

Selected Abstracts from the Society for Acute Medicine Spring Meeting

3–4th May 2012 Radisson Blu Hotel, Dublin

Over 170 abstracts were submitted for consideration of inclusion at the Spring 2012 meeting of the Society for Acute Medicine, which was held this year in the Radisson Blu hotel in Dublin. After peer review, seventy were exhibited as posters, while eight were selected for oral presentation. The abstracts from those presented orally are published here.

Physiological and social predictors of acute medical admissions

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Aim

The number of acute medical admissions is rising and is putting an increasing burden on an already over-stretched NHS.¹ Several studies have attempted to predict admission or re-admission to hospital but few have yielded positive results.^{2,3} This study attempted to identify physiological and social factors which increased the likelihood of admission to hospital via an Acute Medical Unit (AMU).

Methods

A prospective cohort analysis of physiological and social data of patients who presented to AMU over a three day period was conducted. Patients whose length of stay was 24 hours or more were recorded as being admitted. Data pertaining to patients' physiological parameters, past medical history and social history were recorded.

Results

Data were available for 144 patients, 64% of whom were admitted. Compared to patients who were discharged, older patients (63.3 years v 71.5 years), those living alone (18.5% vs. 30%), those with higher respiratory rates (17.4/minute vs. 19.3/minute), a history of renal failure (3.7% vs. 16.6%), liver failure (1.85% vs. 7.77%) or stroke (1.85% vs. 7.77%) were significantly more likely to be admitted.

Conclusion

Physiological alterations and social circumstances increase the likelihood of admission. This study sets the basis for a simple tool that could be used to

estimate the likelihood of medical patients being admitted to a hospital bed base from AMU.

References

1. Emergency Admissions: A journey in the right direction? A report of the National Confidential Enquiry into Patient Outcome and Death (2007).
2. LaMantia M et al. Predicting Hospital Admission and Returns to the Emergency Department for Elderly Patients. *Acad Emerg Med* 2010; **17**: 252–259.
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Does medicines reconciliation reduce prescription errors in medical admissions?

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Aim

To test whether medicines reconciliation, a formal assessment of patients' regular prescription at the point of admission, is associated with a reduction in prescription errors.

Methods

Retrospective data were collected on consecutive admissions to the Acute Medicine Unit. The accuracy of each inpatient prescription chart was assessed by pharmacists using two information sources. It was recorded whether a medicines reconciliation form had been used by the admitting doctor.

The association between prescription error rate and medicine reconciliation form completion was assessed by analysis of covariance using a generalized linear mixed model to take account of the fixed effect of the number of drugs a patient was taking

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prior to admission as well as the nested random effects of the teams looking after the patient during the admission.

Results

Data were collected from 109 patients. 35 patients without a medicines reconciliation form completed showed a significant increase in error rate as the number of drugs increased (0.119 increase in log odds of error per drug, 95% CI 0.060 to 0.177, $p=0.0001$). No significant increase was seen for 74 patients who had a medicines reconciliation form completed (0.011 increase in log odds per drug, 95%CI -0.056 to 0.079, $p=0.74$).

Conclusion

The percentage rate of prescribing errors increased significantly with the number of drugs on admission. However, this effect was not seen when a medicines reconciliation form was used. This suggests that the medicines reconciliation process reduces prescribing errors, particularly in patients who are taking several drugs at the point of admission.

Seven Day Working of Therapists on the Acute Medical Unit Significantly Increases Safe Early Discharge of Older Adults

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Aim

Seven-day working on the Acute Medical Unit (AMU) is a National and Society priority. Our

Trust has significant patient flow problems during weekends, which has an on-going effect on Mondays. We established an AMU Integrated Assessment Team (IAT) in 2009 comprising of Therapists, Social Worker and Discharge Co-ordinator. This study evaluated the effect of increasing the IAT service from 5 to 7 days a week in 2011.

Methods

Total discharge numbers from the AMU quarter 1 (Q1) 2010 (5-day working) were compared to Q1 2011 (7-day working), along with 30-day readmission rates for the same period. Discharge and readmission rates for patients aged over 75 years were specifically analysed, along with discharge and readmission rates for our 6 core medical wards. Raw data were analysed for significance using the Chi-squared test.

Results

Number of patients discharged from the AMU Q1 increased 31%: 986 to 1287.

For patients aged over 75 years, discharges increased 45%: 252 to 366 (Table 1).

There was no corresponding increase in discharges from the medical wards: 689 to 659 (all patients) or 347 to 299 (patients aged over 75 years).

