctor’s office.

Results: In the pre-intervention audit 112 patients were identified, drug allergy history was documented in 103 (92%) clerk-ins, and 93 (83%) prescription charts. 4 of the 29 (14%) patients with recorded allergy had corresponding symptoms documented.
In the post-intervention audit, 99 patients were identified. There was no significant change in the rate of documentation of allergy in the clerk-in (103/112(92%) vs. 91/99(92%), \( \chi^2 \text{p}=0.99 \)) or prescription charts (93/112(83%) vs. 72/99(73%), \( \chi^2 \text{p}=0.07 \)) pre- and post-intervention. However, allergy symptom documentation significantly improved (4/29(14%) vs. 25/33(65%), \( \chi^2 \text{p}<0.0001 \)).

Conclusion: Through simple and inexpensive interventions of a presentation, poster and conspicuous auditing process there was no significant change in allergy documentation rates, however we significantly improved documentation of allergy symptoms, thus better-informing future prescribing decisions.

Title: Oxygen therapy in COPD - are we getting it right?

Author: Thomas Leith

Co-Authors: Chloe Chin
Hazem Lashin
Elsir Osman

Topic: Audit & Quality Improvement

Aim:

Assessment of oxygen therapy in Acute Exacerbation of Chronic Obstructive Pulmonary Disease (AECOPD) on presentation to Acute Medical Unit (AMU) in Basildon University Hospital against British Thoracic Society (BTS)(1) and local guidelines(2) for management of AECOPD.

Methods:

Data was collected prospectively from the admission notes of 100 consecutive patients admitted with the diagnosis of AECOPD between 13\textsuperscript{th} March-15\textsuperscript{th} April 2011.

Patient demographics, source of admission, oxygen saturations, and amount and delivery method of oxygen in the initial management were recorded.

Results:

63% were female, 37% male. Average age was 73.6(\pm SD 11.2). 81/100 presented through Accident and Emergency (A&E), 14/100 were referred by General Practitioners (GP), and 5/100 were admitted via other routes.

In the A&E cohort, 13/81(16%) did not reach target oxygen saturations (TOS), of those 12/13(92%) received oxygen, where 6/12(50%) had controlled oxygen (CO). 27/81(33.3%) reached TOS, with 25/27(92.6%) receiving oxygen, of those 7/25(28%) received CO. 31/81(38.3%) exceeded TOS where 26/31(83.9%) received oxygen, of those 5/31(16.1%) had CO. 6/81(7.4%) had no documentation of their oxygen saturations of which 1/6(16.7%) had CO.

In the group managed initially in AMU (19/100), 9/19(47.4%) reached TOS, 6/9(66.7%) received oxygen therapy, of which 2/6(33.3%) were controlled. 10/19(52.6%) exceeded TS, 5/10(50%) received oxygen, of which 1/5(20%) had controlled oxygen.

In this study cohort 13% did not reach TOS and 41% exceeded TOS with oxygen therapy. Uncontrolled delivery of oxygen was 63% of the total.

Conclusion:

A significant number of patients did not receive enough oxygen. An even bigger number were over-oxygenated. Oxygen was too often given in an uncontrolled fashion.
Title: The Management of Atrial Fibrillation at the Front Door

Author: Ashok Iyer

Co-Authors: Akash Saxena

Topic: Audit & Quality Improvement

Aim

This retrospective audit reviews the management of atrial fibrillation/flutter with rapid ventricular response (FAF) in an Accident and Emergency Department (A&E) where there is an established Acute Medicine team. This is a re-audit, previously performed in 2007 using the 2006 NICE guidance as the standard [1]. This audit also reviews appropriate antithrombotic therapy using the CHADS2 scoring system [2].

Method

Of 189 consecutive patients admitted from August 2009, coded for ‘arrhythmia,’ 50 patients were identified having AF (rate>100/min). Their electronic records were reviewed.

Results

The audit in 2007 revealed inappropriate use of antiarrhythmic drugs in managing FAF. Therefore a protocol for the management of FAF was instituted following discussion with Cardiology. All doctors and nurses in A&E were made aware of this protocol at departmental meetings.

In this audit 78% of patients had treatment for AF as per the NICE algorithms.

39 patients were previously not on any antiarrhythmic, 61.5% of these were given 1st line treatment with a beta – blocker (not Sotalol) (39% in 2007). 21% of patients received digoxin (32% in 2007), though only 38% had a documented reason for its use, and 12.5% received this as per guidance (Chart 1).

Of 5 patients who had clinical features of being ‘unstable,’ 2 received DC cardioversion (0 of 8 in 2007).

42% of patients were in AF on discharge, of these 95% were on antithrombotic therapy. 10 patients had a CHADS2 >1. 3 of these had risk stratification documentation on admission and 6 were planned for warfarin on discharge.

Conclusion

Following the previous Audit there has been improved compliance with the NICE guidelines. The prescription of digoxin is less, though still overused.
Most of the patients received antithrombotic therapy, however more should have been on warfarin. Stroke risk calculation with CHADS2 score should be added to the protocol to ensure appropriate anticoagulation.

References


Aim

Improve the care of medical admissions with acute kidney injury (AKI).

Background

Two audits of medical admissions with AKI during 2010, showed shortfalls in the initial assessment.

Method

Three changes were implemented:

1. Educational tutorial on AKI to all foundation doctors
2. AKI management posters placed on the acute medical unit.
3. Biochemistry department agreed to automatic venous bicarbonate on admission bloods when creatinine ≥150mmol/l.

A prospective audit was performed. Patients were included if they met the serum creatinine criteria for grade 1 AKI based on the Acute kidney Injury Network (ref 1). Seven key areas of assessment and four areas of management were evaluated as shown in the results tables 1 and 2. Chi squared test was used to gauge significant difference in the standards from June/July 2010 and that most recently achieved.

Results

See Table 1 and 2.

Conclusions

Automatic bicarbonate measurement on all medical admission patients with a serum creatinine ≥150mmol/l has significantly improved the acid/base assessment.
Care of AKI patients in our unit is below the desired standard especially with regards to:

1. Prescribing in the setting of AKI
2. Urine analysis
3. Documentation of clinically assessed fluid status

An ongoing educational program for the whole medical department staff may improve all these areas, alongside acquiring a renal drug handbook (ref 2) for easy reference on the assessment unit.

This audit will be repeated after these changes are implemented to gauge improvements in standards.

References

Introduction:
A daily consultant gastroenterologist ward round on week-days for new inpatients was initiated in May 2008 to (1) improve patient care and (2) expedite appropriate investigation and discharge from hospital. The general surgeons provide the current out-of-hours endoscopy service.

Aim: to assess outcome (length of stay, death during admission) for medical inpatients who underwent OGD for investigation of acute upper gastrointestinal bleed (AUGIB) before and after initiation of the gastroenterology ward round.

Methods: Medical inpatients who underwent endoscopy for suspected AUGIB were identified from the endoscopy database for January –April 2008 and 2009 (pre- and post-initiation of ward round). The time to initial endoscopy, length of stay, therapeutic intervention, and death during that admission were obtained from the patient record. Medical inpatients who bled during admission with another problem were included. Patients who were discharged for outpatient OGD, died before OGD, or who had an OGD out-of-hours that was not recorded on the database, were omitted.

Results: See table 1

Conclusion: The groups are similar with respect to numbers, age and deaths during admission. Although, statistical significance was not achieved, if the reduction in length of stay is an accurate reflection of the effect of the daily round, this would suggest that it could achieve a reduction of around 450 bed days a year for medical in-patients requiring endoscopy for AUGIB.
Title: Maintaining INR consistency during the initiation of warfarin therapy in the Ambulatory Care setting: a case for a designated practitioner for the role.

