A comparison between an Advanced Nurse Practitioner-led Ambulatory Care Unit and a traditional Acute Medical Assessment Unit. Secondary data analysis

Category: Service Organisation and Design

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Aims –

An Advanced Nurse Practitioner (ANP) led Ambulatory Care Unit (ACU) was initiated in a general hospital in response to the bed pressures faced within the Acute Medical Assessment Unit (AMAU). Certain clinically stable patients were streamed to the ACU and assessed by an ANP.

Would this result in an improvement in the service provided to clinically stable patients with certain acute medical problems?

Methods –

Ethical approval was gained from the LREC. The sample contained two groups of randomly selected subjects. 128 subjects who had attended the ANP-led ACU with either suspected PE (N=64) or chest pain (N=64), and 128 who had attended the AMAU with suspected PE (N=64) or chest pain (N=64). The data was obtained from medical records. Both groups were compared on zero length of stay (0LOS), wait to chest x-ray, and admission rates.

Results –

There was no difference between both groups on age (p=0.18), sex (p=0.52), co-morbidity scores (p=0.22) or critical illness scores (p=0.30).

The 0LOS in the ANP-led ACU group (Mdn=230minutes) was significantly less than the AMAU group (Mdn=300minutes), p=<0.001

The wait for chest x-ray in the ANP-led ACU group (Mdn=78minutes) was significantly less than in the AMAU group (Mdn=183minutes), p=<0.001

The odds of being admitted overnight was 8.11 times higher if seen in the AMAU.

Conclusion –

The service provided in the ANP-led ACU is more efficient than the traditional service. In addition to this, the admission rate is reduced and more acute beds are made available for those with higher clinical need.
A Virtual Clinic Service To Review Outstanding Investigations After Patients Are Discharged From An Acute Medical Unit

Service Organisation and Design

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AIM

The Virtual Clinic (VC) was introduced by our Acute Medical Unit (AMU) to ensure that the results of outstanding investigations are reviewed and acted upon appropriately after patients are discharged. Referrals are made to the VC co-ordinator who forwards investigation results once done. Registrars then review these (with consultant support) and write to General Practitioners (GPs) with a suggested plan of action. We set out to evaluate the service we provide with the aim of improving and expanding service provision.

METHODS

A retrospective analysis of all referrals to the VC over a 6-month period (01/07/12-31/12/12) was performed. Referral data was collected from the clinic database, and further data was manually extracted from the electronic patient notes.

RESULTS

710 investigations were submitted for review over the study period (for a total of 494 patients). 580 (82%) investigations were completed, 71 (12%) of which needed re-requesting (Table 1). The average time from a referral to the VC to the investigation being performed was 29 days, and the average time it took from the investigation being performed to the clinic letter being done was 22 days. The VC identified significant results, which lead to recommendations being communicated to GPs as well as direct action being taken (Table 2).

CONCLUSION

The aims of the VC have been achieved and it has helped to ensure a significant completion rate for outstanding investigations. Areas for improvement have been identified, including the time between investigations being done to review and the specificity of our advice.
Title: Admission avoidance or delayed admission: What is the impact of consultant phone triage of GP referrals to AMU?

Category: Service Organisation and Design

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Introduction

The importance of 'front door' senior decision makers in demand management has been emphasised in a recent document co-produced by SAM and the RCPL.¹ GP referral calls, for medical admission to AMU at UHSFT, have been taken by the Acute Medical Consultant since 1999 (Mon-Fri, 08:00-22:00). This service has proved popular with local GPs. However it is important to evaluate the impact and ensure that admission avoidance does not simply delay admission with adverse outcome.

Aim

To determine the proportion of patients for whom admission is avoided following GP referral for AMU admission, and subsequent outcome for these patients.

Method

Referrals to AMU were identified using our electronic admissions list over 52 consecutive days during Spring 2013; subsequent admissions or adverse outcome at 7 and 30 days were identified from our electronic record system.

Results

2550 referrals for admission to AMU were made during the study period, of which 671 were from GPs. 75 (11%) 'advice only' calls were identified of whom 9 (12%) were admitted within 7 days of the referral; 2 further patients were admitted for unrelated reasons by day 30. One terminally ill patient with glioblastoma died within 24 hours of referral. One adverse outcome (pelvic fracture following a fall) may have been prevented by earlier admission.

Conclusion

Consultant triage of GP referrals enabled admission avoidance for 64 patients over 52 days, reflecting almost 10% of all GP referrals for admission. Regular audit of 'advice calls' is important to identify delayed admissions and adverse events.

AIM:

An Ambulatory care unit (ACU) that is based on the Acute medical unit (AMU) was set up 2 years ago to help manage the increasing demand of medical admission that do not require admission.

Methods: 4 senior nurses with acute medical background were started on the Masters in advance practice at university which is a 2 year part time course. They were employed to work on the ACU as Advanced nurse practitioners (ANP) to assess diagnosis and treat patients in a timely manner.

4 healthcare assistants were employed to assist in taking bloods, observations and electrocardiograms

AMU physician scheduled to cover the ACU to provide support to the ANP

7 day a week service 12 hours a day

A new area with 12 assessment trolleys, 2 consultations room, 2 bays

Following pathways were developed to manage patients as ambulatory/outpatient basis

Low risk chest pain, copd/ Asthma, DVT, PE, Headaches, low risk GI bleeds,

Patients accepted from general practice and Emergency department via a bleep system held by ANP

CONCLUSIONS

Patients with less acute medical complaints were assessed, diagnosed, treated and discharged from the ACU that would normally be admitted to AMU

Beds on AMU were available for more acute medical patients

Daily activity were captured on how many admissions and discharges from ACU

Snapshot - 2 year figures - 2,011 via ACU 1356 discharged, out of 1356 discharged 400 were referred from A&E and 748 General practice and 208 outpatients

The 1356 patients discharged from ACU would have normally be admitted
Aim

To assess whether arterial line placement could impact on patient comfort in the management of acute type 2 respiratory failure (T2RF) in a physician led medical high dependency unit.

