Introduction

Few performance measures draw as much heated debate as the four-hour access standard. Currently very few type 1 emergency departments are able to meet this performance measure.

The AMU tracker is a software package, designed in-house, to manage the follow of patients from ED to Acute Medical Unit and beyond. It collects data on the time and reason for referral, clerking and post-take ward round, and diagnostic information. Data is collected on demographic factors, triage score (based on NEWS) and other factors such as frailty and whether the episode is a readmission.

This data were used to explore whether a stay in ED of more than 4 hours had a negative impact on LOS. In particular we asked whether this was an effect purely on the stay in ED or if this delay was due to “back-door pressures”.

Methods

Data from the AMU tracker (AMU Patient Tracker presented at SAM Belfast, SAM Edinburgh and SAM Cardiff) were collected for patients admitted to AMU between 1/1/2017 and 11/4/2018. Free text was then analysed by extracting “tokens” which were each placed into one of 26 groups of medical conditions.

Patients with incomplete data collection were excluded. Patients who died or self-discharged from hospital were excluded. 23,152 patients were included. Multivariate linear regression analysis was performed.

Results

23,152 patient admissions were included; overall average LOS was 9.9 days.

We hypothesized that this 4-hour effect may be secondary to “Backdoor pressures”. To measure this, the 465 day study period was divided into 3 equal groups of days on the basis of patient numbers discharged from the hospital on that day. LOS of patients admitted on each group of days is seen in Fig 3.

Conclusions

The data collected on AMU tracker has provided a unique opportunity to study factors affecting LOS. We are not aware of any similar studies.

Our data suggests that effects of increasing LOS are caused by both long waits in ED and “backdoor pressures”. Patients deconditioning over long waits in ED and that the hospital was working at full capacity are both contributing to this phenomenon.

Our data supports the four-hour access standard for moving patients out of ED.