Author: Les Ala

Co-Authors: Diane Bird
Rose Barry
Nia Rathbone

Topic: Audit & Quality Improvement

Aim

Safe anticoagulation management requires competent prescribers.\textsuperscript{1,2} Pharmacist-led anticoagulation clinics are effective,\textsuperscript{3,4} but data on specialist nurse-led services in the acute setting is scarce.

The INR control in 2 groups of ambulatory care patients during warfarin commencement and stabilisation were compared. One group was dosed by a trained nurse practitioner, and the other, by different caches of junior doctors.

Methods

Patients referred to our Medical Day Unit (MDU) for warfarin therapy were enrolled over 2 separate one month periods (Nurse Practitioner, January 2011; Junior doctors, April 2011). These were observed until the INR was stable enough (stabilisation period) for transfer to the pharmacist-led anticoagulation clinic.

Results

There were 28 patients with a total of 195 INR measurements. Although Junior doctors patients tended to have a longer stabilisation period, the mean number of INR measurements per patient was similar in both groups (Table 1).

The Mean INR over time in the Junior Doctors group was more varied. Conversely, the Nurse Practitioner group had more consistency and less variation (Figure 1).

Conclusion

The better INR consistency and minimal variation in the Nurse Practitioner group implies better control. Assuming a poorly control INR poses a higher clinical risk, then the nurse practitioner dosing regime is a safer option. Current junior doctors working patterns are not conducive to providing such care continuity.

Therefore in the ambulatory care setting, clinical risks may be reduced if anticoagulation is initiated and stabilised by a designated health care practitioner with the necessary competencies and experience.

References


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AIM:
CTPA at our Trust is increasingly being used as the first line imaging modality to investigate suspected PE, even if the patient is suitable for a ventilation/perfusion scan according to local and BTS guidelines. This study measures the level of adherence to these guidelines and assesses the appropriateness of the imaging modality used to investigate possible PE.

METHODS:
All A&E patients undergoing a CTPA in November 2010 were identified. Electronic records were examined and data collected on risk factors for PE, possible alternative diagnoses, the presence of cardiorespiratory disease and the result of any chest x-ray, d-dimer test and CTPA. These parameters were audited against local and BTS guidelines.

OUTCOME/RESULTS
20 patients underwent a CTPA scan and 6 (30%) PEs were detected. The investigation of 8 (40%) patients did not follow guidelines. 4 (50%) of these patients were suitable for V:Q scanning. 1 patient had no noted shortness of breath or tachypnoea; 1 patient did not have a chest x-ray; 1 intermediate risk patient did not have a d-dimer and 1 patient had a V:Q scan despite having an abnormal CXR. Half of the 10 female patients inappropriately underwent a CTPA.

CONCLUSION
40% of patients investigated for PE did not adhere to the BTS guidelines. Adherence to local and BTS guidelines could have averted unnecessary CT scanning, thereby avoiding unnecessary expense and radiation exposure. V:Q scanning is a useful, low radiation alternative to CTPA and when available, should be the first line imaging modality in patients without cardiorespiratory disease or an abnormal CXR.
Title: The use of POCT in low risk Chest Pain to facilitate rapid discharge

Author: Rachel Jones

Co-Authors: Charlotte Cannon

Topic: Audit & Quality Improvement

Aims

To investigate and improve The Great Western Hospital’s usage of the ward based troponin test.

Method

Two retrospective audits were conducted in summer 2010 and spring 2011, completing an audit cycle. Each audit included 50 consecutive patients, all of whom had had a ward troponin taken as part of their medical investigations. Audit standard were drawn from the current hospital guidelines.

Outcome/Results

Initial Audit (August 2010) - 28% of tests fully complied with all guidance.

The guidelines were reviewed by AMU consultant. The guidelines were updated so that a ward troponin was only performed if it facilitated rapid same day discharge.

Reaudit (April 2011) - 94% of tests now compliant with updated guidelines.

<table>
<thead>
<tr>
<th></th>
<th>Initial Audit</th>
<th>Re-audit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETT Same Day</td>
<td>44%</td>
<td>88%</td>
</tr>
<tr>
<td>Same Day Discharge</td>
<td>72%</td>
<td>94%</td>
</tr>
<tr>
<td>Comply to all audit standards</td>
<td>28%</td>
<td>94%</td>
</tr>
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Usage of ward troponin tests have decreased by 34%. Looking at the same 90 days in Spring in 2010, 227 tests ordered compared to 15- tests in 2011.

Conclusion

The initial audit exposed inefficiencies and the reviewed guidelines and team education, have saved the trust approximately £4300 per year. The new guidelines support good patient care by facilitating appropriate same day discharge. Tests are now only used when the added speed can directly result in hospital discharge. We should all strive in these times of increasing austerity to evaluate our practice and look for cost savings while maintaining patient best interests and safety.
Title: The Utility of D-Dimer assays, Ventilation-Perfusion Scintigraphy and CT Pulmonary Angiography in the Investigation of Suspected Pulmonary Embolism

Author: Ben Dobb

Co-Authors: Graeme Weir
Kevin Carter

Topic: Audit & Quality Improvement

AIM

To determine how patients with a possible pulmonary embolism are investigated.

METHODS

We identified all patients who had a d-dimer, VQ scan or a CT pulmonary angiogram performed (either inpatient or acute admission) over a 3 month period. Patients were confirmed to have been primarily investigated for PE and had their sequence of investigations collected.

OUTCOMES/RESULTS

260 patients were identified. 10% (n=25) were confirmed to have a PE. 44% (n=114) had a d-dimer performed initially of which 44% (n=50) were negative. Of those positive 28% (n=18) had a chest x-ray as their only imaging, 56% (n=36) had a VQ scan and 13% (n=8) had a CT-PA. Of the VQ scans 19% were normal; 31% low probability and 33% intermediate. 14 patients required a CT-PA after the VQ. 42% (n=109) went straight to VQ and 12% (n=37) went straight to CTPA. Overall 145 patients had a VQ, 83 had a CT-PA and 38 required both. Of the 25 confirmed PE’s 60% were diagnosed by CT-PA and 40% by VQ. CT-PA detected a significant alternative diagnosis in 77% including 4 probably new malignancies.

CONCLUSION

Appropriate use of d-dimer assays can reduce imaging requirements in the investigation of PE, with 19% of our sample having the diagnosis ruled out this way. In those requiring imaging, VQ scans can reduce the number of CT-PAs performed, but over a quarter require a CT-PA in addition. CT-PA has the additional benefit of proposing alternative diagnoses in the majority of patients.
Title: The Management of Diabetic Ketoacidosis in Acute Medical Admissions: An audit following the introduction of the revised hospital guideline

Author: Isabel Vielba

Co-Authors: Laura Gonzalez

Topic: Audit & Quality Improvement

Aim: DKA management traditionally focussed on lowering blood glucose and using pH and serial bicarbonate to assess metabolic improvement. Following the introduction of bedside ketone measurement[i] our hospital guideline was revised (June 2010) to encompass what is now considered best practice[ii]. The focus of management is now the ketonaemia[iii] and as such key changes include the monitoring of capillary ketones to guide management, replacing the 'sliding-scale' insulin with weight based fixed-rate insulin, and cautious fluid replacement in non-shocked patients.

Methods: The notes of 30 adult admissions were audited. Criteria included: reference to the new guideline; diagnosis with capillary ketones; appropriate crystalloid fluid replacement; fixed-rate insulin at 0.1unit/kg/hr; continuation of long-acting insulin; hourly measurement of glucose and ketones; monitoring of electrolytes; and stopping the insulin infusion when ketones were <0.6mmol/litre. Inpatient complications of management were also recorded.