30-day readmission rates as percentage of discharges from the AMU fell 23%: 5.78% to 4.43%. For patients aged over 75 years readmission rates fell 27%: 6.35% to 4.64% (Table 2).

Conclusion

Increasing therapists' input on our AMU to 7-days resulted in a significant rise in safe discharge, specifically of older people. We recommend dedicated 7-day therapist contribution to all AMUs.

TABLE 1.

	Admissions to the AMU			Discharges from the AMU			
	Q1 2010	Q1 2011	% Increase	Q1 2010	Q1 2011	% Increase	p-value
All patients	2816	2995	6%	986	1287	31%	0.00003
Patients over 75 years	1177	1297	10%	252	366	45%	0.0024

TABLE 2.

	30-day readmission from the AMU: Absolute numbers			30-day readmission from the AMU: Percentage of discharges			
	Q1 2010	Q1 2011	% change	Q1 2010	Q1 2011	% decrease	p-value
All patients	57	57	0%	5.78%	4.43%	23%	0.745
Patients over 75 years	16	17	6%	6.35%	4.64%	27%	0.916

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Technology- a vital piece of the patient flow puzzle within Queensland Health

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Aim

To utilise technology to enhance practice and facilitate patient flow. The technology is able to alert the team, at a quick glance, referrals which are completed or under assessment, those patients who are unstable or isolated and the on-going medical management plan.

Methods

An electronic patient journey board (PJB) was introduced in the Early-assessment Medical Unit (EMU) in May 2009. The PJB is an interactive, touch screen that facilitates information sharing and coordination of care through visualisation of the patient journey. The board displays patient details, planned investigations and interventions, referrals to relevant clinicians and discharge or transfer requirements. Allied Health interventions are based on a traffic light principle, red when referred, orange when assessment, intervention and planning is in place and green indicates ready to be transferred or discharged.

Results

The information in the PJB is also used to create a patient handover sheet therefore avoiding re-entry of information and is used in the multidisciplinary daily planning meeting. This has been vital in achieving approximately 45% of patients directly discharged from the unit. In 2010 the PJB was linked with other general medicine wards in the hospital to facilitate transfer between wards. This meant that the information is sent to the receiving ward at the touch of a button, facilitating a safer, more effective and efficient clinical handover.

Conclusion

The PJB utilises technology to enhance practice by enabling the whole team to own patient flow. Our success drove the installation of patient journey boards across all of Queensland Health in 2011.

E-Discharge: Sweet simplicity or financial folly?

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Aim

At Royal Cornwall Hospital, the consultants dictate all discharge summaries. We view this as a valuable tool in patient safety. We pick up errors, results and other concerns. The summaries are emailed to GP colleagues within 48 hours.

Our summaries are considered of sufficient quality for the coding department to use without hospital notes. This speeds the coding and revenue process.

We were keen to compare the new E-Discharge summaries to our old system in terms of time consumption and revenue generated.

Methods

Consultants summarised 75 admissions through dictation and 75 by E-Discharge. The time taken was recorded.

E-Discharge, conventional summary and the hospital notes were sent to the coding department. Colleagues there worked from each of these.

The codes generated from each stream went to our finance department to compare revenue.

Results

E-Discharge took us four times longer than dictated summaries (not including secretarial time). Extrapolated up this would cost another 20 hours of consultant time.

Coding from notes is the gold standard in terms of the number of diagnoses listed. Dictated summaries generate significantly more codes.

The above has implications for revenue. Coding versus E-Discharge has a cost implication of £1,107,000. A revenue gap of £500,000 exists between E-Discharge and dictated summary.

Conclusion

We continue to value dictated summaries as a safety measure. Trusts need to carefully consider how they generate their codes. From this study E-Discharges would seem a poor means of doing so. There was a considerable difference in use of consultant time.

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Survey on the Identification of Coffee Ground Vomit Among Hospital Staff

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Aim

Coffee ground vomiting is a common clinical manifestation of bleeding in the upper gastrointestinal tract. It resembles coffee grounds due to the presence of coagulated blood giving it dark brown granular appearance. Brownish colour vomit is commonly wrongly identified as coffee ground. This can result in unnecessary investigations.

The aim of this study is to see if hospital staff are able to distinguish coffee ground from other forms of vomitus

Methods

3 artificial vomit bowls were prepared:

- 1 = light brown coloured vomit (milky dilute coffee + mixed cooked vegetables)
- 2 = brown coloured vomit (dark stronger instant coffee + mixed cooked vegetables)
- 3 = coffee ground vomit (coffee grounds + water + mixed cooked vegetables)

25 nurses, 25 doctors and 25 health care assistants (HCAs).

