

Original Research Papers

Following National Guidelines in Acute Care can improve emergency access and patient flow

SV Ahmed, C Jayawarna, D Atkinson & A Rippon

Abstract

This paper describes how a Foundation Trust was able to meet emergency access targets. The Acute Medical Unit (AMU) was expanded from 29 to 81 beds and patients with expected length of stay (LOS) of less than 5 days were managed by the acute medical team only. Acute physicians provided twice-daily ward rounds on the expanded facility, including weekends, supported by specialist teams, allied healthcare professionals and investigation facilities. Within three weeks, the admission process had improved dramatically. Average LOS had decreased by 1.3 days and bed-occupancy was reduced from 98% to 91%. Having failed to achieve the 98% target for 4 consecutive months prior to these changes, the target was subsequently attained consistently. Re-admission rates, percentage mortality rate and numbers of complaints were unaffected.

Keywords

Acute medicine, Acute Physicians, short stay ward, length of stay (LOS), Emergency department (ED), Foundation Trust, Primary Care Trust (PCT).

Introduction

It is widely acknowledged that emergency admissions to hospitals have increased dramatically over the past 20 years.¹ Since inpatient hospital stay is considered to be the most expensive element of care, the effect of increasing numbers of acute admissions on the NHS budget has caused concerns for several years.² Factors identified for this sustained growth include changes in demography, increase in the number of people living alone particularly in the elderly population, clinical governance issues and increased patient expectations.³ With an overall decline in the number of NHS beds over the past 40 years,⁴ it is more important than ever to make effective use of bed capacity. The challenge of meeting this demand was highlighted following publication of 'Reforming Emergency Care' in 2001.⁵ This document identified the need for rapid assessment and treatment and tasked NHS hospitals with ensuring that 98% of patients spent no longer than four hours in the Emergency department (ED).

Acute Medicine has developed rapidly as a speciality over the past decade in response to these challenges, and particularly to address the issue of

safe acute care.^{6,7,8} A large number of acute medical consultants have been appointed throughout the UK, and most Deaneries now have training programmes in this speciality.

Background

The Foundation Trust hospital, where this pilot was carried out, has a capacity of 850 beds and serves a predominantly elderly population of almost 380,000. On average, there are 50 (up to 70) medical admissions daily. During winter 2009 an unprecedented level of attendances in the Emergency Department was noted, resulting in a 20% increase in demand for acute medical beds. Consequently, the Trust experienced great difficulty meeting the four hour target in ED, with weekly performance dropping as low as 89%. The average length of stay in hospital for medical patients was higher than average (9 days) and this was creating additional pressure on capacity.

The Acute Services Management team, comprising a business manager, Lead Acute Physician and Nurse Consultant, proposed a pilot project to improve four hour performance. This proposal involved:

- Expansion of the Acute Medical Unit (AMU) from 29 to 81 beds with the addition of a modified short stay ward (MSSW): this was achieved by redesigning of existing elderly care capacity, without any overall increase in bed numbers.
- To keep patients with the potential of early discharge under the care of the acute medical team, with twice daily (8am and 3pm) consultant review, including weekends, thereby meeting RCP and NCEPOD recommendations for the provision of acute medical care^{9, 10}
- Improving early access to investigations and therapists to help reduce length of stay
- Establishment of a rapid access AMU follow-up clinic to facilitate early discharge

Staffing Changes

The existing acute physicians performed additional ward rounds to provide 'hands-on' care, following

