

## Six Hour Cut Off Time from ED Bed to Admission Disposition: A Win-Win for Patients; Providers; and the Institution

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### Background/Significance of Project

Emergency Department (ED) crowding has been described as a widespread issue that negatively affects patient safety and leads to increased stress among those who work there. ED crowding is in part affected by how quickly patients are dispositioned. Given the high acuity and complexity of patients in the Vanderbilt ED, our patients often have extensive laboratory and radiographic testing as well as frequent involvement of consulting services. This leads to time to disposition of 6-12 hours or greater for a significant number of our patients, which in turn results in significant ED crowding.

We know that when other countries have implemented a cut off time from ED bed to admission disposition, there were clinically important reductions in hospital LOS; ED LOS; admitted patient ED LOS; ED crowding; ED mortality; in-hospital mortality; and LWBS rates. There are also positive effects from a financial standpoint when a disposition time target is introduced, as those staying for prolonged workups are appropriately admitted to observation status rather than staying in ED status up to 24 hours or longer.

### Purpose/Objectives

The objectives for this project are:

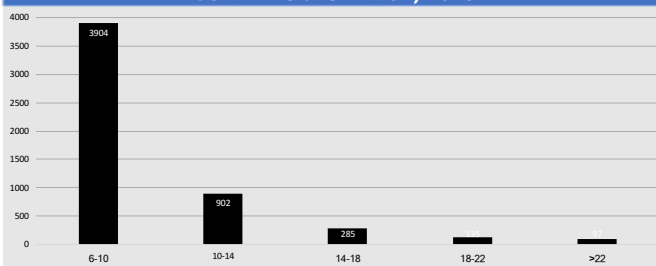
1. Require a disposition for each patient at the six-hour mark starting from the HTS timestamp (which at our institution indicates the time a physician first evaluates a patient). If a patient has pending studies or further consultation time that is needed, the patient will be placed in observation status.
2. Determine a service for admission for those patients who are placed in observation status at the six-hour mark.

### Approach

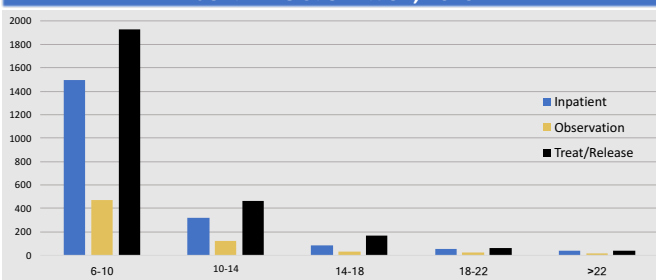
We analyzed VUMC ED visit data from July 1 – October 31, 2019 and discussed this data with the Dean and Chiefs of Staff. The data revealed the following:

- 5,066 patients waited over 6 hours between the time they reached an ED bed until they were dispositioned. On average this translates to 43.6 patients per day with prolonged times to disposition, which is 20-25% of our total number of patients seen.
- There was significant variability regarding which laboratory study, radiographic imaging, or consultant service was involved in the care of each of the patients with prolonged disposition.
- Of all the patients who had dispositions made greater than 6 hours after being placed in the ED bed, 50% were classified as “treat and release.” Approximately 60% of the payer mix for this subset of patients comes from commercial payers, which would render approximately \$3000 per patient stay. Thus for the estimated 8,000 patients per year who would be classified as “treat and release,” the projected lost revenue is \$14,400,000.

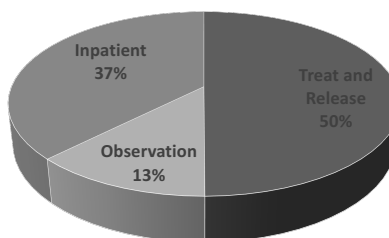
PATIENT VISITS BY # OF HOURS FROM ED BED TO DISPOSITION  
JULY 1 - OCTOBER 31, 2019



# OF PT VISITS BY DISPOSITION AND DISPOSITION TIME  
JULY 1 - OCTOBER 31, 2019



PATIENT DISPOSITION AFTER 6 HOURS  
JULY 1 – OCTOBER 31, 2019



### Results

- We have achieved institutional approval to create a 6 hour cut off time from ED bed to disposition.
- We ultimately decided to create a hospitalist service which would operate within our ED to care for these admitted patients. This project coincided with an addition of a new patient care area that likely will accommodate many of these patients.
- We are creating an EPIC build-out that will flag patients who reach the 6 hour disposition cut-off time to signal the ED physicians to make a disposition decision.

### Conclusion Statement of Impact

The ultimate impact of this project is quite broad. A 6 hour cut off time from ED bed to disposition will:

- have positive financial impact on the institution
- boost morale for ED physicians
- potentially improve hospital LOS
- potentially decrease LWBS
- potentially reduce ED and in hospital mortality
- ultimately improve patient care

### References

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