

Differences in Resident Workload and Patient Care Following Implementation of a Continuous “Drip” System Admissions Model

Kirsten Nessel, MD. Siddhartha Srivastava, MD, FRCPSC.

Background

There is growing interest in methods to improve the efficiency of Internal Medicine (IM) admissions from the emergency department as this has been shown to improve length of stay, hospital capacity, and even mortality for inpatients. Daily discharge rates have previously been studied as a measure of admissions efficiency and found to vary depending on the structure of the resident call schedule. A computer simulation model has shown that smoothing out IM discharges throughout the week decreased the number of occupied beds in the Emergency Department (ED) and improved patient flow. It is therefore important to understand how different admission models affect daily discharge rates.

The most common admission models used in Internal Medicine programs can be described as “bolus” versus “drip” systems. A bolus call structure has specific team(s) designated as “on-call” accepting new admissions whereas the drip system evenly distributes admissions to all teams every day. One study found that on-call teams had 15% higher discharge rates compared pre-call teams, and discharge rates were 20% lower in post-call teams. A retrospective analysis of the transition from bolus to drip system from the University of Toronto identified reduced variation in daily discharge rates and a modest reduction in length of stay, however no other evidence exists directly comparing the two structures and there is no data regarding potential differences in workload and health care provider satisfaction.

This research proposes a retrospective study to better characterize how the transition from a drip to bolus admission model affects resident workload and patient care. In addition, it will also examine how care providers (residents and faculty) describe their experiences with the change.

Methods

Using data tracking medicine admissions and discharges from 3 months before and after the transition from bolus to drip admissions (2018 and 2019) the primary outcome of resident workload will be measured by comparing daily admission and discharge rates, the number of consults per team over 24 hours, and average census size per team per day. Patient care factors that will be measured include length of stay, number of readmissions, time to disposition, and continuity of care between the admitting resident and team. The secondary objective of provider experience will be studied through focus groups with qualitative thematic analysis.

Results/Conclusion

As results become available we will be able to identify differences in resident workload and patient care factors between bolus and drip admission systems to further understand how inpatient programs can better structure their admission models to optimize efficiency, patient care, and care provider satisfaction.