Methods

Patients acutely presenting to Charing Cross Hospital, London, with T2RF requiring non-invasive ventilation (NIV) over 14 months (2011 to 2012) were identified from clinical coding. Retrospective data collection included: demographics, diagnosis, use of arterial line, number of arterial blood gases (ABG), outcome. Analysis was undertaken using Microsoft Excel.

Results

Coding identified 107 patients. 69 notes were reviewed, of which 41 required NIV for T2RF. Mean age 74±13 years, with 54% female. Patients with arterial lines (54%) had a higher number of total ABGs taken (mean 22 vs 8, p=0.0002); and higher number of ABGs within the first 24 hours (mean 7 vs 4.5, p=0.03). Time to normal pH was similar (24 hours with arterial line, 25 hours without, p=0.86). Total time spent on NIV was comparable (5 days with arterial line, 4 days without, p=0.69) as was 30 day mortality rate (63% with arterial line versus 55% without p=0.16).

Conclusion

Arterial line placement can be managed in a physician led unit and is associated with increased arterial sampling and fewer arterial punctures thus improving patient monitoring and probably patient comfort (1). We suggest that acute medical units would benefit from level 2 beds for management of these patients (2).

Introduction:

The Francis Report (February 2013) sets a number of important standards and values for Trusts to follow. This is to ensure quality of patients’ care is not compromised and applies to staff of all levels and disciplines. For junior doctors, this bears huge weight, especially where a culture of raising concerns can seem particularly daunting. The Foundation Forum in Buckinghamshire NHS Trust allows junior doctors to be part of this feedback system.

Aim:

Create a peer representative system for junior doctors allowing them to voice their concerns and identify novel solutions to target them.

Method:

Regular meetings of the eight elected forum members, with a Foundation Training Programme Director, were held in a confidential environment. Discussions targeted issues and concerns raised by junior doctors regarding aspects of patient safety, clinical governance or foundation training. Where appropriate, these were escalated to senior management levels.

Results:

A number of positive solutions have been implemented:

- Producing a Foundation Doctor Handbook to aid junior doctors with common on call presentations on both medical and surgical wards.

- Introducing a Medical Induction Handbook, based on National/Local Guidelines, to aid junior doctors manage patients effectively.

- Optimising the medical FY1 on-call rota to allow safe handover of ward patients in the evening.

- Reallocating an FY1 post to accommodate for the busy respiratory team and for better on-call experience.

Conclusion:

The Foundation Forum has helped provide a system by which junior doctors feel comfortable to raise concerns. It has worked, together with senior managerial personnel, to improve patient care.
Aim:
A growing number of patients admitted to hospital require a higher level of care. A proportion of these patients appropriately do not fill the criteria for admission to HDU/ITU despite requiring rigorous observation and treatment. Our primary aim was to assess the development and efficiency of a new Level 1 unit.

Method:
On August 2012, a 10 bed Level 1 unit was newly opened at Darent Valley Hospital. Since its conception audit has been carried out to evaluate performance. Eleven months of preliminary data has been collected between August 2012 and June 2013.

Results:
Data of all 608 patients admitted during the eleven month period was analysed. There were 334 males and 274 females. The average age of all patients was 64yrs±18. The common conditions for admission were respiratory failure (29%), severe pneumonia (16%), sepsis (13%), acute kidney injury (8%) and diabetic ketoacidosis (7%). The most common intervention, outside of stabilising the medical condition was non-invasive ventilation (NIV), which was given to 111 patients. The average length of stay was 5 days after which 60% were transferred to a general ward, another 20% discharged home, while 7% required stepping up to ITU. The average Par score at admission was 3 compared to 2 at discharge from the unit (p=.00001).

Conclusion:
The development of a new Level 1 area has led to improved patient experience and outcomes through early identification of clinical needs and rapid intervention in a suitable area. It has allowed for further training for registered nurses and an excellent learning environment for all.
Title: Does Comprehensive Geriatric Assessment within 24 hours affect subsequent emergency hospital reattendance?

Category: Service Organisation and Design

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AIM The Comprehensive Geriatric Assessment (CGA) assesses functional status of elderly patients, identifies those with complex needs, and informs the development of appropriate discharge plans. We assessed whether documented completion of CGA within 24 hours affected rates of hospital re-attendance.

METHOD

Using the Maidstone Hospital electronic patient list we documented CGA completion within 24 hours of admission for all patients aged ≥75 between January 1 2012 and March 31 2013. We identified those patients who were subsequently re-referred as emergencies to the acute medical service within 28 days.

RESULTS

Between January 2012 and March 2013 there were 5764 referrals aged ≥75; of these 57.7% had documented CGA within 24 hours. In total, 574 patients (10.0%) were re-referred within 28 days and 5190 (90.0%) were not.

There were no differences in the rate of 24 hour CGA between re-referred and non-re-referred patients (55.4% vs. 57.8% respectively; P=0.7)

In total 155 (2.7%) acute medical referrals aged ≥75 were discharged without hospital admission. This subgroup had lower 28 day r-referral rates than admitted patients (5.8% vs. 10.0%; P=0.1)

DISCUSSION

Completion of CGA within 24 hours did not influence subsequent emergency medical re-referral. Completion of CGA prior to discharge may be a better marker.