Results: 80% were managed in reference to the guideline. Fluid replacement (97%), use of fixed-rate insulin (93%) and continuation of long-acting insulin (96%) were done well. However, 40% had no ketone measurement at diagnosis and 54% no regular ketone measurement. Consequently in 64% the insulin infusion was not stopped appropriately. The only complications were 2 hypoglycaemic episodes in patients continued beyond recommendations.

Conclusion: Despite the new guideline, ketone measurement is not being used to guide management. Delayed conversion to subcutaneous insulin as a result of infrequent ketone measurement increases the risk of hypoglycaemia and potentially prolongs inpatient stay. Education of juniors and nurses is needed to emphasise this important advance in management.


Title: Value of medicines reconciliation on MAU

Author: Stephen Beer

Co-Authors: Joy Smith
Mike Urwin

Topic: Audit & Quality Improvement

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Aim

Joint NPSA/NICE guidance requires all health care organisations to put in place policies for medicines reconciliation for all admissions, elective and emergency, with pharmacists being involved as soon as possible after admission. We decided to pilot this on MAU at Scunthorpe General Hospital.

Aims included ensuring that all appropriate medicines are prescribed at admission, missed doses are reduced, and ensuring any subsequent clinical decisions are made with the full knowledge of current treatment.

Methods

Following the appointment of a Lead Technician, an in-house medicines reconciliation training package was developed, as well as a standardised form for collecting and documenting information about current medications, which forms part of the medical record. The service was initially offered to MAU from 8 a.m. to 4 p.m. Monday to Friday.

Outcomes/Results

Over an 8 week period 434 patients had their medicines reconciled.

307 medicines omissions were found following medical clerking in 109 patients (25%).

149 discrepancies found after medicines reconciliation in 77 patients (17.7%)

115 prescribing errors found in new prescriptions in 80 patients (18.4%)

Total patients with prescription inaccuracies that required pharmacy intervention was 266 (61%)

Using the Trust's risk assessment matrix we estimated that in 1 in every 6 patients there would have been a clinical consequence if the omitted medicines/prescribing error had not been identified by the pharmacy staff at the time of admission, and that 1 in 8 patients would require additional treatment.

Conclusion

In addition to improved patient care the NICE costing template estimates that cost savings of approximately £11,000 would be made over the 8 week period of the initial pilot study.

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Title: Good NEWS on RRAILS: Introducing the NHS Early Warning Score using an existing Patient Safety program

Author: Christian Subbe

Co-Authors: Suzanne Norman
Dan Glover
Christian Peter Subbe
Julie Ward-Jones
Anwen Crawford
Christopher Hanock

Topic: Audit & Quality Improvement

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Aim:

Introduction of a NHS Early Warning Score (NEWS) has been recommended in a draft document by the Royal College of Physicians (London). We describe the Welsh implementation of NEWS.

Methods:

Adoption of NEWS as part of the 1000 lives PLUS Rapid Response to Acute Illness (RRAILS) program on a Welsh national basis.

Constitution of a national steering group including nursing leads from all Health Boards.

Workshops with staff working in acute and rehabilitation areas from 16 hospitals throughout Wales.

Consultation with graduates of the Glyndwr University Course for design to create a set of Human Factors driven tools.

Results:

For consistency of approach the Airway, Breathing, Circulation, Disability, Exposure principle was applied to the scoring tool for NEWS (Fig 1) and TPR chart.

An algorithm for monitoring frequency [1] was built into the Welsh NEWS protocol (Fig 2).


The program has set a time-table for piloting NEWS on a single ward in each hospital by 30th of June 2011 and a switch in all hospital areas by 1st of June 2012 using Plan Do Study Act cycling as the main improvement methodology. National, regional and local events have been held in June 2011 to support the role out and measurement of compliance.
Discussion:

Using a collaborative approach the 1000 lives PLUS program has been used to drive service improvement on a national basis in Wales.

References:


Title: An Evaluation of an alternative model of Acute Medical Admissions

Author: Nicholas Jones

Co-Authors:

Topic: Audit & Quality Improvement

Aims: To assess the impact of a new medical tracking system for acute admissions at a District General Hospital, introduced in July 2010. The system has been designed to move away from generalised AMU and medical firms by delivering early senior specialist input and rapidly allocating patients to specialist firms in contrast to standard national practise (1,2).

Methods: Mixed quantitative and qualitative approach to compare outcomes before and after the introduction of the track system. Measures included average length of stay, mortality rates and length of stay for the 9 top acute medical presentations (fig.1). We also evaluated the impact of the track system on patient numbers per medical firm. Both outcomes are triangulated with qualitative semi-structured interviews and survey data.

Results: The total number of admissions at Ealing has increased, but we have also seen a decreased length of stay and decreased Mortality (fig.2). There has also been a significant reduction in length of stay for 7 of the 9 top conditions (fig.1). Qualitative data suggests these results may be due to quicker access to a Consultant/Senior Specialist opinion and a more consistent number of patients per firm.

Conclusions: The study makes the assumption that a reduced length of stay and decreasing mortality reflect improved quality of care as a result of the track system, however correlation with the qualitative results confirms the positive impact from the new system. The evaluation supports further improvement through a rebalancing of junior staff to reflect patient numbers, new roles for specialist discharge facilitators and direct access to on-call daytime speciality registrars.

References:


Title: An audit on the use of thromboprophylaxis on the acute medical assessment unit

Author: Channa Vasanth Nadarajah

Co-Authors:

Topic: Audit & Quality Improvement

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Aims
Review of the thromboprophylaxis prescription, in patients admitted into medical, surgical and orthopaedic assessment unit and identify the cost implications of inadequate thromboprophylaxis.

Method
A prospective audit, using a convenience sample, of patients admitted over a period of seven days at Royal Preston Hospital (RPH) in December 2009, and re-audited in June 2010. Also, a retrospective review of medical, surgical and orthopaedic patients in 2009 and 2010, who required further investigations for in-hospital VTEs.

Results
Initially only 2.1%(n=2) medical, 90.5%(n=95) surgical and 96.5%(n=28) orthopedic patients had showed evidence of risk assessment for VTE. Despite this, 20.6%(n=20) medical, 93.3%(n=98) surgical and 100%(n=29) orthopedic patients were prescribed thromboprophylaxis as per individual protocol. During the re-audit 92.3% (n=97) medical, 97.1% (n=67) surgical and 100 (n=52) orthopedic patients had documented risk assessment for VTE. 92.3% (n=97) medical, 97.1% (n=67) surgical and 100% (52) orthopedic patients had thromboprophylaxis were prescribed.

In 2009, 216 medical, 87 surgical and 35 orthopedic patients were investigated for VTE. 13.4%(n=29) medical, 1.15%(n=1) surgical patients were positive for VTE. In 2010, 95 medical, 37 surgical and 24 orthopedic patients were investigated for VTE, and 3.2%(n=3) medical patients were positive only.

Conclusion
This audit demonstrated an improvement of VTEs risk assessment and prophylaxis prescription following implementation of initiatives such as posters, tutorials, lectures and performs for risk assessment and prescription for VTE, thus improving medical practice. The potential cost implication to RPH of inadequate thromboprophylaxis was over £40,000 in 2009. However, this reduced to £15,000 following our recommendations in 2010.

Reference:


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Title: Trouble at Transfer? Assessing the safety of transfer of patients from the medical assessment unit (MAU) to ward based care

Author: Rebecca Fisher

Co-Authors: Nicky Simler

Topic: Audit & Quality Improvement

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Aims:

No national guidelines exist covering how best to transfer patients from MAU to ward based care. We wished to analyse comprehensively our patient pathway from MAU to ward, to identify areas that could compromise patient safety, and to devise new protocols to ensure maximal safety at this key transfer.