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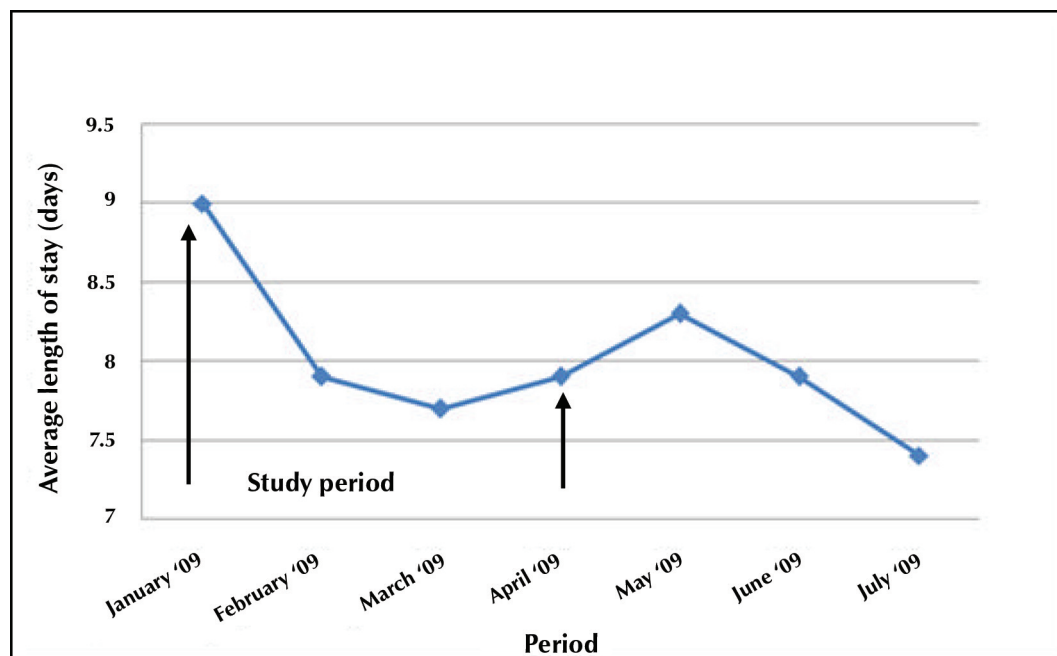


Figure 1. Medical Admissions Average Length of Stay (ALOS) in Days.

appointment of an additional locum consultant. The physiotherapists, and occupational therapists who worked in the AMU expanded their services. Before remodelling, each 15-17 bedded ward had been managed by two sub-specialist consultants and three junior doctors. After remodelling, each ward was managed by one acute physician and one junior doctor (up-graded from clinical attachee positions). Specialist registrars in AMU provided middle grade support to this new facility. No additional nursing staff were required.

Alongside this development, the local Primary Care Trust established a rapid access follow-up service in the community. An independent group of general practitioners would visit the patients at home following discharge and provide treatments such as daily intra-venous antibiotics, daily nebulisers and diabetes control monitoring. They could also facilitate the engagement of community specialist teams to avoid re-admissions and improve care in the community. A community-based 'rapid response multi-disciplinary (MDT) team' was also engaged to enable further reductions in hospital stay for elderly patients.

These changes were implemented for a period of 3 months, during which data were collected to determine the direct discharge rate from the AMU and MSSW and overall length of stay for medical patients; figures for 98% ED targets were compared to those attained before the changes were implemented. Quality, safety and outcome measures were also monitored during this period.

Results

Following implementation of the change, the average daily discharge rate from the AMU and MSSW improved to 45% (range 41% - 49%), compared to 27% from the previous 29 bedded Acute Medical Unit model.

In addition the average length of stay (LOS) for patients

admitted dropped from 9 days to 7.7 days (Figure 1) during the 3 month period and thereby reduced the bed occupancy from 98% to 91% during this period. The overall length of stay in February and March was the lowest on record for medical admissions. The average LOS in March 2009 was 1.6 days lower than for March 2008 (9.3 days), despite the continued increase in demand.

The new service model was the most significant single factor in the recovery of the four hour target. The four hour target was not achieved in any of the five months prior to introducing the new model and has been achieved in every week since February 2009 (Figure 2).

Service Evaluation – Quality Dashboard

Mortality rate on the Unit was unchanged (average 2 deaths per month). No cases of Clostridium Difficile or MRSA bacteraemia were identified as having originated from these acute wards. No serious untoward incidents were recorded during this period. On average, there were seven patients re-admitted within one month of discharge (3.5% or 7 patients per 200 admissions in each ward), which was similar to the average re-admissions rate prior to implementation of the changes. During the three month period, only one complaint was received, in comparison to an average of 10 complaints each month prior to this change.

Discussion

Our experiences demonstrate how the recommendations of the Acute Medicine Task Force⁹ can be used to facilitate improvements in management of acute medical patients, with a dramatic impact on patient flow. Our model enabled the Trust to cope with the higher level of demand without opening additional wards. Reduced bed occupancy also eliminated the problem of medical