Very few elderly referrals were discharged without admission. Readmission rates may be a better index of emergency hospital re-attendance than re-referral.

CONCLUSION

CGA completion pre-discharge (rather than within 24 hours) may be more important.

Beyond improving patient safety, electronic patient lists allow research and audit.
Aim:

The development and implementation of an electronic led morning clinical handover system at Stepping Hill Hospital (eHandover), based on RCP\(^1\), BMA\(^1\), GMC\(^2\) recommendations and the SBAR protocol. To use eHandover to provide a handover audit trail, on-call workload data, and a log for safety concerns.

Methods:

Handover involved the night team, day team and acute medical team meeting at 09:00. The process was led by an electronic system linked in real time to electronic patient ward lists and designed by the acute medical team and I.T. team. Implementation started in mid July 2012. eHandover was gradually introduced at weekends. A data review was undertaken in January 2013.

Results:

eHandover frequency increased to levels above 80% during the latter 3 months. SBAR frequency was between 75-90%. Table 2.0 displays some of the data generated by the January 2013 review. Safety huddle was examined and each concern classified into different categories depending on the department involved.

Conclusion:

The implementation of eHandover acted as a change agent within the medical team. Morning handover increased in frequency, became SBAR protocol based, electronic led, and well attended. It also ensured adequate allocation of resources to the various components of the acute medical unit. Insights into staffing levels at daytime and twilight shifts, and performance levels of night teams were obtained by the data recorded. The safety huddle captured clinical concerns raised by the night team. eHandover at Stockport is a valuable tool in improving workforce planning, identifying clinical risk, and ensuring safe clinical handover.

References:


Title: Geographic and Temporal variation in COPD admissions.
Category: Service Organisation and Design
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Aim

To investigate geographical and temporal patterns of admission and bed days to England hospitals; Chronic Obstructive Pulmonary Disease and Bronchiectasis (COPD) as an example. Highlights the need for trend analysis, and use of fine resolution geographies.

Methods

Using hospital episode statistics data, trends in admissions for COPD are analysed through linear regression, adjusted for age and sex, and a measure of deprivation. Geographical heterogeneity was analysed by mapping emergency bed days for these conditions for the year 2010/11, at lower super output area (LSOA) and Strategic Health Authority levels.

Outcomes/ Results

For each year from 2007-2012, after adjusting for age and sex, there was a significant increase in the rates of emergency admission for COPD and Bronchiectasis in the most (4.5% annual increase, p = 0.001) and mid-level (3.7% annual increase, p = 0.027) however, this increase was not as steep, and not statistically significant in least deprived (3.5% annual increase, p=0.054).

There were 606,461 bed days across England with a mean 18.7 per LSOA. The highest number of bed days was 397 (LSOA in North Lancashire Teaching PCT). 21,309/32482 (65.6%) LSOAs were associated with at least one bed day. Contrasting Figures 1 and 2 shows the implication of aggregating data, with LSOAs of high bed days found in SHAs of lower bed days.

Discussion

Examining variation across the population, and working at finer resolutions of data unmasks heterogeneity. This demonstrates how high service utilisation can be delineated, could help ensure interventions are implemented appropriately and could be conducted restricted to one hospital trust.
AIM

Rivaroxaban is a novel anticoagulant licensed for use in pulmonary embolism. We aimed to determine how many patients with PE would be suitable for Rivaroxaban and how much this would cost the acute sector.

Methods

All patients diagnosed with a PE in the year between July 2011 - June 2012, in Aberdeen Royal Infirmary, were included. Rivaroxaban was considered indicated if the patient had an acute PE with an intended duration of therapy of 12 months or less. Rivaroxaban was considered contraindicated if the patient met any criteria in box 1.

A cost analysis was performed with the assumptions: an INR test costs £1.07; a dalteparin dose costs £6 (price of a 15,000u dose); patients received at least 5 doses of dalteparin; the acute sector supplies 3 packets of warfarin on discharge (cost = 73p); if Rivaroxaban was utilised the acute sector would supply the first 3-weeks of treatment (cost = £105.84).

Results

There were 160 people diagnosed with a PE during the 12-months. Notes were available for 121 (76%).

62 (51%) patients had an indication for Rivaroxaban of which 6 (10%) had a contraindication.

The average cost per patient for conventional therapy was £39.94, compared to £105.84 for Rivaroxaban. Treating all suitable patients with Rivaroxaban (ie 46%) would increase the acute sector annual budget from £6,390.65 to £11,422.68 – a rise of £5,032.03 (or 79%) per year.

The average length of stay for patients suitable for Rivaroxaban was 6 days, which could potentially be reduced with its introduction.
Aim

To validate the Pulmonary Embolism Severity Index and see if locally developed criteria for early outpatient management improves 30-day readmission and mortality rates.

Methods

All patients diagnosed with a PE in the year between July 2011 - June 2012, in Aberdeen Royal Infirmary, were included. A retrospective PESI was calculated. Contraindications to early outpatient management are defined in box 1. Deaths were recorded from the General Register Office for Scotland. The North of Scotland National Research Ethics Service decided formal ethics review was not required.

Results

There were 160 people diagnosed with PE during the 12-months. Notes were available for 121 (76%).

60% had a PESI <86 (grade I/II, “low-risk”); for whom the 30-day mortality rate was 3% and the 30-day mortality or readmission rate was 19.4% (compared to 29% and 51% respectively in those with a PESI ≥86).

Our exclusion criteria led to 26% of patients being deemed suitable for early outpatient management and reduced 30-day mortality to 0% and 30-day mortality or readmission to 15.6%. These patients were at-the-time managed as inpatients (mean length-of-stay = 3.75 days) meaning a total of 120 bed-days per year could be saved if they were moved to an ambulatory setting.