Methods:

A retrospective audit of one week of admissions from MAU to wards. A proforma was devised to calculate the gap between last MAU events (e.g. last MAU consultant review), and corresponding first ward event.

Results:

There were 47 admissions with a mean length of stay on MAU of 23h51. Average time from arrival to consultant review was 7h55. Patients then waited a mean of 59h30 from MAU consultant review to ward consultant review. The mean time between last medical review on MAU and first ward team review by any grade of doctor was 26h37. 13/47 patients (28%) were seen by the doctor on call between transfer from MAU and first ward team review. An average of 5h24 elapsed between last MEWS score on MAU and first MEWS score on the receiving ward.

Conclusions:

As a result of this audit we have introduced new systems to reduce time between medical reviews, to decrease the gap between MEWS recordings, and to alert ward juniors of the impending transfer of sick patients from the MAU. This audit highlights the need for individual trusts to scrutinize their own practice at this vital transfer in order to deliver safer care to acute patients.

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Title: Developing a protocol to investigate and manage diarrhoea in an acute medicine unit

Author: Julian Emmanuel

Co-Authors: Nishal Amin
Carmen Martin-Morero

Topic: Audit & Quality Improvement

Recent headlines have highlighted the significant morbidity and mortality associated with diarrhoea. We developed a diarrhoea protocol in conjunction with the infection control team. We conducted an audit on adherence to this protocol. Forty patients presenting with diarrhoea were analysed. Over flow diarrhoea (3), post radiation colitis (1), antibiotic associated (1), cytotoxic drug (1) food poisoning (1), and unknown (33). 21 patients did not have a digital rectal examination. An up to date stool chart was missing in 8 patients (20%). All but one had an early warning score. 32 patients were isolated from admission. Three were isolated inappropriately. Three were isolated late leading to bays being closed, and one patient’s time to isolation was not documented. Four were not isolated, three were appropriate one inappropriate. All patients had calcium and magnesium done. Nineteen had stool samples sent appropriately, and one sent inappropriately (overflow). In the other 20: no further diarrhoea (8), laxative (1) overflow (1) no reason given (10). 63 stool samples were sent to the laboratory: microscopy culture and sensitivity (33), clostridium difficile toxin (25) and Norovirus (5). The Norovirus assay had a poor yield. There was no positive stool culture result. The protocol was changed to- 1 request form for all three requests with adequate sample for all three tests, incorporate a review of isolation at 24 hours. We also educated junior doctors about digital rectal exam and highlighted the need for a clinician led decision to isolate. The trust clinical infection governance board accepted the new protocol and recommendations. The new protocol is to be implemented throughout the trust.
Title: Length of Stay for Diabetic Emergencies is Shortened by Management on the Acute Medicine Unit

Author: Zhongbo Chen

Co-Authors: Raekha Kumar
Nida Chammas

Topic: Audit & Quality Improvement

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Aim

Our study attempted to investigate factors affecting the length of stay (LOS) of patients admitted with diabetic ketoacidosis (DKA) and hyperosmolar non-ketotic states (HONK), and adherence to local policies on emergency care bundles.

Method

A retrospective study of notes for cases clinically coded as DKA and HONK from admissions between June 2009 to August 2010 inclusive was carried out.

Results

A total of 46 patients were identified. 29 (63%) were male and 17 (37%) were female. 26 (57%) were aged 16-40, 14 (30%) were aged 41-65 and 6 (13%) were aged >65 years. LOS may be determined by: Admission should be aimed for specialist wards.

39 (85%) were cases of DKA and 7 (15%) presented with HONK.

Adherence to the care bundle in place in the local hospital protocol was high- 93.5% of patients had the correct insulin regime and 89% had hourly blood capillary glucose readings as per protocol.

The average LOS was 4.6 days for DKA and 14 days for HONK. 85% of patients were admitted to the acute medical unit (AMU), of which 59% were transferred to other wards. Mean LOS was 2.6 days for patients discharged from AMU but significantly longer, with a mean of 12 days for patients discharged from other wards (Figure 1) (p<0.001, Mann-Whitney U test).

LOS was not influenced by age, gender, initial pH value, antibiotic treatment, presence of co-morbidities or precipitating event (Figure 2).

Conclusion

From our study, the most important factor reducing LOS is provision of acute specialist input and not adherence to a care bundle. DKA and HONK are most efficiently managed in the AMU.

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Title: MEASURING ACUTE CARE QUALITY INDICATORS IN A DISTRICT GENERAL HOSPITAL

Author: Manish Kapoor

Co-Authors: Fiona Ritchie
             Waseem Bashir
             Thikra Al-Wattar

Topic: Audit & Quality Improvement

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Aim:

This audit evaluates current performance within our Acute Medical Unit (AMU) in a district general hospital and improve adherence to Quality of Acute Care indicators as outlined in RCPE UK Consensus Statement 2008(1).

Methods:

Retrospective case notes review of 112 consecutive patients admitted to AMU in January 2011 was done; 100 patients were included in the audit, with insufficient data being available for analysis of remaining 12 patients. Data collected included date and time of referral from Emergency Department or direct admission to AMU, time of first medical review by a competent decision maker (SHO grade and above) and time reviewed by admitting consultant physician. The data were collected using a standardised proforma and analysed using Microsoft Excel.

Outcome/Results:

The number of patients admitted during each hour period is shown in Figure1.

6% of patients were seen by a competent decision maker within 30 minutes of referral to acute medical team. The mean waiting time for medical assessment was 166.5 minutes (median 128 minutes, range 0-465 minutes). The maximum waiting time was noted between 14:00 and 18:00 hours.

19% of patients were reviewed by consultant within 12 hours of admission. The mean review time was 13.8 hours (median 14.15 hours, range 0-20.6 hours).

Conclusion:

Restructuring of junior doctors’ working pattern, with staggered start times across the day to have more junior staff in the afternoon and early evening matching with peak admissions period, plus extended consultant presence into the evening is necessary to ensure AMU manage acutely unwell medical patients in line with recommendations.

Reference:
Title: Admissions from the Emergency Department to the Medical Admissions Unit - an analysis of repetition of data collection. Is it time to streamline the admissions process?

Author: Victoria Robins

Co-Authors: Serwaa McClean
Natalie Gray
Sulleman Moreea

Topic: Audit & Quality Improvement

AIM

In a busy inner city multi-cultural Medical Admissions Unit (MAU) with over 12,000 admissions/year each patient is clerked by a junior doctor after the nurses have completed their admission documentation. Approximately 80% of these patients come through the Emergency Department (ED), where a proportion of the clerking will have been done. Any process which avoids repetition of data collection would help to save time and also decrease patient inconvenience. We aimed to determine the extent of repetition of data collection with a view to developing a clerking sheet aimed at streamlining the admissions process from the ED to the MAU.

Methods

A case note review was conducted to determine what information was collected by each staff member during the admissions process for patients admitted to MAU via the ED.

Outcome/Results

In the ED information is recorded on one single proforma whereas on the MAU patients are admitted on a nursing proforma before being clerked by a junior doctor on a dedicated clerking proforma. The following data was collected repetitively: smoking history (X3), alcohol history (X3), social history (x2) allergy status (x4), and medication history (x4).

Conclusion:

A substantial proportion of the information recorded for patients admitted through the ED is constant. Repetitiveness of this data collection wastes time and may frustrate patients. We concur that history of the presenting complaint and clinical examination need to be repeated but it is unnecessary to repeat demographic data collection. We propose a streamlined clerking document from the ED to the MAU.

