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Selected Abstracts from the Society for Acute Medicine Spring Meeting

5th-6th May 2011, Marriott Hotel, Bristol

As usual there was a large number of abstracts submitted for the Society for Acute Medicine meeting in the Spring. Over 100 posters were displayed, and the best abstracts were selected for oral presentation on the Friday morning of the event. These abstracts are published here for those who were unable to attend the meeting.

Peripheral Venous Lactate as a Prognostic Indicator in the Medical Admissions Unit

Anna Hartley, Stefan Antonowicz, Jibran Mecci & Simon Coppack
St Bartholemews and The London NHS Trust

Aim

There is much research on lactate as a prognostic indicator in various specific situations in hospital medicine such as sepsis[1] and intensive care.[2] There are fewer data on its use in unselected emergency medical admissions. In our hospital, most emergency medical admissions have a venous blood gas performed to provide rapid electrolyte levels and to comply with the recommendations for sepsis risk stratification.[3] The significance of a raised lactate in unselected acute medical admissions is frequently questioned. The aim of this study was to determine whether peripheral venous lactate can be used as a prognostic indicator in patients admitted as an emergency to the Acute Medical Unit (AMU) regardless of diagnosis.

Method

This was a prospective study of patients admitted as an emergency to the AMU of a large inner-city teaching hospital designed to include over 104 patients. Over a nine day period, all patients with a lactate level available on admission were included (n=108).

Results

108 patients had venous lactates available on admission. The venous lactate value was higher (p=0.027) in those who died than those who survived and related to an increased length of hospital stay (p=0.006).

Conclusion

There are associations between peripheral venous lactate and both length of stay and mortality in relatively unselected emergency medical admissions. In the acute medical setting, lactate is a promising prognostic marker. Larger studies would be beneficial in order to analyse this further.

References

1. Howell MD, Donnino M, Clardy P, *et al.* Occult hypoperfusion and mortality in patients with suspected infection. *Intensive Care Med.* 2007; **33(11):** 1892-1899.
2. Smith I, Kumar P, Molloy S, *et al.* Base excess and lactate as prognostic indicators for patients admitted to intensive care. *Intensive Care Med.* 2001; **27(1):** 74-83.
3. Dellinger RP, Levy MM, Carlet JM, *et al.* Surviving Sepsis Campaign: International guidelines for management of severe sepsis and septic shock. *Crit Care Med.* 2008; **36:** 296-327

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What difference does the introduction of a new drug chart make to prescribing documentation?

Petrikova D, Hill K, Badham H, Sweeney A, Bradley R & Catterall J
University Hospitals, Bristol

Aim

The National Patient Safety Agency stated 32% of serious medication-related incidents were to due prescribing errors.[1] University Hospitals(UH) Bristol (UHBristol) has produced standards for safe and professional prescribing.[2] These standards seek to ensure prescriber accountability and also informed clinical decision making by improving awareness of additional drug charts in use and any medicines not given.

Standards

1. Prescriber identity: 100% of prescribers should print their name
2. Prescriber contact: 100% of prescribers should print their bleep number
3. Additional chart(s): 100% of additional drug charts(s) will be documented on main drug chart
4. Missed doses: 100% of medicines that are not given will have a documented reason

The project aimed to establish the achievement of the above standards within inpatient medical wards at UH Bristol before and after the introduction of a new drug administration chart.

Method

A data collection pre-forma was designed and piloted.

The pro-forma collected data on all inpatient medical wards in February and September 2010. The new drug chart was released in July 2010.

Results

		February	September	
Number of prescriptions reviewed		384	387	
Standard	***Target***			***Change***
1. Prescriber identity	100%	18.4%	92.5%	74.1%
2. Prescriber contact	100%	7.8%	77.9%	70.1%
3. Additional chart(s)	100%	38.3%	81.3%	43%
4. Missed doses	100%	5.9%	80.2%	74.3%

Conclusion

Our audit showed the redesign of the drug chart produced vast improvements in the achievement of the standards. The drug chart improved prescriber identity and improved patient safety by ensuring prescribers are aware of any additional charts and/or missed doses.