Conclusion

The PESI score is a reliable method of predicting 30 day mortality and readmission, but selects a large group of patients, not all of whom are suitable for early outpatient management. The addition of some simple criteria can highlight a smaller population with a very low rate of mortality or early readmission.
AIM

The AMU at the Ulster Hospital consists of 40 beds with 4 Consultant Acute Physicians. Patient transfers were controlled by the bed managers; although each patient’s ideal base ward was identified on the Consultant ward round, the most appropriate patients were not always transferred to the specialty wards. This resulted in reduced bed turnover, increased length of stay and trolley waits. Our aim was to determine whether the implementation of a ‘pull’ system and a Specialty Allocation List could improve patient flow.

METHODS

We set out to audit patient flow through AMU over a 4 week period. Daily records were kept of admissions, transfers, discharges and deaths. A Specialty Allocation List was compiled by the Consultants each morning to prioritise patients to the specialty base wards and distributed to all the base ward managers allowing them to communicate directly for efficient transfer. Audit cycle was completed over the next 4 weeks. We also recorded the proportion of the acute take allocated to each specialty.

OUTCOMES/RESULTS

We found a significant improvement in patient flow with transfers increasing almost two-fold and admissions to AMU from A+E rising accordingly (Fig 1). The distribution to specialties is shown in Fig. 2.

CONCLUSION

Patient flow has greatly improved. Patients benefit from early specialist opinion, improving their quality of care. Length of stay in AMU has decreased and the number of trolley waits in A&E has been reduced. We also hope our figures for specialty allocation will aid future resource planning.
Aim:

Emergency department overcrowding is associated with worse outcomes, poor patient experience and staff morale. The specialty of acute medicine can ameliorate this by ensuring patients are not admitted unnecessarily. One strategy for this is providing an ambulatory care service.

Methods:

CLAHRC for Northwest London is currently working with local teams to establish a needs-based ambulatory care service in three acute trusts (Chelsea and Westminster Hospital, West Middlesex University Hospital and The Hillingdon Hospital), sharing learning and protocols.

Outcomes:

While the concept appears to be straightforward, we have encountered several barriers and enablers. We believe our experience provides a good example of the challenges that can arise during implementation of a service, and learning about how to deliver effective change in the acute medical environment. Particular lessons include:

the difficulty of establishing tariffs,

the importance of clarity in describing the service and its anticipated benefits for commissioners, and

getting diagnostic services on board to share the vision.

There are also lessons relating to the details of the service such as:

ensuring that patients cannot be lost to follow up,

that patient contact is maintained,

that relevant clerical staff understand the scheme, and that it is easy to refer in to.

A major hurdle is increasing referrals from non-acute medicine consultants on take.
Conclusion:

With the right approach, a service can be implemented rapidly to avoid admission for patients needing rapid sequence diagnostics and frequent senior decision maker input, but who are not critically unwell, and not expected to deteriorate.
AIM

The Francis Report (2010) recommended a review of staffing levels throughout the NHS. Historical attempts to measure required staffing levels excluded assessment units as the workload from patient turnover is hard to quantify and previous tools were ineffective when applied on assessment units.

METHOD

Using the audit tool published by the Association of University Hospitals UK (2007) the acuity and dependency of patients on the Emergency Assessment Unit was measured 3 times a day for 21 days in both January and July 2013. This allowed for seasonal changes in the number, dependency and acuity of admissions. Cross checking of data collection between senior staff members reduced the possibility of bias and increased the reliability of the results.

RESULTS

The audit demonstrated that acuity and dependency varied regularly throughout the day, month and year. Comparing the current establishment with the recommended establishment (from the audit tool) suggested 10 more wte nurses were required. Presentation of a business case to demonstrate how the unit can provide improved quality of care and be more profitable was successful in achieving funding for 6.5 wte.

CONCLUSION

Whilst the funding achieved falls short of the establishment recommended by utilising the AUHUK tool (2007); triangulation of the audit results with results obtained using the professional judgment model and the existing establishment suggests that the number of nurses currently funded to deliver care is adequate. A repeat of the audit twice yearly is intended, this will assist in identifying capacity and demand changes and in presenting future cases for increased investment.
Title: IMPROVING WEEKEND WORKING – IMPROVEMENTS MADE BY A JUNIOR DOCTORS FORUM.

Category: Service Organisation and Design

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AIM

To improve the safety of medical ward inpatients by redistributing workload of the weekend ward cover medical team.

METHODS

Trainees attending the medical junior doctors’ forum raised patient safety concerns arising from insufficient ward cover for the medical wards on the weekend day shift. We identified whilst there were adequate number of doctors (six sub-registrar level trainees), the distribution and workload was not equitable. Two doctors covered 12 wards between them, whilst two were part of a discharges team who completed discharge letters.

We proposed a solution of merging the ward cover and discharges team, allocating each doctor 2-3 wards to cover each (table 1). Each trainee was responsible for all jobs for their wards including discharge duties (with consultant support). Robust handover meetings were included in the working day. This was implemented by trainees with divisional support to trial the method.

OUTCOMES/RESULTS

Following a successful four month trial, feedback from trainees and nurses has been overwhelmingly positive (sample comments from email survey – figure 1). Doctors now have time to complete routine tasks (cannulae, fluids), review unwell patients and expedite discharges by ensuring investigations are carried out promptly. The overall agreement is that patient safety and quality of weekend medical training has improved.