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Title: Screening for delirium in elderly acute admissions: an audit cycle demonstrating improved compliance with NICE guidance

Author: Ho-Yan Yvonne Chun

Co-Authors: David Shipway

Topic: Audit & Quality Improvement

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Aim

Delirium is a common presentation on the acute medical take, yet is under-diagnosed and under-treated\(^1\). Early diagnosis, investigation and treatment improve patient outcome and reduce length of stay\(^1,2\). National Institute for Health and Clinical Excellence (NICE) guidance recommends screening for delirium in all patients aged over 65 admitted to hospital\(^3\). In our trust, the Abbreviated Mental Test (AMT) is the recommended screening tool, though the Confusion Assessment Method (CAM)\(^4\) has been proposed as an alternative. We audited compliance with trust guidance.

Methods

Notes for medically admitted patients over 65 years were reviewed 24 hours after admission. If no AMT score was found in the clerking proforma, the notes were reviewed for documented explanation. Acceptable explanations for omission included decreased consciousness, dysphasia and significant linguistic barrier.

Following the first audit cycle, the intervention was made. This consisted of adding the CAM criteria to the clerking proforma and including specific delirium teaching in the Acute Assessment Unit teaching programme. Re-audit then took place.

Results

129 patients were audited in the first cycle and 73 in the second cycle. Fisher’s exact test was applied to obtain \(p\)-values for statistical significance. Guidance compliance increased from 44\% to 67\% \((p=0.0021)\) following intervention. The use of CAM increased from 0 to 22\% \((p=0.001)\) though AMT remained the tool of choice for assessing cognition following intervention 81\%.

Conclusion

Significant improvement in compliance with NICE guidance for delirium screening can be achieved through delirium teaching and incorporation of the CAM into a medical admissions clerking proforma.

References


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Title: Will the Introduction of a 'Consultant Calling Card' Improve Patient Satisfaction on the Emergency Assessment Unit at Salford Royal Foundation Trust?

Author: Minan Abbas

Co-Authors: Sara Barton

Topic: Audit & Quality Improvement

AIM

This study was undertaken to determine if the use of a communication tool in the form of a ‘Consultant Calling Card’ would improve patient experience on the Emergency Assessment Unit.

METHODS

Calling cards were completed by select consultants and handed to patients at their bedside for 14 ward rounds. Using the ‘Model for Improvement’ the cards were tested and refined with each intervention. A modified version of the Picker Patient Experience Questionnaire\(^2\) was distributed to patients following each ward round. Surveys were gathered after each test of change from two groups of patients; those who had or had not received a calling card. In addition anecdotal feedback was gathered from patients, consultants and ward staff vis-à-vis the cards.

RESULTS

This short term trial showed a modest improvement in patient feedback scores, though we cannot prove that they are sustained. However, direct feedback from patients, consultants and ward staff has been largely positive and in favor of the use of the cards on the ward.

CONCLUSION

In light of the NHS White Paper, all areas of hospital care will be subject to an outcome framework which will focus heavily on patient experience. The ‘callings cards’ used in this study have been designed with the patient in mind and are an innovation in clinical practice. They are concise, relevant and user friendly providing a visual prompt for patients and ward staff. They have the potential to improve the quality of care delivered to patients by improving communication for all concerned.

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REFERENCES


Title: Improving the safety of patient transfers from the medical admission unit at Queen Alexandra Hospital

Author: Ryan Buchanan

Co-Authors: Ryan Buchanan
Joseph Wileman
Anthony Ventour
Omor Siddique

Topic: Audit & Quality Improvement

AIM

The medical admissions unit (MAU) at Queen Alexandra Hospital (QA) is a busy unit with a high patient turnover. Transfers from MAU to inpatient medical beds pose potential risks to patient safety.

The aim of this project was to assess the safety of existing patient transfer practice and implement changes which would improve documentation, communication and handover at the time of transfer.

METHODS

We identified 17 patients who had been transferred from MAU to the medical wards and assessed their transfer against specified criteria (see appendix 1). We then introduced a bright yellow sticker to ‘orange’ zone on MAU which was to be placed in the medical notes and completed prior to transfer (appendix 2). 48 patients transferred from ‘orange zone’ to the medical wards were then assessed against the same criteria.

OUTCOMES/RESULTS

(See appendix 1)

The initial audit demonstrated that a percentage of patients were leaving MAU without meeting some of the transfer criteria.

The re-audit showed that the stickers significantly increased the number of patients who left MAU with all their investigations requested and when necessary, the frequency of direct medical handover (p<0.05).
Adherence to other transfer criteria was not significantly altered by the use of the stickers.

CONCLUSION

Failure to hand patients over and request relevant investigations can delay diagnosis, prolong admission and jeopardise patient safety. Therefore, the use of transfer stickers should continue and be rolled out to all ‘zones’ on MAU at QA.
Title: Accuracy of medication history by source of information in an acute medical admissions unit

Author: Ahmed Jaafar

Co-Authors: Katherine Flavin¹, Rachel Wilson², Kathleen Gillespie², Ashley Price³, Ahmed F Jaafar³

Topic: Audit & Quality Improvement

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1 Medical student, Newcastle upon Tyne Medical School, 2 Clinical Pharmacist, Royal Victoria Infirmary, Newcastle upon Tyne, 3 Consultant Physician, Royal Victoria Infirmary, Newcastle upon Tyne. ahmed.jaafar@nuth.nhs.uk

Aim

Medication errors can be responsible for increased morbidity and mortality and are most common upon transfer between different health settings¹. These errors can often be traced back to the time of admission to a hospital (²). We have audited our practice to verify source reliability and type of prescription errors.

Methods

Patients’ records were reviewed for source, and accuracy of medications history. The gold standard was a medication list faxed from GP and verified by a telephone call to the GP surgery.

Results

50 patients were included (age 17-100), 18 were males. Sources of drug history were: patients 42%, GP printout 26%, alternative drug chart 10%, casualty sheet 10%, not done 10% and relatives 2%.

Patients were an accurate source of information in only 23% of instances and casualty sheets in 20% of instances. GP printouts are almost 100% accurate but transcription errors still happened in 62% of instances.

74% of patients records contained errors. The commonest errors were omissions of medications 33%, frequency errors 16%, doses errors 18%, incorrect medication 14% and timing errors 5%.

Conclusion

Patients should not be considered a reliable source of medication history. Human errors in transcription occur even when the source is reliable hence verification should be sought through a second check (ideally a pharmacist). Since the audit we have introduced resident pharmacist on AS to check prescriptions and verify with GP surgery, ensuring 100% accuracy of prescription in 80% of all admissions.
References

1. NICE. Technical patient safety solutions for medicines reconciliation on admission of adults to hospital. NICE guidance PSG001, 2007

Title: Use of pathology investigations in General medical wards - a cost effectiveness analysis

Author: Matt Pinder

Co-Authors: Zubair Soho
Tilak Ghosh
Sulleman Moreea

Topic: Audit & Quality Improvement

Aim:
Pathology investigations are routinely done in all medical wards. However they may be repeated unnecessarily. Our aim was to assess the number of such investigations, their appropriateness and perform a cost analysis.

Method:
Data from the Medical Admissions Unit (MAU) records for the month of November 2010 was analysed to identify 100 consecutive patients admitted to medical wards. Their demographic data, length of stay, type and number of pathological investigations were recorded.

Pathology tests after baseline were assessed for appropriateness. For patients who stayed <5 days, if baseline tests were normal subsequent tests were deemed inappropriate. For patients staying ≥5 days clinical notes were reviewed for appropriateness of subsequent tests.

Results

1159 patients were seen on the MAU in the study period of which 443 patients were admitted. The 100 consecutive patients for the study had a mean age of 47.8 years (range 19-76), M: F ratio of 7:3 and average duration of stay of 7.7 days (Range 1-47). 58 (58%) patients stayed <5 days in hospital. 42 (42%) patients stayed ≥5 days of which 20 patients had clinical notes analysed. The table shows our results.