References

1. National Patient Safety Agency. Safety in Doses - improving the use of medicines in the NHS. 2009. [Online] (accessed 1st March 2011) Available from: http://www.nrls.npsa.nhs.uk/resources/?entryid 45=61625
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Non-invasive ventilation bundle improves quality of care in acute type 2 respiratory failure

Elaine Clark, Allan Cameron & Joris Van der Horst
Acute medical unit, Glasgow Royal Infirmary

Aim

We aimed to improve the quality and consistency of our management of patients with COPD in acute type 2 respiratory failure by auditing our practice against national evidence-based quality indicators and subsequently developing a non-invasive ventilation (NIV) "bundle" to improve our performance on these indicators.

Methods

The initial audit cycle recorded in detail the management of the first 20 patients started on NIV in the AMU from January 2009 onwards, comparing their management against 17 national evidence-based quality indicators. We then developed a care bundle, in conjunction with our respiratory colleagues, using six key interventions from the British Thoracic Society's guideline on NIV. This bundle was introduced and made mandatory on our AMU for all patients treated with NIV. The second audit cycle captured the first 20 patients started on NIV in January 2010 following the introduction of the care bundle, measuring the same quality indicators in their management.

Results

After the introduction of the care bundle, there was an improvement in all 17 of the quality indicators, with a median absolute improvement of 30% across all parameters (range 5%-100%).

Conclusion

The introduction of a clear, concise care bundle, based on the best available evidence, improved the consistency and quality of our management of patients with acidotic type 2 respiratory failure treated with NIV.

Reference

1. British Thoracic Society (2009). NIV in acute respiratory failure guideline. Available from World Wide Web: http://www.brit-thoracic.org.uk/ClinicalInformation/NoninvasiveVentilation/NIPPVNIVinAcuteRespiratoryFailureGuideline/tabid/132/Default.aspx

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Selected Abstracts from the Society for Acute Medicine Spring Meeting

The effect of introducing an Electronic GP Referral System for Acute Medical Admissions to a District General Hospital

Patten S, Leng O, Duke J & Hardy A
NHS Ayrshire and Arran

Aim
To assess the effect of a new email based GP referral system to the Acute Medical Unit (AMU) on the proportion of patients arriving with a GP referral letter and patient information.

Method
A survey of GP admissions to the AMU was conducted over 2 weeks. A tick-box style form was incorporated into nursing profiles to measure the proportion of patients arriving with a GP letter. The results led to the design and implementation of a new email-based GP referral system. This system linked-in with existing primary-care electronic record systems to automatically incorporate details of the patient's prescribed medication and recent GP attendances. Following the introduction of the email system, referrals to the AMU were re-audited during the same winter period.

Results
During the initial survey, 69.6% of 135 patients arrived in the AMU with a GP letter. After the intervention, 79.2% of 106 patients arrived with a GP letter, of which 57% of the referrals were in e-mail form. Furthermore, of the e-mail referral letters 96% contained an up-to-date automatically generated record of the patient's drug history.

Conclusion
There was an overall improvement in the percentage of patients arriving with a GP letter to the MAU. Furthermore the automatic addition of emergency care summaries to out of hours referrals led to a dramatic increase in availability of drug histories. The email system has received positive feedback from both GPs and MAU staff. The system is currently being extended into other areas of the hospital and to further GP practices.

"No-one's coming and she's getting sick": Exploring the errors made by FY1s in acute care contexts

VR Tallentire, SE Smith, J Skinner & HS Cameron
Centre for Medical Education, University of Edinburgh, Chancellor's Building, 49 Little France Crescent, Edinburgh EH16 4SB

Aim
Initial responders to acutely unwell patients in hospital are often Foundation Year 1 doctors (FY1s). The combination of time pressure, dynamic conditions and heavy information load provides fertile ground for error.[1, 2] This study aimed to explore the errors made by FY1s in acute care contexts, in terms of both action and intention, so that emerging patterns of behaviour could be used to guide novel educational strategies.