CONCLUSION

This trainee led initiative to adjust the weekend working pattern has improved patient safety, quality of training and morale. The model has now been incorporated into the standard operating procedure for the medical division.
**AIM**

1. Create a dedicated area (CDU) for provision of flow for the Emergency Department (ED)

2. Identify at point of ED Triage patients suitable for streaming to CDU

3. Minimise number of steps in patient assessment process

4. Improve patient experience and outcomes with rapid assessment and early consultant input

5. Improve ED performance and quality indicators

**METHODS**

We piloted a process where a consultant acute physician was embedded in the ED to review all medical patients referred. In addition, they would identify patients that required medical management prior to assessment by ED, truncating the number of steps in the patient journey (diagram 1). Criteria were agreed with ED, and 2 6-trolley bays adjacent to MAU were re-classified as CDU. Rapid turnover was ensured by early consultant involvement, and early review by the acute medicine team the following day. The patients identified were expected to be managed by the acute medical team in under 72 hours.

**OUTCOMES**

The CDU significantly improved flow through the ED.

Of all patients referred from ED to medicine an average of 34% were processed through CDU, with 27% being discharged the same day. In addition, the embedded acute physician discharged a further 17% of the medical referrals on the same day.

**CONCLUSION**

The CDU was commissioned in January 2013 as a response to winter pressures on the ED. This success allowed the appointment of an additional consultant physician and nurse practitioner. The CDU continues to operate with similar efficiency, rapidly processing 12 patients daily.
REFERENCES


AIM
At the beginning of 2013, the Norfolk and Norwich University Hospital designed a database to analyse emergency admissions. This was to provide data as a basis for the redesign and expansion of emergency services. There has been a move in some hospitals to develop separate acute medical units for acute medical and acute geriatric admissions. Part of the analysis was to determine whether it would be appropriate to develop separate acute assessment units at the NNUH.

METHODS
Data was gathered for all emergency admissions over a one year period from December 2011 to December 2012. This included the age of patients, the day of the week of admission, the admitting speciality and the length of stay (LOS). All medical patients are admitted through the AMU where they are either triaged as acute medical short stay patients (expected LOS < 48 hours) or to an appropriate medical speciality if they require specialist care or have an expected LOS > 48 hours.

OUTCOMES
A total of 17090 medical admissions aged over 16 years were analysed. This correlated to an average of 329 admissions/week, of which patients aged over 75 years made up 55%. Analysis revealed that an average of 35 patients over 75 years with a LOS of <48 hours were admitted/week. Of these 34.6 patients/week were safely discharged from the AMU short stay by the acute physicians, 0.2/week were discharged from the AMU after triage to the MFE team and 0.2/week from downstream wards by the MFE team (graph 1). Readmission rates for patients aged over 75 years were examined and it was established that there was no significant difference between readmission whether patients were discharged by acute physicians or MFE (graph 2).

CONCLUSIONS
The data would suggest that acute physicians can safely discharge patients aged over 75 years with little input from MFE physicians if patients have a predicted LOS < 48 hours on admission with no impact on readmission rates. This would suggest that developing separate units for acute medical admissions and acute geriatric admissions would be an inefficient use of current resources.
Aim:

Medical staffing for AMUs is often based on rota patterns developed at the new millennium, unreflective of the changing presentation patterns seen over the last 5 years or the training needs of staff. We aimed to develop a rota which provided safe care & effective training focused on the patient to support a business case for dedicated AMU medical staff and an expansion of the supportive workforce.

Methods:

Literature review revealed no available workforce planning tool specifically for medical staff. Available tools would not give information accurately reflecting the clinical & administrative demands of an AMU. We developed a local workforce planning tool for junior medical staff to identify tasks performed at set points of the day. Results were compared with presentation times of unscheduled referrals to the AMU & staffing levels, indicated by the rota in use at the time of the data collection.

Outcome:

There was a steady degree of administrative duties throughout the day, but a substantial increase in clinical work 1500hrs-2030hrs, in particular the volume of work per doctor. The need for a staggered increase in junior staff in the afternoon/evening period was clear and supported our successful business case for an expansion of doctors working in a closed rota of our design as well increasing the supportive workforce.

Conclusion:

This is a useful tool for any AMU to aid medical/supportive workforce planning, match staff to workload throughout the day and centre staff rotas around patient needs whilst remaining European Working Time Directive compliant.
**Aim:** Iron-deficiency anaemia is one of 19 ambulatory care-sensitive conditions identified by the NHS Institute for Innovation and Improvement, where effective management should prevent admission\(^1\). To address this issue Nottingham University Hospitals introduced a daycase nurse led anaemia service.

**Methods:** Since June 2012, patients meeting the referral guidelines (Hb 5-8 g/dL without significant compromise or bleeding) can be referred from GPs, ambulatory, or out of hours services for review the next working day. A full history and examination, including ECOG performance status is taken; with full blood count, haematinics and iron studies. Nutrient deficiencies are corrected. Other cases are discussed with haematology. Limited transfusion is offered if indicated. GPs are advised to refer onward to the most appropriate specialty (including 2WW pathway).

**Outcome/results:** The service has received 153 referrals to date, with demand increasing. Age ranged from 16 to 96 years old. The mean average haemoglobin was 7.1g/dL (range 4-11) (figure 1). 127 patients had an iron-deficient picture on presentation (figure 2); 98% (n=124) of these received parenteral iron (Ferinject\(^\circledR\)). Only 16 units of blood have been transfused for all causes of anaemia (equivalent to 0.1 units per patient), with 3% (n=4) of iron deficient patients requiring transfusion at some point. Only 8 patients required haematology input.

All 153 patients avoided admission to hospital and were managed as outpatients. 95% (n=145) required only one treatment visit.

**Conclusions:** This service although in its infancy has prevented 153 admissions, most without transfusion. Similar systems across the NHS could be introduced to decrease pressure on admission units.