Conclusion:

The average number of inappropriate tests for people who stayed for ≥5 days was higher than those who stayed <5 days - 7.4 vs. 1.2 tests per patient respectively.

This study confirms the significant number and cost of inappropriate tests requested in a small sample of medical inpatients. We propose that an electronic system of pathology requests may stop unnecessary tests.
Title: Chest drain insertion: an audit into current practice in a district general hospital

Author: Graham Baker

Co-Authors: Katheryn Grange

Topic: Audit & Quality Improvement

Pleural procedures have a significant associated morbidity and mortality. This has recently been shown in reports by the National Patient Safety Agency (NPSA), raising concerns over the current management of chest drains in hospital practice. The report highlighted national shortcomings in current practice, principally in areas concerning supervision, clinical guidelines, patient consent and training. A subsequent guideline amendment was released by the British Thoracic Society (BTS).

Following the findings from the NPSA, we conducted an audit into current practice in a district general hospital. By using the updated BTS guidelines as a standard we aimed to identify areas for improvement across the trust.

We identified 41 adult medical patients over a 4 month period who had a chest drain inserted as part of their hospital stay. Notes were audited retrospectively according to BTS standards.

Findings highlighted several areas for improvement across the trust, namely in the areas of patient consent, documentation and supervision.

§ Written consent obtained in 10% of cases.

§ No documented consent (written or verbal) in 51% of cases.

§ Lack of senior supervision in 22% of cases.

§ No pre-medication given in 76% of cases.

§ Procedure documentation highly variable.

§ No current patient information leaflet available in the trust.

Following completion of the audit and analysis of current literature, several recommendations and interventions have been made to current practice. Firstly, a chest drain insertion proforma has been developed to provide gold standard documentation. Secondly, the trust is pursuing the implementation of chest drain insertion packs to facilitate the safer insertion of chest drains. Additionally a patient information leaflet has been created, alongside a trust policy for written consent for all patients undergoing chest drain insertion. These, together with the chest drain insertion proforma, will be available on all medical wards and form part of the training programme for junior doctors expected to undertake pleural procedures.

This audit highlighted significant areas for improvement in our management of chest drains. Following implementation of the measures outlined above, the audit will be repeated in 12 months to evaluate their use and identify further areas for improvement.
AIM:

A National Patient Safety Agency safety alert in 2009 highlighted unsafe oxygen practices nationwide. A large proportion of Acute Medical Unit (AMU) admissions are respiratory in nature, and accurate oxygen prescription and administration is vital for these patients. Our Trust established an Oxygen Task and Finish Group (OTFG) to improve the safety of oxygen use.

METHOD:

A baseline audit was performed in 2010 on all medical wards (including two AMUs) across two acute hospitals. We assessed awareness of oxygen therapy, and the quantity/quality of oxygen prescriptions. Several interventions were then implemented: new prescription charts with dedicated oxygen section using target saturations; new oxygen section on observation charts; colour-coded bedside oxygen guides; and an education programme for nurses, junior doctors, pharmacists and physiotherapists. One year later re-audit was performed.

OUTCOME/RESULTS:

In 2010, 36 of 212 patients review were included, and 56 of 223 in 2011. The proportion of patients with a medicine chart prescription including a target saturation range rose from 6% to 59%. Patients using oxygen without any written order decreased from 47% to 21%. Oxygen was more frequently administered as prescribed, improving from 12% to 36%.

CONCLUSION:

An intensive education programme combined with a redesign of prescription charts is effective in improving accurate oxygen prescription. Rates, which were initially very poor, rose to well above the national average. There remains room for improvement, particularly regarding correct oxygen administration. The ongoing education programme and the compulsory e-learning module developed by the OTFG should further improve safe oxygen use.

REFERENCES:

Title: Audit of the safety of ambulatory CT pulmonary angiography for the diagnosis of pulmonary embolism in selected patients

Author: Christopher Hodcroft

Co-Authors:

Topic: Audit & Quality Improvement

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Aim

Suspected pulmonary embolism (PE) is a common presentation in acute medicine. There is a growing trend for the ambulatory investigation and treatment of suspected PE in selected stable patients. However, none of the current guidelines relating to PE make recommendations regarding ambulatory investigation. The practice of one acute medical unit was audited over six months to investigate the utility and safety of ambulatory CT pulmonary angiography (CTPA) for suspected PE in selected patients.

Methods

Information regarding CTPA scans performed between June to December 2010 on both ambulatory patients and inpatients who presented with suspected PE was obtained. The scan report and electronic discharge summary were reviewed. Any documented subsequent readmissions in the ambulatory group were reviewed for evidence of related complications.

Results

33/121 (27%) of patients presenting with suspected PE underwent ambulatory CTPA. 4/33 (12%) of ambulatory scans confirmed PE compared to 17/88 (19%) of inpatient scans. 28/33 (85%) of ambulatory patients were discharged on the day of admission. One patient in the ambulatory group had a suboptimal initial CTPA which required a return visit for a repeat scan. Another ambulatory patient represented to the acute medical unit before their scan with ongoing symptoms but did not require admission. No other complications were documented in the ambulatory group.

Conclusions

Ambulatory CTPA for the investigation of suspected PE appears to be a safe and effective strategy for selected stable patients.

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Title: AUDIT OF MANAGEMENT OF DKA IN A BUSY DISTRICT GENERAL HOSPITAL

Author: Hema Venkataraman

Co-Authors: Christina Millward
J P Hosker

Topic: Audit & Quality Improvement

Aim

This audit was undertaken to assess initial management of DKA and adherence to trust guidelines.

Methods

Data from 46 patients with DKA attending A&E between Dec 2008 and March 2009 was audited against the trust guidelines.

Results

A total of 46 episodes were recorded. 93% had type 1 and 7% had type 2 diabetes. 60% had severe DKA defined by Bicarbonate <10.

93% were started on insulin infusion appropriately. Only 22% were given intravenous fluid in the first hour. 36% had 2 or more L in the first 2 hrs. 40% had suboptimal fluid replacement. Only 36% were switched to dextrose appropriately. Only 24% had basal insulin prescribed.

Biochemical monitoring was adequate in 43%. 64% had Potassium of between 3.5-5.5mmol/L. However only 51% received appropriate replacement.

Precipitants were identified in 56%. 18% of patients were referred to HDU. 36% of those with GCS <15 and 20% of those with bicarbonate <10mmol/L were referred to HDU. 1 patient was given i.v bicarbonate. 1 patient was admitted to HDU.

Only 11% were seen by a consultant within 12 hrs. No death was recorded in the first 24hrs.

Overall documentation was poor.

Conclusion

Initial treatment of DKA was delayed and suboptimal. Early treatment in AE is crucial and adherence to the guideline should be emphasized. A dedicated DKA treatment sheet could be designed (akin to warfarin prescription sheets) with provision for prescription of IVI, Potassium, Dextrose, basal Insulin, insulin infusion and HDU referral, to improve documentation and treatment.
Title: Doctors? Adherence to Guidelines for Management of Anaphylaxis in an Adult

Author: Katie Halls

Co-Authors: Joe Schrieber

Topic: Audit & Quality Improvement

Aim

Anaphylaxis is a life-threatening condition with rapid onset and progression.1 There are universal guidelines for anaphylaxis management yet evidence suggests the distinction between fatal and non-fatal reactions reflects failure to promptly administer appropriate therapy.2

This audit aimed to ascertain doctors’ adherence to guidelines and identify areas of confusion, thereby facilitating education and improving patient care.

