Title: Understanding the Accuracy of Clinician Provided Estimated Discharge Dates for Surgical vs Non-Surgical Hospital Admissions

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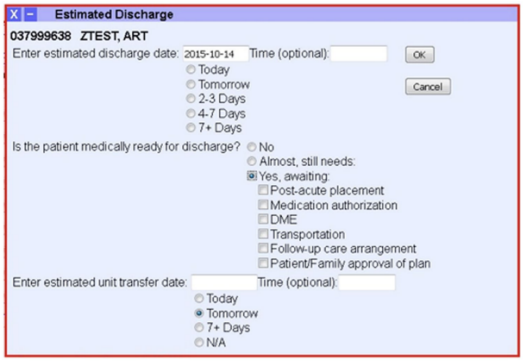
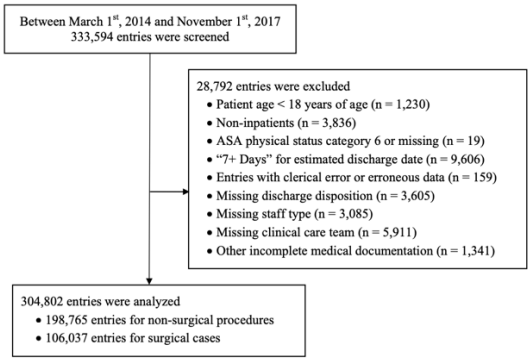
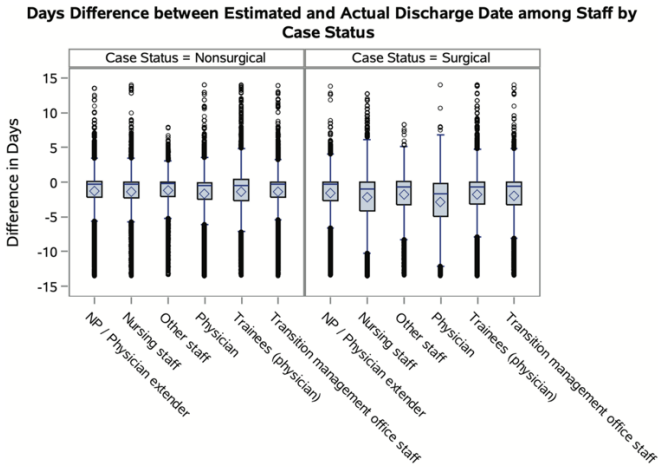
Background: Discharge planning is a vital tool in managing hospital capacity and can have a positive impact on length of stay and efficiency in the hospital, which is essential for maintaining hospital throughput for surgical postoperative admissions. Prior studies have demonstrated that failure to assign and communicate an estimated discharge date is one barrier to timely discharge planning. Between 2014 and 2017, Vanderbilt University Medical Center implemented a tool in the electronic medical record (EMR) requiring providers to input the patient's estimated discharge date on each hospital day.





Results: Via an analysis of covariance (ANCOVA) approach, we identified the potential factors for more accurate estimates of discharge dates. The primary outcome was the difference between estimated discharge date and actual discharge date, and the primary exposures of interest were the clinical team the patient was admitted to and whether the patient underwent surgery while admitted to the hospital.

- After controlling for measured confounding, we found that discharge estimates got more accurate as the difference between estimated and actual discharge date narrowed; for each additional day closer to discharge, prediction accuracy improved by .67 days (95% confident interval [CI], 0.66 to 0.67; p<0.001), on average.
- No difference was observed on the primary outcome of patients receiving surgical procedures, in comparison to non-surgical treatment (0.02; p=0.1106).
- Faculty members performed best among all clinicians in predicting estimated discharge date with a 0.44-day better accuracy (95% CI, 0.40 to 0.48; p<0.001), on average, than trainees and a 0.24-day better accuracy (95% CI, 0.20 to 0.27; p<0.001), on average, than other staff. Specific clinical care teams, staff types, and discharge dispositions were associated with the variability in estimated discharge date versus actual discharge date (p<0.0001).



Conclusion: Given the widespread variation in current efforts to improve discharge planning and the recommended approach of assigning a discharge date early in the hospital stay, understanding provider estimated discharge dates is vital to hospital bed management. By understanding the performance of clinicians in estimated discharge dates, we can inform operational decisions around discharge planning, identify specific hospital services and patient factors that are vulnerable to discharge delay, and optimize efficient discharge planning.

References:

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