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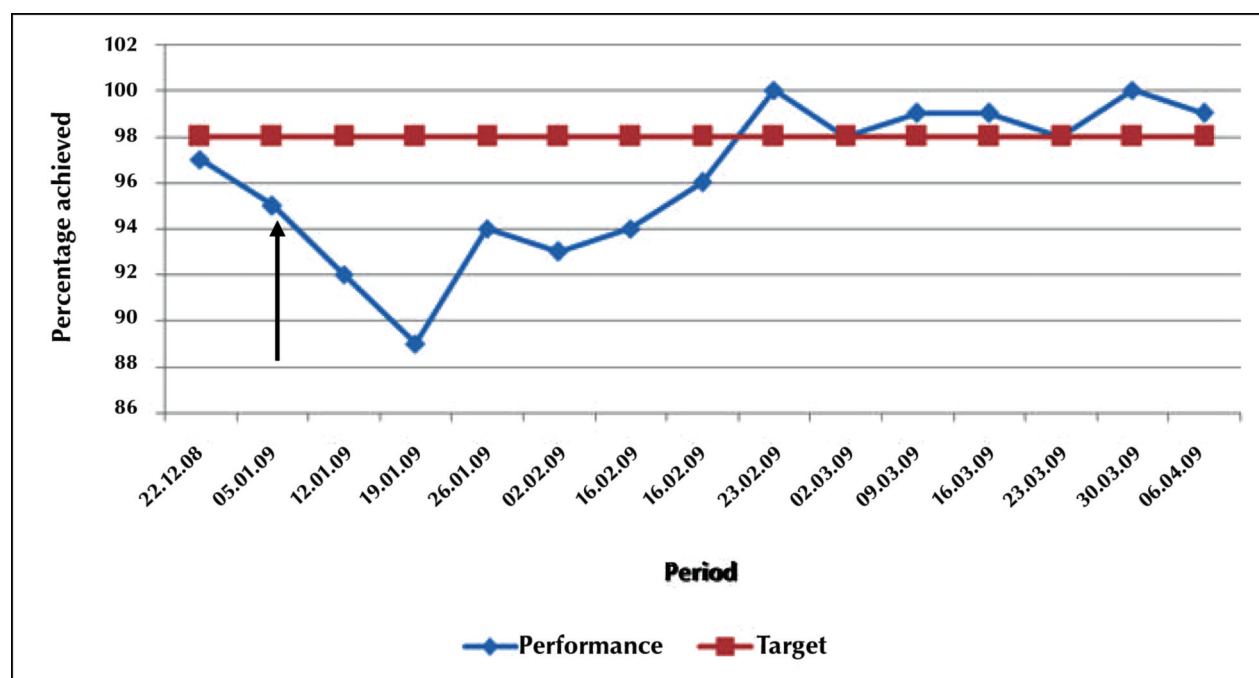


Figure 2. 4 hour target achievement during the study period. The arrow indicates the time where the changes were implemented. Study period is for 3 months starting from January 2009.

'outliers' in elective services beds – which improved trust income by freeing up beds for 'high tariff' surgical procedures.

Quantifying the benefits of this model is complex. A reduction in overall average LOS of 0.5 days equates to a 16 bedded ward. The new model appears to have reduced average LOS by between 0.5 and 1.3 days; one or two additional wards would have been required in order to have achieved the equivalent bed occupancy, at considerably higher cost. The investment required to establish the new services could be offset against these benefits.

The success of this model demands the identification of appropriate patients for the short stay ward facility. This process can be compromised when there is pressure in the Emergency Department to find an acute bed for a patient. However, it is essential to ensure that only those patients with a predicted length of stay of less than five days or so are admitted to such wards. In our system, suitable patients were identified after consultant review, by the senior nurse coordinating the AMU admissions. An effective bed management process is essential for early transfer of patients to other specialties who are considered unsuitable for early discharge.

The model required support from the consultant acute physicians and supporting medical, nursing and allied health professionals. The introduction of weekend ward rounds for the consultant body was difficult to sustain in the long term, without additional permanent staffing resource.

After 3 months of pilot scheme...

Following the success demonstrated during the pilot period, the new acute model has been established on a permanent basis. Attempts to withdraw additional

weekend ward rounds were abandoned when it became evident that the demand for beds was consistently high with no significant seasonal variation. However, sustainability of the additional ward rounds was dependent on the identification of sufficient funding to expand the numbers of substantive acute physician posts. Currently, the trust has allocated the funds for this purpose and temporary acute physicians have been employed. Already existing physiotherapy and occupational therapy input was extended between emergency department, acute medical unit and new-short-stay-facility with additional investment of £21,000 (re-directed from savings following ward closures.)

As a result of the high degree of commitment from various other professional groups such as pharmacists, physiotherapists, occupational therapists, social workers etc, the trust has been able to achieve the performance targets consistently since the introduction of the new acute set-up last year.