Methods
Following ethical approval, 38 FY1s (from seven UK medical schools) participated in high-fidelity simulated acute care scenarios. Each video-recorded scenario was immediately followed by an audio-recorded debrief which encouraged articulation of cognitive processes. Two researchers reviewed the videos and categorised erroneous actions and omissions. Evidence from the scenario and corresponding debrief was used to classify each error according to intention using Reason's generic error-modelling system (GEMS).[3]

Results
In total, 238 errors were identified (8 to 20 per scenario), with sufficient evidence available to classify 167 according to GEMS. Slips were often related to procedural skills. Rule-based mistakes stemmed from the misapplication of 'good' rules and the application of 'bad' rules. Knowledge-based mistakes related to both clinical and non-clinical aspects.

Conclusion
Suggestions for pragmatic educational innovations that may reduce error and enhance patient safety include the gradual addition of distractions or time-pressure to the rehearsal of practical procedures. FY1s must acquire sufficient knowledge of hospital systems and equipment, and workplace based 'cognitive feedback'[4] may aid the formation of good rules.

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2. Flin R, O'Conor P, Crichton M. Managing Stress. Safety at the sharp end: a guide to non-technical skills Farnham: Ashgate Publishing Ltd; 2008; 157-90.
3. Reason J. Human Error. Cambridge: Cambridge University Press; 1990.
4. Bordage G. Why did I miss the diagnosis? Some cognitive explanations and educational implications. *Academic Medicine* 1999; **74(10):** S138-43.

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Impact of Extended Pharmacy Input on Supply of Discharge Medicines from Acute Medicine Units: The UTOPIA Project

Alastair Graham,[1] Emily Stubberfield,[1] Maria-Belén Espina,[2] & Shiva Sreenivasan[2]

[1] Department of Pharmacy, Gloucestershire Hospitals NHS Foundation Trust, Gloucester, UK

[2] Department of Acute Medicine, Gloucestershire Hospitals NHS Foundation Trust, Gloucester, UK

Aim

Dispensing of medication is a common reason cited by patients (61%) for delayed discharge.[1] We report the effect of a recent programme (UTOPIA – Unscheduled Treatment of Patients In the Acute setting) that improved pharmacy input in our Acute Medicine Units (AMUs). The aims were to expedite patient discharge by increasing the ratio of pharmacist vs. physician-written prescriptions, increasing availability of discharge medication on the ward, and improving accuracy of prescriptions and medicines reconciliation. This new service comprised:

a. Extended pharmacy input with twice-daily pharmacist ward rounds on weekdays and once daily at the weekend
b. Expanded availability on the ward of medication pre-packed for discharge, and
c. An increased range of 'one-stop dispensed' ready-for-discharge items and the use of patient's own drugs.

Methods

Data regarding medications ordered and supplied during two non-consecutive months were collected during February 2010 and then in June 2010, when pre-packs were introduced. This was compared with one month's data pre-UTOPIA (February 2009). The average time delay was estimated at 15 minutes for ward-dispensed medication and 90 minutes for medications from the dispensary (a measured time for dispensing of 60 minutes plus an estimated 30 minutes for portering). The ratios between ward/dispensary medicines and physician/pharmacist prescribed medicines were examined using chi-square test.

Results

The proportion of pharmacist-written prescriptions increased significantly ($p<0.001$) post-UTOPIA. There was a significant ($p<0.001$) increase in ward-dispensed medications from 38% pre-UTOPIA to up to 70%. The delay in dispensing discharge medications reduced from 61 to 38 minutes.

Conclusion

These findings suggest that extended pharmacy input in the AMU significantly reduces delays in patient discharge.

References

1. Onatade R. Quality Indicators are important measurement tools for pharmacy. *Pharmacy in Practice* 2008; **18(4):** 141-3.

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