Results

92% of doctors, 88% of nurses and 64% HCAs correctly labelled bowl 3 as 'coffee ground vomit'. On the other hand 24% of doctors, 64% of nurses and 68% of HCAs incorrectly labelled other bowls as coffee ground vomit. This gives overall specificity of 49% and sensitivity of 92%.

Conclusion

Coffee ground vomit is correctly identified by the doctors and nurses in most cases. However a number of nurses and HCAs wrongly labelled non-coffee ground vomit as coffee ground. We recommend that the vomit bowl from a patient with suspected coffee-ground vomit should be seen by a senior clinician before disposal. In addition, patient's clinical condition and risk factor profile should be reviewed before labelling them as having upper gastro-intestinal bleed.

Does Intergrated Acute & Emergency Physician Assessment Improve Outcomes?

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Aim

Delayed diagnosis, treatment and discharge of medical (often elderly) patients have a significant impact on ED crowding, bed occupancy and clinical outcomes.¹ It is recognised that early review by a senior decision maker leads to improved patient care and outcomes.^{1,2} We aimed to examine the impact of early joint Emergency (EP) or Acute Physician/Senior Decision Maker (AP/SDM) rapid triage and assessment of medically ill patients presenting to the ED.

Methods

A prospective non randomised comparative study was undertaken in a large adult ED (annual attendance of 120 000). Traditional EP triage, assessment and referral for inpatient AP assessment was compared to joint EP/AP triage and assessment of acute medical patients presenting to the ED

Patients attending between 0900 to 1700 were rapidly triaged to likely medical (or non-medical) admissions by an EP, who also initiated investigation and treatment. A full EP/AP junior assessment was then carried out with AP/SDM review in the ED before disposal (admission or discharge). Historical controls were considered as consecutive patients presenting before and after the joint assessment periods.

Results

Forty one patients were included in the study period with 48 controls (mean age 72.2 vs 65.6 years). Patient experience was rated high despite longer total time in the ED. Results are summarised in the Table.

Conclusion

Integrated EP/AP assessment appears to improve outcomes by reducing time to treatment, facilitating earlier AP/SDM review and enhancing patient experience. Significantly, the percentage of patients reviewed by a senior decision maker within 12hrs of admission increased from 50% to 100%. This benefit would be less pronounced if patients present out of hours but is still significant for optimal patient care. Although length of stay was not measured for admitted patients, this is likely to be reduced due to earlier AP review.

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Measure	Control	Integrated EP/AP triage and assessment	p
Mean Time to Treatment (minutes from arrival)	50.8	44.9	<0.05
Mean Time to SDM review (minutes from arrival)	621.1	111	<0.05
Percentage reviewed by AP/SM within 12 hours of attendance	50	100	<0.05
Mean Time to Disposal (minutes from arrival)	208.4	239.6	<0.05
Percent admitted	45.9	55.4	>0.05

References

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2. Royal College of Physicians. Acute medical care. The right person, in the right setting – first time. Report of the Acute Medicine Task Force. London: RCP, 2007

A prospective, multicentre, observational study of medical iatrogenic events preceding intensive care unit admission (part of the PREVENT study)

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Aim

Up to 20% of intensive care unit (ICU) admissions are associated with iatrogenic events (IEs).^{1,2} However, the proportion of IEs associated with medical management is poorly defined. We aimed to determine the nature, incidence, severity and preventability of medical IEs preceding UK ICU admission.

Methods

The case notes and charts of all unplanned adult admissions to 5 general ICUs during a continuous 6-week period were prospectively audited by physicians trained to use a strict protocol. A proforma was used to guide investigators through the notes to ensure sensitivity and consistency in data collection. An IE was defined as an event resulting from improper action or inaction within 7 days preceding ICU admission. All IEs were subsequently reviewed and data validated by a panel of 4 critical care consultants.

Results

104 IEs were associated with 280 ICU admissions, with 40 (38%) IEs considered medical in origin. Medical IEs were associated with significant patient harm, with 32 (80%) events directly causing or contributing to ICU admission. Patients who suffered a medical IE had a longer median length of ICU stay (5 versus 3 days, $p=0.003$) and required support for a greater median number of organs (3 versus 2, $p=0.026$). 17 (43%) medical IEs resulted in permanent harm or death. 36 (90%) medical IEs were considered preventable.

Conclusion

Preventable medical IEs frequently precede ICU admission and these may be associated with considerable patient harm.

References

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