This model also demonstrates that regular input from experienced clinicians facilitates early discharge decisions with significant effect on capacity management without compromising patient care.¹¹⁻¹²

One of the key improvement factors was the weekend ward rounds by consultants which helped to address concerns regarding poor patient outcome.^{13,14}

Though the unpredictable fluctuating demand for emergency beds has not changed, the bed occupancy has fallen significantly which has helped to avoid periodic bed crises.¹⁵ Since the introduction of this model, the trust has consistently achieved 98% performance targets every quarter in the last financial year, ending in April 2010 (Figure 3). Additionally, the trust managed to close 95 in-patient beds recently.

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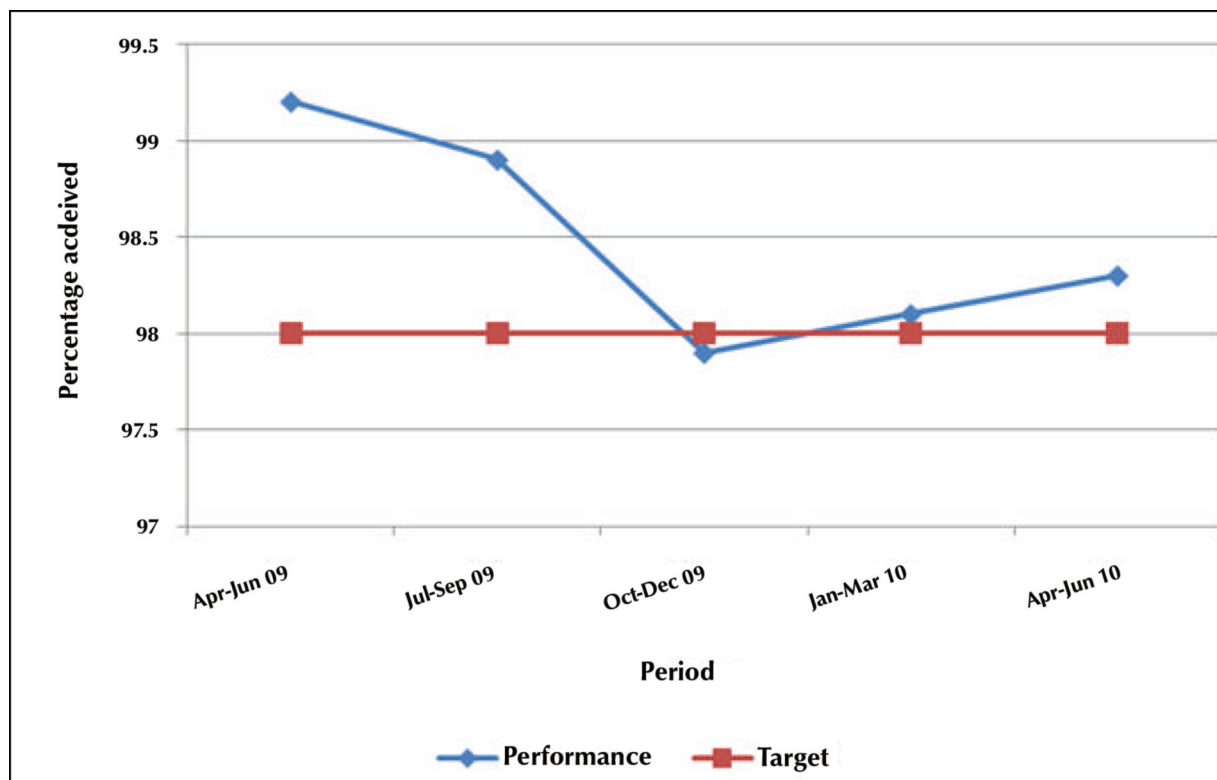


Figure 3. 4 hour target achievements after the study period (which ended in April 2009).

Conclusions

Our experiences have demonstrated the benefits of early, regular senior clinical input, multi-disciplinary care and early follow-up in the management of 'short stay' acute medical patients. Short stay units have previously been shown to reduce LOS, increase patient satisfaction, improve the efficiency of the Emergency Department and improve cost effectiveness.¹⁶ Elderly patients frequently require multi-disciplinary input, especially social care, and this is one of the key factors in delayed discharges.¹⁷ Early

access to the social care team significantly reduces the average length of hospital stay.¹

In summary, for acute care, following national guidelines improves efficiency, effectiveness and has financial benefits. We suggest that all trusts should review their service model and implement the changes required to meet the recommendations of the Acute Medicine Task Force.⁹

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