**Acknowledgements:** Mr Tim Greatrex (data analysis)

**Reference:**

AIM

1 Could MAU and ambulance service (WAST) work together to agree and apply pre-hospital medical patient streaming, decongesting the emergency department (ED)?

2 Is it possible to safely and effectively manage 999 patients in an area other than ED?

METHODS

We established criteria with ED and WAST that identified patients requiring medical opinion. Exclusion criteria were applied to avoid accepting patients requiring resuscitation, or input from other specialties. A rapid assessment area was established 8am-8pm in MAU, and staffed with the Acute medicine Nurse Practitioner and Registrar. MAU increased the total nurse staffing level by 1 trained nurse, and healthcare professional. The ANP held a mobile phone that was used to refer patients normally conveyed to ED. If there was assessment capacity available and the patient met the criteria they were assessed through MAU.

OUTCOMES

65 ambulances (6.5 per day average)

No redirections to ED

34% managed in ambulatory care post assessment

37% same day discharge

38% Discharged by Acute Medicine in 24-48 hours

25% required in-patient bed

Significant impact of streaming on ED waiting times for medicine - average patient wait reduced by 1 hour over 2 week trial compared to previous 2 weeks

Under 15 minute handover from ambulance crews achieved
CONCLUSION

This trial established that our concept of pre-hospital streaming of medical patients is both safe and effective. We are continuing to refine and develop the system, aiming for 12 conveyances per day to improve ED congestion.


AIM

To create a patient-centred on-call rota using innovative patient-tracking data.

METHODS

East Surrey Hospital uses a Patient Tracking System (PTS) to manage acute medical patients. 1313 patient records were analysed from Sep-Oct 2012 to show the number of patients arriving by hour, waiting times and the time for a completed plan. A model was formed for a new rota to match demand and implemented in April 2013. 1438 patient records from Apr-May 2013 were compared with the previous sample.

OUTCOMES/RESULTS

In the first sample 42.4 patients on average arrived in 24 hours and patients arriving between 1600 and 2400hrs were waiting the longest with medians of 1hr49 from 1600-2100hrs and 1hr55 from 2100-2400hrs. Median times for a completed plan were 3hr16 and 3hr12 respectively.

Two additional SHO twilight shifts were introduced daily from 1600-2400hr with an additional FY1 on weekdays in place of one booster shift.

In the second sample 46.5 patients arrived in 24 hours and patients waited medians of 1hr00 from 1600-2100hrs and 0hr57 from 2100-2400hrs. Median times for a completed plan were 2hr26 and 1hr57 respectively.

Patients arriving from 2400hrs had no change in waiting time and the average number of patients handed over at midnight fell from 3.7 to 1.5.

CONCLUSION

The new medical rota was designed to make our patients the priority and has reduced the time taken to comprehensive assessment and treatment. Although activity rose, each doctor saw fewer patients demonstrating increased capacity to see patients, faster with reduced demand on individual doctors.

References

Aim

Timely and reliable review and assessment of the patient and their medicines is integral to front-line clinical decision making processes within A.M.U. and, is recognised to facilitate patient flow and reduce morbidity. High patient flow and existing pharmacist resource do not allow review of every patient and every prescription chart everyday. To maximise patient benefit and enhance efficiency of current practice, a new clinical pharmacy system was designed and implemented at the start of the patient journey.

Methodology

A priority code system was developed to identify high-risk patients and target specialist pharmaceutical activities. A priority code was assigned to each patient following the initial review and assessment by a skilled and experienced clinical pharmacist, in collaboration with A.M.U. Consultant. The priority code indicates frequency of ongoing clinical pharmacy review following transfer from A.M.U.

Implementation of this system was supported by all senior pharmacists within the medical team, providing a minimum of one session per week to complement existing Acute Medicine resource. These sessions were back-filled by an additional rotational pharmacist.

Outcomes/Results

- increase in number of A.M.U. Consultant ward rounds attended from 4 to 10 per week
- increase in % of patients reviewed and assessed within A.M.U. from 38% to 80%
- less than 1/4 of patients stratified as priority code 1 requiring daily review by pharmacist

Conclusions

Re-design of pharmacy services to A.M.U. targets pharmaceutical care to the most high-risk patients thereby reducing potential for medicine-related harm. The priority code system utilises existing pharmacy resource more effectively and efficiently and via priority code assignment, facilitates pharmacist workload management.
Aim:

To redesign and improve referrals from the community to the acute medical service at the Royal Derby Hospital.

Methods:

All community referrals to the acute medical service were redirected by telephone to a consultant acute physician. Peer to peer conversations between community and hospital services were able to ensure patients were directed to the correct services in an appropriate time scale. Medical advice was offered to enable patients to remain in the community and, where appropriate, patients were directed to the newly developed ambulatory care service to enable daycase investigation and treatment. Up to 50% of the medical 'take' now passes through the ambulatory care centre.

Outcomes/Results:

1600 records of telephone triage were examined. Of those patients where admission was avoided, 4% were admitted within 7 days and 2% between 8-30 days. Of those patients directed to the ambulatory care centre 76% were discharged the same day, of whom 2% were readmitted within 7 days and 6% within 8-30 days. 16% were directly admitted to hospital. These data equate to an overall reduction in overnight medical admissions of 39% compared to the service offered prior to the introduction of senior telephone triage and the ambulatory care centre.

Conclusions:

Well designed ambulatory care services have significant potential to reduce short term medical admissions whilst improving patient satisfaction. Senior decision makers are able to significantly reduce hospital admissions and improve the patient journey by triaging community referrals.
Aim

Alcohol misuse imposes a massive burden upon acute medical services with annually 1.2 million acute medical admissions being attributed to alcohol\(^1\). Traditional acute trust approaches involve pharmacological withdrawal without any psychological therapy. We aim to improve recovery from alcohol misuse and reduce acute medical readmissions through the rapid transfer of patients to an acute specialist alcohol detoxification unit (RADAR).