Methodology

85 doctors within the Medical, Surgical and Emergency Departments at Dunedin Public Hospital were randomly selected to complete an anonymous questionnaire during May 2011. The doctors were asked questions relating to the current New Zealand Guidelines for Management of Adult Anaphylaxis.3

Outcomes/Results

85 doctors of various grades completed the questionnaire. (See Figures)

11% of doctors demonstrated comprehensive knowledge of the current anaphylaxis algorithm. 33% knew the correct dose and route of adrenaline and 74% proposed at least one appropriate second-line medication. 30% of doctors prescribed intravenous adrenaline, amongst which three doctors advised a potentially lethal dose of over 5mg.

42 doctors described feeling ‘confident’ managing anaphylaxis, of which only 17 knew the correct dose and/or route of adrenaline.

Conclusion

The majority of doctors demonstrated poor compliance with the national anaphylaxis guidelines. There was particular confusion regarding the dose and route of adrenaline, with which therapeutic benefit has been shown to exceed risk only when given in appropriate intramuscular doses.4

The higher adherence to protocol observed in juniors and Emergency Department doctors may reflect greater clinical exposure to anaphylaxis.

Doctors should receive regular anaphylaxis education and undergo re-audit to encourage compliance with current guidelines.

References


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Title: Unnecessary Cannulation? Are patients in the acute medical admissions setting being cannulated unnecessarily?

Author: Graham Patterson

Co-Authors:

Topic: Audit & Quality Improvement

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Aim: Peripheral venous cannulation is the most commonly performed invasive procedure in hospitalised patients. Complications of IV cannulation include soft tissue and bloodstream infections. Many patients within the medical admissions process are cannulated on a routine rather than necessary basis, perhaps exposing them to an unnecessary infection risk. We aimed to determine the proportion of patients being cannulated on an unnecessary basis within the acute medical setting.

Method: Data were collected over a 7 day period on the Emergency Admissions Unit of SRFT, by performing five “spot checks” and gathering information around the date and time of cannula insertion, the date and time of IV therapy via the cannula and the date and time of removal of cannula. The data were extrapolated using Microsoft excel 2003 in order to detect whether or not standards set, are being met.

Results: The standard set for the proportion of patients who are cannulated on a necessary basis is not being met (77% Vs 90% standard). The standard set for the proportion of cannulae inserted which are then successfully removed by day 3 (72 hours) is being met (100%). In 14% of cases of cannulation, the date and time of insertion was not documented.

Conclusion: A significant proportion of cannulae inserted in the emergency and acute medical admissions setting are being inserted unnecessarily, placing a significant fraction of patients at unnecessary risk of infection. Cannulae are however being removed within
AIM

To assess for evidence of delay in performing lumbar puncture (LP) in patients with suspected subarachnoid haemorrhage (SAH) or acute Central Nervous System (CNS) infection.

METHOD

Data was reviewed retrospectively over a 2 month period for 18 patients who presented with features suggestive of SAH or acute CNS infection and who subsequently required LP. In suspected SAH, the time from headache onset to LP was recorded. For suspected CNS infection, the time from admission to antibiotic administration and time of LP was documented. In all patients, the grade of clinician performing LP was recorded.

RESULTS

In patients with possible SAH, the time from headache onset to LP varied from 12 hours to 4 days. All patients in this group had a normal CT head prior to LP.

Antibiotics were administered to all 9 patients with possible CNS infection prior to LP. This varied from 5 minutes to 6 hours after presentation. CT head was performed in 6 out of 9 patients prior to LP. LP was performed from 3 to 31 hours after presentation.

In 89% of patients, LP was performed or supervised by a registrar.

CONCLUSION

Delay in performing LP can result in delay in diagnosing acute CNS infection and SAH. CT head is not required prior to LP in suspected meningitis if there is no clinical evidence of raised intracranial pressure. Our data suggests junior doctors are not confident at performing LP which is a recognised core competency. Senior grades are required to be present which may contribute to LP delay.

REFERENCES

2. RS Heyderman et al; Early Management of Suspected Bacterial Meningitis and Meningococcal Septicaemia in Adults; Journal of Infection; 2003; 46; 75-77.
Aim

Urinary tract infections (UTI) are the second largest group of healthcare associated infections in the United Kingdom, estimated to increase hospital stay by 6 days and cost an extra £1122 per patient. Up 80% of hospital acquired UTIs are related to indwelling urethral catheter. Many patients are catheterised inappropriately and the documentation is often poor.

Methods

Snapshot study of all the acute medical wards in a tertiary hospital; cycle one (November 2010) and cycle two (April 2011). Inclusion criteria included all patients with indwelling urethral catheter inserted during the current admission. Valid indications for urethral catheters include acute urinary retention, strict fluid balance and to maintain skin integrity.

Outcomes / Results

Cycle one (n=16) revealed that documentation of catheter insertion is suboptimal (94%) and only 88% of the patients had a valid indication for catheter insertions. Recommendations from cycle one led to the design of a new catheter insertion proforma. Cycle two (n=26, two new medical wards were included in the audit) showed that the proforma was completed in 73% of patients. Of those, all the patients had clear documentation and valid indication for catheter insertions (100% respectively).

Conclusion

We identified that some patients may be catheterised for inappropriate reasons and have no clear documentations in the medical notes. This new catheter insertion proforma has improved documentation and reduced inappropriate catheterisations. This proforma is now approved and used across the Trust to reduce hospital acquired urinary tract infections.
Title: Medical assessment unit patient satisfaction survey

Author: Shyam Sundar Seshadri

Co-Authors: Iain Butlin
Eugenia Luchian

Topic: Audit & Quality Improvement

Patient satisfaction surveys have been increasingly viewed as important and useful health care outcome indicators.

AIM: A simple questionnaire was adopted to assess the effectiveness of our post take ward rounds on MAU especially with regards to a possible diagnosis of a patient’s illness and a tangible explanation of their ailment along with a proposed management plan.

METHODS: Patient satisfaction forms containing simple questions employing a basic yes/no format were completed by 50 patients attending MAU over a 2 month period.

OUTCOME: The majority of responses were given by people aged 31 to 60 with a predominant female preponderance (48% vs. 44%). Nearly half of patients (46%) waited more than 60 minutes to see the doctor. Only a third of patients (32%) were informed of the likely delay in being seen by a doctor. However more than half of these patients (58%) were given an explanation regarding the delay.

During the consultant’s post take ward nearly two thirds (64%) were given a likely diagnosis. Even more relevant was the fact that 88% of patients were able to understand their diagnosis as the explanation was clear enough. However only a quarter of the patients (26%) felt confident to ask further questions. More than 80% felt that their questions were answered clearly. Less than half (46%) of the patients were informed of their expected length of stay.

CONCLUSION: The survey demonstrates the importance of simple patient feedback as an important tool to use to enhance service delivery. Encouraging a wider audience including relatives of elderly and confused patients to take part in future surveys would go a long way in allaying anxiety and preventing unnecessary complaints including litigation. A simple note of concern regarding any delay in being assessed, by any member of staff can achieve more especially in the short term. Encouraging our patients to ask more questions serves to increase their awareness of their illness and hence make them more compliant with management and forges a better doctor patient relationship.
**Title: Thoracic Ultrasound**

Author: Petra Schinle

Co-Authors: Andrew Luksza

Topic: Audit & Quality Improvement

Aim: In 2010, the British Thoracic Society (BTS) released pleural disease guidelines (1), strongly recommending the use of thoracic ultrasound for all pleural procedures. This audit assesses the effectiveness of thoracic ultrasound in the management of pleural disease after the introduction of a new ultrasound machine and level 1 competency training, following a local chest drain audit in Jersey 2008 (2). We compare three listed BTS complication rates against local rates: Pneumothorax, dry tap/procedure failure and post procedure chest drain insertion (1).

