Introduction

Patient flow is a broad term that refers to the movement of patients, information and equipment as part of a patient’s care pathway.

In the context of acute medical care in the UK, patient flow is becoming increasingly topical as the efficiency of the NHS comes under more scrutiny than ever before.

In order to meet the rising demands of the population combined with increasing financial pressures, improving patient flow has never been more important.

This study is part of “The Salford EAU Project” – a long term initiative to improve outcomes and services in acute medicine.

Aims

The study aimed to examine the link between bed occupancy and patient flow in an Emergency Assessment Unit (EAU). To do this, the following markers of patient flow were used:

1. Breaching in the Emergency Department (ED)
2. “Out of Hours” (OOH) ward transfer (between 00:00 and 04:00)

Methods

The study was designed as a six month retrospective cohort analysis. It utilised data that was collected prospectively on an electronic database together with additional information from the ED and trust-wide bed occupancy data. The cohort included 10,913 individual patient events.

The data was then refined and formatted in preparation for statistical testing. Logistic Regressions were completed using SPSS.

Results

The first regression compared bed occupancy with the likelihood of breaching in the ED. 10,067 patients were admitted via the ED.

The regression found that when there were no beds available across the hospital, patients in the ED were 76% more likely to breach than when beds were available (logistic regression, OR= 0.754, 95% CI 1.328-2.321).

In general, the more beds that are available, the lower the likelihood of breaching in the ED.

The second test assessed the likelihood of OOH ward transfer based on bed occupancy.

Again, the results of the logistic regression are presented below (fig 2).

During the night, patients were more likely to be transferred to another ward when there were fewer beds available.

During times where the EAU was at its capacity, night transfers on the unit were 39% more frequent than when there were beds available (logistic regression, OR= 0.604, 95% CI 0.376-0.971).

Perhaps the most important finding was that 27% of transfers from EAU were happening through the night (between 00:00 and 04:00).

Conclusions and Recommendations

The data shows that bed occupancy has a statistically significant effect on both tested aspects of patient flow. However, it is clear that factors affecting patient flow are multi-faceted and highly complex.

Based on my findings set in the context of previously published literature, our recommendations include:

• Measures to avoid a bed occupancy reaching capacity – the evidence suggests that there could be a role for a formal overflow policy in improving patient flow.

• Management focussed training for clinicians – recent literature has highlighted the role of acute care clinicians as resource coordinators\(^1\). Improving training in this aspect of their work could improve flow.

• Patient education – studies have proven that engaging with the local population to reinforce appropriate use of services can improve patient flow\(^2\).

• Reducing OOH transfers – these transfers are considered bad practice because of their association with poor continuity of care and patient outcomes\(^3\). Local policies need to focus on reducing the number of these events.

References