Methods

- Patients admitted with severe alcohol withdrawal were identified by nursing or medical staff. Medical staff assessed whether the patient was medically fit. The alcohol specialist nurse (ASN) performed a comprehensive assessment\(^2\) and arranged referral to RADAR unit if appropriate.
- Patients were acutely transferred and underwent a 7 day detox programme with associated therapy in a dedicated facility. Aftercare with community alcohol follow up was arranged to improve long term outcomes.
- Ongoing alcohol use and acute hospital readmissions were monitored.

Outcomes

Over a six month period until May 2013:

- 39 were accepted
- 1 did not meet criteria
- 1 medically unwell
- 1 refused transfer
- 2 self discharged before transfer

Bed days saved on the 39 transferred patients equates to 207 nights. 22% patients were transferred directly from A&E and so were not admitted, and a further 33% did not stay overnight prior to transfer.

At three month follow up, 64% RADAR patients remained abstinent or were controlled drinkers, 75% of patients had no readmissions to acute hospital during this period. There was a 58% reduction in admissions in the three months following RADAR detox as compared to the previous three months. Figures available for the first 24 patients indicate a reduction in hospital costs of £24,713.
Conclusion

Rapid access to a specialist inpatient alcohol detox unit reduces acute medical bed usage and reduces alcohol-related readmissions for patients admitted to an acute trust.

References

1) The Government’s alcohol strategy March 2012 p3

2) NICE Clinical Guidelines 115-Alcohol use disorder. Diagnosis, assessment and management of harmful drinking and alcohol dependence. Assessment in specialist alcohol service.
Aim:

The AMU, Ninewells Hospital, Dundee receives 66% of its referrals directly from the community, bypassing the Emergency Department allowing initial secondary care assessment by physicians trained/training in Acute Medicine. Local capacity was exhausted daily by the increasing referrals & the unpredictable arrival times and we struggled to recognise patients suitable for management out with the AMU in sufficient time to make good use of facilities within the hospital. A change in our practise was needed to improve our local efficiency, capacity & patient experience.

Method:

In 2009 we developed our local model of acute care to focus on early senior decision making; initially increasing daily senior reviews, then senior medical team as initial assessor and finally increasing overall capacity & focusing this initial medical assessment in a designated bay in the AMU. This step was vital in improving our efficiency despite the volume of patients arriving.

Outcome:

Increased direct AMU discharges from 34% to 46% (total discharge rates of 54% including short stay care). This has resulted in a reduction in patients awaiting a bed on arrival from 236 to 0 patients in a comparative time period. All of this in the face of increasing referrals and without effect on our readmission rate.

Conclusion:

Our model works by directing referrals to acute physicians, rather than the Emergency Department. Our pathway gets care right for the patient first time and makes the most efficient and effective use of the secondary care facilities as well as our own local capacity.
Aim:
The distribution of medical staffing during the 24 hours of an acute medical take is generally organised arbitrarily into day and night partial shifts. We compared this distribution of manpower with the distribution of acute medical admissions to determine whether this rota pattern optimises the use of available medical staff.

Methods:
We observed the number of medical staff available each hour during 20 consecutive weekdays. If a doctor was assigned to cover both admission and ward duties, he / she was recorded as providing half their working hours towards admissions. We calculated the percentage of total man hours worked for each hour on the 24 hour clock and compared this with the percentage of medical admissions for the same hour.

Outcomes/Results:
There were 713 admissions overall, and 90 man hours worked per day (figure 1). The biggest discrepancy between admissions and man power was between 09:00-10:00 when only 2.7% of patients were admitted but 6.7% of man hours were worked (figure 2). Conversely, between 00:00-01:00, 5.6% of patients were admitted but 2.2% of man hours worked. The percentage of admissions and man hours worked were matched to within 1% from 13:00-19:59 and from 03:00-7:59, meaning that there was a mismatch between admissions and manpower for 12 of the 24 hours of a typical medical take.

Conclusion:
Normal on call shift patterns do not adequately tie in with the distribution of workload during an acute medical take. A wider use of evening and twilight shifts may improve the concordance between patterns of admissions and man hours being worked.
AIM

Hospitals have seen a 37% increase in acute admissions over the last decade\(^1\); clearly not sustainable in times of austerity. To stop this trend, Salford Royal introduced a Consultant Acute Physician Triage bleep. This abstract evaluates the benefits.

METHODS

Working with our Clinical Commissioning Group (CCG), a re-ablement bid was granted to fund 3 new Acute Physician posts for 18 months to facilitate this project. A dedicated Consultant now takes all Primary Care & Emergency Department referrals, Monday-Friday 8:30am–7:00pm and weekends 12:00–8:00pm. The Consultant can either deflect the patient (clinical advice or arrange an out-patient appointment) or accept the referral. The service became fully operational September 2012.

Data for telephone encounters has been collected using a paper proforma (September 2012 – June 2013).

Feedback has been sought via the CCG.

OUTCOMES - INITIAL TEN MONTHS

1203 of 6122 acute medical referrals were either deflected or managed in under 12 hours of initial referral (19.7%).

626 patients (10.23%) were deflected by the receiving physician

577 patients (9.43%) were assessed, treated and discharged within 12 hours of admission.

Figure 1 demonstrates a month-by-month analysis of deflection and short-stay rates, with an average combined rate of 19.06%.