Method: Retrospective data collection was made of all thoracic ultrasound scans performed by Level 1 competent senior clinician, in the period from 2009 - 2011.

Results: 83 thoracic ultrasound examinations were performed: 66 pleural aspirations, 4 fine needle aspirations (FNA) of lymph nodes and pleural collection, 7 evaluations of pleural effusion, 5 evaluations of pneumonia and 1 lung biopsy.

Complication rates compared as follows: Pneumothorax 1.5% Jersey, 3.6% BTS; dry tap 1.5% Jersey, 3.2% BTS; post procedure chest drain insertion 0% Jersey, 0.9% BTS.

The dry tap rate of 1.5% compared to 17% from the audit in Jersey in 2008.

Conclusion: Ultrasound guidance has dramatically reduced dry tap/procedure failure rates. The use of ultrasound by level 1 competent senior clinician compares favourably to the BTS data, indicating high competency levels.

The use of ultrasound guidance has enabled the evaluation of pneumonia and procedures to be carried out. Examples are FNA of lymph nodes and lung biopsy.

Based on the results ultrasound training for physicians should be expanded.

References:
Title: Initial results of medication review in the elderly using the STOPP criteria

Author: Kandarp Thakkar

Co-Authors:

Topic: Audit & Quality Improvement

AIM

Adverse drug reactions (ADRs) are common in the elderly. About 35% of hospital admissions of older people have inappropriate prescribing and in a third of these ADR is responsible for presentation\(^1\), making ADRs one of the commonest problems in acute medicine. The Improving Prescribing for the Elderly (ImPE) Project, funded by the North West London (NWL) Collaboration for Leadership in Applied Health Research and Care (CLAHRC), aims to tackle these issues.

The key aim of The ImPE project is to develop a medication review system based on the “STOPP” (Screening Tool of Older Persons potentially inappropriate Prescriptions) criteria\(^2\).

METHODS

Translational work was carried out using a Delphi exercise to convert the research based STOPP criteria to a single page medication review form (see Figure 1) that is easy to use at the bedside. We present the initial results of using this review form within elderly patients (>70 years old) on the acute medical wards at Hammersmith Hospital.

OUTCOMES/RESULTS

Between 4\(^{th}\) April and 24\(^{th}\) June 2011, a total of 104 medication reviews were completed. A drug load of 8.4 medicines per patient was seen. Ninety-three percent (n=97) of patients reviewed had at least one potentially inappropriate medication. Most of these belonged to the class of diuretics, anti-hypertensives and opioid analgesics. In 26% of these cases (n=25) one or more medicines were stopped or the doses reduced.

CONCLUSIONS

The medication review tool has highlighted polypharmacy as a local issue. A staggeringly high percentage of patients had potentially inappropriate medicines. Preliminary results have been promising with a number of medicines either being stopped or doses reduced. As a minimum, every elderly patient over the age of 70 was receiving a medication review on admission to hospital. Future work involves exploring outcomes and potential cost savings.

REFERENCES


Title: Improving the management of acute exacerbations of COPD in a district general hospital

Author: Ben Corden

Co-Authors:

Topic: Audit & Quality Improvement

AIM

In order to improve the management of acute exacerbations of COPD in our hospital, we performed an audit against guidance from NICE (NICE, 2010) and the BTS (BTS, 2008) and, where there were discrepancies, implemented initiatives to bring about improvement.

METHODS

All patients presenting with an acute exacerbation of COPD to Ealing Hospital emergency department during November and December 2010 were included. Management was compared against that recommended by NICE and BTS. Several areas for improvement were identified. Staff education sessions were held and a pro forma was created that summarised the guidance and prompted the recommended management. A re-audit assessed the success of these initiatives.

OUTCOME / RESULTS

Overall, management of COPD exacerbations adhered closely to the guidelines. For example, CXR, ABG, FBC, U&E and blood cultures were appropriately performed in 83-100% of cases and the use of bronchodilators, corticosteroids, antibiotics and non-invasive ventilation was appropriate in 82-100% of cases. Areas for improvement included measurement of theophylline levels (measured in 42% of cases), specification of driving gas for nebulisers (specified in 5% of cases) and the prescription of oxygen (fully adherent in 15% of cases). On re-audit there was significant improvement (theophylline levels measured in 89% of cases, driving gas specified in 98% of cases, appropriate oxygen prescriptions in 96% of cases, all p < 0.05).

CONCLUSIONS

We have shown that the combination of staff education and the use of a pro forma are effective means of improving the management of COPD exacerbations in a district general hospital.
Title: A quality improvement programme to increase compliance with an anti-infective prescribing policy

Author: Kandarp Thakkar

Co-Authors:

Topic: Audit & Quality Improvement

AIM

The UK Department of Health has made recommendations on safe and appropriate prescribing of anti-infectives. In response, we reviewed our anti-infective policies to ensure they were in line with best practice. As a result, a new adult anti-infective policy was launched. To help facilitate its implementation, a quality improvement programme was established, with the aim of achieving >90% compliance with the new policy.

METHODS

Patients under the care of the medical admissions teams who had been prescribed one or more systemic anti-infectives between January and November 2008 were included in the study. Study pharmacists collected data daily on all patients, including the anti-infective(s) prescribed and indication(s) documented on either the patient's drug prescription chart or health records. A definition of compliance was developed, which required documented indication(s) and associated anti-infectives to match the anti-infective policy. A baseline compliance level was established; we then implemented a series of interventions using the plan-do-study-act (‘PDSA’) approach to monitor and improve compliance. Three overlapping intervention phases were retrospectively identified: raising awareness; education; and weekly feedback of results in the form of run charts distributed to medical teams.

OUTCOME/RESULTS

Over the 11 month study period, compliance with the policy increased from 30% to 71%. Since 2008, we have seen the average compliance increase year-on-year to over 90% in 2010 using a sustainable once weekly data collection model (Figure 1).

CONCLUSIONS

This study shows that it is possible to use quality improvement methodology to support antimicrobial stewardship within existing resources and suggests that an improvement in policy compliance can be both achieved and sustained.


REFERENCES


Aim

Digital rectal examination is vital in aiding the diagnosis of constipation, diarrhoea, weight loss, abdominal pain, anaemia and cord compression. It confirms gastrointestinal bleeding, enables Blatchford scoring and provides useful information in the “confused elderly” or “shocked” patient. However Physicians have noted a decline in number performed and documentation quality.

The audit aim was to determine:

- whether DREs are performed on medical admission when clinically indicated
- whether DREs are “appropriately” documented

Method

Admission documentation pertaining to inpatients on three general medical wards on 22/2/2011 was reviewed against locally agreed standards. Patients with known malignancy were excluded.

Results

DRE was indicated in 38 of the 80 admission clerkings reviewed. They were performed in 50% (10/20) of patients presenting with melaena, haematemesis, constipation, diarrhoea and weight loss. 5 occurred in MAU, 3 by A&E and 1 during the PTWR. No DREs were part of the Consultant PTWR plan. No DREs were performed on the 18 patients incidentally found to be anaemic of which 56% presented with falls/confusion. Including the anaemia group lowers the percentage of DRE performed to 26.3% overall (9+1refused/38.) Regarding documentation, no one documented consent/chaperone. 88.8% noted the presence of melaena where indicated, 33.3% rectal masses and 0% prostate size/masses.

Conclusion

Documentation and number of DRE performed was poor. Fitzgerald et al\(^1\) found only 56% of final year medical students had performed a DRE on a patient. Can lack of confidence/education among junior doctors explain the dying role of DRE? Acute Physicians need to lead and teach by example.

References