CONCLUSION

A Consultant referral bleep significantly reduces non-elective admissions by broadening other practitioners’ knowledge of fast-track services, giving advice and utilising ambulatory care pathways.

Working with the CCG is a creative way of funding Acute Physician expansion.

Positive feedback has been received from the CCG.
There has been no adverse impact on readmission rates (figure 2).

REFERENCES

1) Hospitals on The Edge? The Time for Action; A Report by The Royal College of Physicians, September 2012
AIM

The House of Commons Health select committee recently highlighted some of the challenges faced by the NHS, illustrated by its performance failure against the four hour access standard. Service delivery through the introduction of rapid assessment and triage (RAT) and development of ambulatory services have been suggested by the Royal College of Physicians as potential solutions to cope with increasing pressures. Implementation of RAT in ED has been shown to reduce the number of patients waiting. We introduced a senior doctor-led RAT, aiming at improving patient flow within our unit. We later evaluated the service, aiming to assess if RAT improved times to medical review and discharge.

Methods

100 randomly selected notes of patients who attended our AMU in April 2013 were retrospectively analysed comprising of 50 patients in the RAT group and 50 in the traditional clerking group. Times to first medical review and discharge were recorded.

Results

80% of the patients waited less than 30 minutes for initial review in the RAT group compared to 26% in the traditional group. 32% of patients waited over an hour in the traditional group compared to none in the RAT group. 58% of patients in the RAT group were discharged on the same day compared to 40% in the traditional group. Of these, 79% in the RAT group and 25% in the traditional group were discharged within two hours.

Conclusion

Implementation of RAT in AMU may improve time to initial assessment and patient flow, potentially contributing to relieve capacity pressures.

References

2. Urgent & Emergency Care: A Prescription for the future; RCP July 2013 Position statement
The Missing Piece of the Ward Round Puzzle: The Patient

Aim

The RCP/RCN describe how structured ward rounds can influence patient experience (1). Little is published outside of psychiatry about patient experience of rounds (2) and there are a lack of quality indicators to measure against. In order to improve, Trusts must determine current practice and patient opinion.

Methods

We surveyed in-patients across the Medical division about their last ward round. Anonymously patients were asked who should be present, about discharge plans given to them and answer questions taken from the national in-patient survey around communication, dignity and privacy. Additional space was given for suggested improvements.

Results

A response rate of 58% was seen (n=100). Questions taken from the in-patient survey were positively answered (e.g. 79% of doctors introduced themselves, 98% felt they had privacy in discussing their condition). However, only 58% of people had been given an estimated discharge date. 54% felt that a nurse should be present on the ward round and only 19% felt a relative should be present. Improvement suggestions included additional rounds in the afternoons, weekends and before discharge.

Conclusion

National in-patient survey questions are useful in benchmarking Trust’s overall patient experience but may not be helpful in developing specific improvements at a ward level (3). To develop patient centred ward rounds patients must be involved. Our survey has identified additional key areas of focus for our Trust. Further research is needed to determine if changes made as a result of Trust level surveys and RCP/RCN recommendations will also change the patient’s experience.


Use of Ultrasound In a low resource Acute Medical Setting

Service Organisation and Design

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Background and Introduction

Limited ultrasound has an increasingly recognised role in the acute setting in the UK. As UK-trained physicians with training in limited ultrasound, we sought to explore its use in a low-resource acute medicine setting. (1)

Method

A log of ultrasounds performed over an 8 week period at Sibanor Clinic, Gambia (rural clinic with 13 beds and 50-150 outpatients daily). We documented the system scanned and the ultimate diagnosis. We did not record routine obstetric ultrasounds, but documented when pregnant women presented outwith the normal antenatal schedule due to a suspected complication.

Results

58 ultrasound scans were performed. Median age was 32 (range 17 – 80). Scans performed were: Abdominal 13, thorax 1, echocardiography 10, deep veins of leg 4, pelvis 24, miscellaneous soft tissues (leg, back, knee, neck, hand) 6 (Figure 1). Specific diagnoses, by scan category, are illustrated in Figure 2.

Discussion

Figure 2 illustrates the range of diagnoses which were made or confirmed by ultrasound in our setting. The largest category was complications of pregnancy; this is not surprising given the demographics of the population. In all, only 4 scans were normal; this may relate to cautious use of limited resources, in that tests were only requested when it was considered likely they would have a significant impact on patient management.

Conclusions

A wide range of acute medical conditions were diagnosed using limited ultrasound in a low resource setting. Basic ultrasonography training may enhance clinical care in such environments. Further clinical and educational research is needed.

AIM –

To introduce a simple electronic prompt system to reduce the number of unnecessary D-Dimer requests being ordered and ensure a two-level Wells' score is being calculated for all patients with suspected PE.

METHODS –

A simple prompt system was introduced on ICE (electronic requesting system used at the Royal Liverpool University Hospital to order investigations) in July 2012 when a D-Dimer is to be requested. For suspected PE, the requesting physician is prompted to calculate a Wells' score (with a direct link to the Wells' score calculator). If the score is 4 or more, a D-dimer would not be allowed to be requested, in concordance with NICE guidance, and the subsequent prompt would read 'you have indicated that PE is likely, a D-dimer is not indicated, the patient requires imaging for PE.'

RESULTS –

We identified the number of requests on ICE for D-dimer from July-December 2012 and compared this directly with data from 2011. Overall, the number of requests was reduced by an average of 14% per month (Table 1 and Figure 3). Chi squared analysis shows that this is a significant reduction with P<0.0005. This equates to a saving of approximately £5000 per annum.

CONCLUSION –

This is an example of how technology can be used to promote better clinical practice, as well as saving money and these prompts could be introduced in other hospitals with the same effect.