

Problem

As Lahey Hospital & Medical Center operates at capacity, many factors contribute to inpatient wait times. Limited opportunity exists to further optimize admissions processes, however, opportunities do exist to improve downstream processes. Several high-priority steps can be taken to address downstream bottlenecks

Background and Context

The Medical Center commonly (pre-COVID) operates at a high occupancy level; every opportunity to reduce inpatient wait times and streamline patient progression is an important strategic priority

A myriad of factors can impact patient progression and inpatient wait times, including processes impacting length of stay and bed availability

A need exists to identify high-priority opportunities to significantly improve inpatient wait times and patient progression

Project Objectives

Understand the various processes that impact patient progression and inpatient wait times, both in individual units and across units/floors

Conduct cost-benefit analysis to understand which processes could present high-yield opportunities for patient progression and inpatient wait time improvement

Prioritize addressable opportunities, allowing Lahey to investigate further into potential solutions

Objectives

To reduce inpatient wait time and increase patient progression by understanding different stages that create bottleneck and investigating potential solutions.

Strategy & Design

Information Gathering

Confidential interviews were held with stakeholders across high-priority units (identified by Lahey) to identify potential pain points / bottlenecks in patient flow

Interviews focused on patient flow through Floor A, but also investigated institution-wide bottlenecks and pain points in inpatient bed assignment, length of stay, and discharge of patients

Analysis

High-level pro-con analysis of addressing identified bottlenecks both in normal times and considering the COVID-19 pandemic was conducted with primary and secondary research

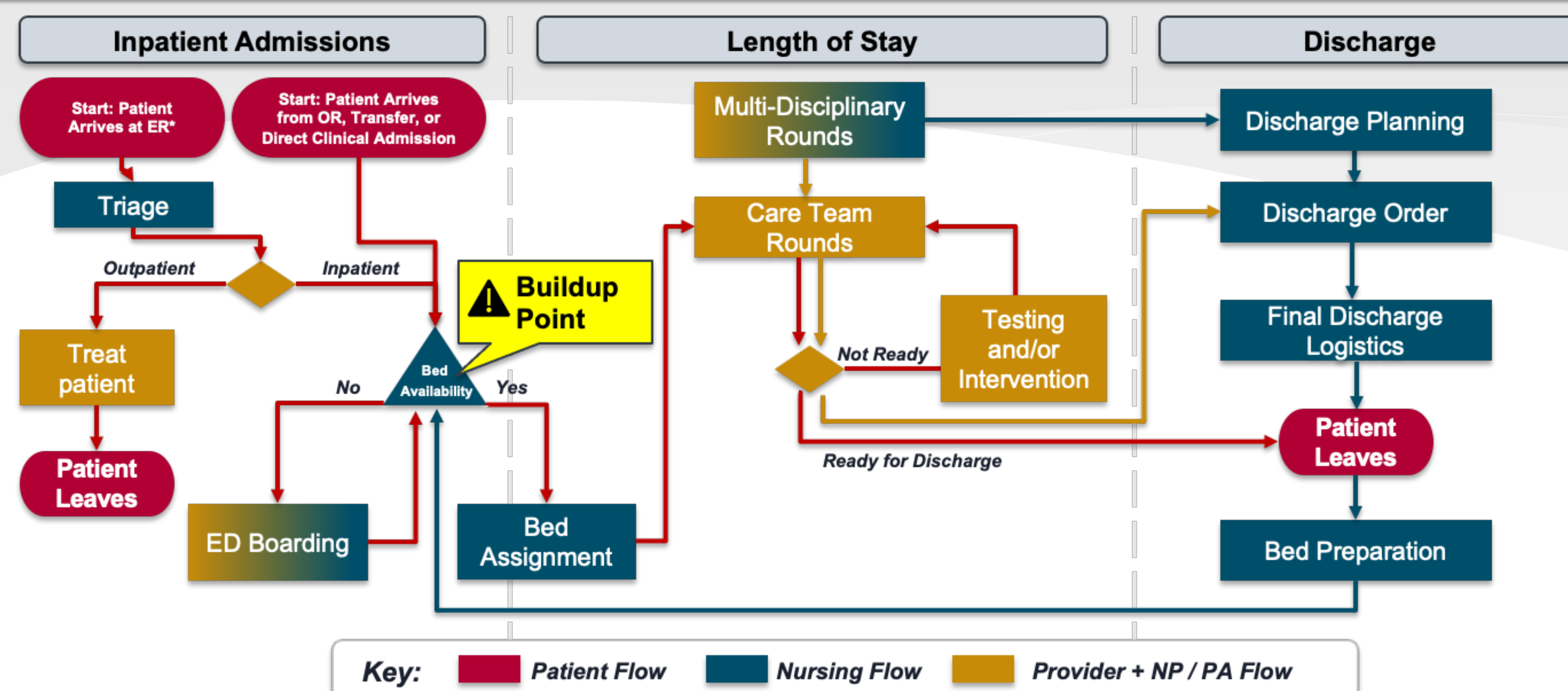
3-month, blinded, unit-level Floor A discharge data from Lahey was used for supplemental analysis

Synthesis

Recommendations on high-yield opportunities to reduce inpatient wait times, including recommended additional analysis, developed and summarized

Full analysis and research supporting recommendations will be provided in final report

Inpatient Flow



Discharge Analysis

Day of the Week	Total Discharges	Discharge Orders Placed by Noon		Discharge Orders Completed by Noon	
		n	%	n	%
Monday	61	7	11%	0	0%
Tuesday	57	14	25%	2	4%
Wednesday	75	18	24%	2	3%
Thursday	71	19	27%	3	4%
Friday	89	20	22%	1	1%
Saturday	51	14	27%	1	2%
Sunday	35	16	46%	2	6%

Table 1. Discharges on Floor A According to Day of the Week. Weekends tend to have lower numbers of discharges, especially Sundays, but level of discharge completed before noon remains the same. Back up on Mondays aggravate Tuesday and Wednesday inpatient flow and discharges.

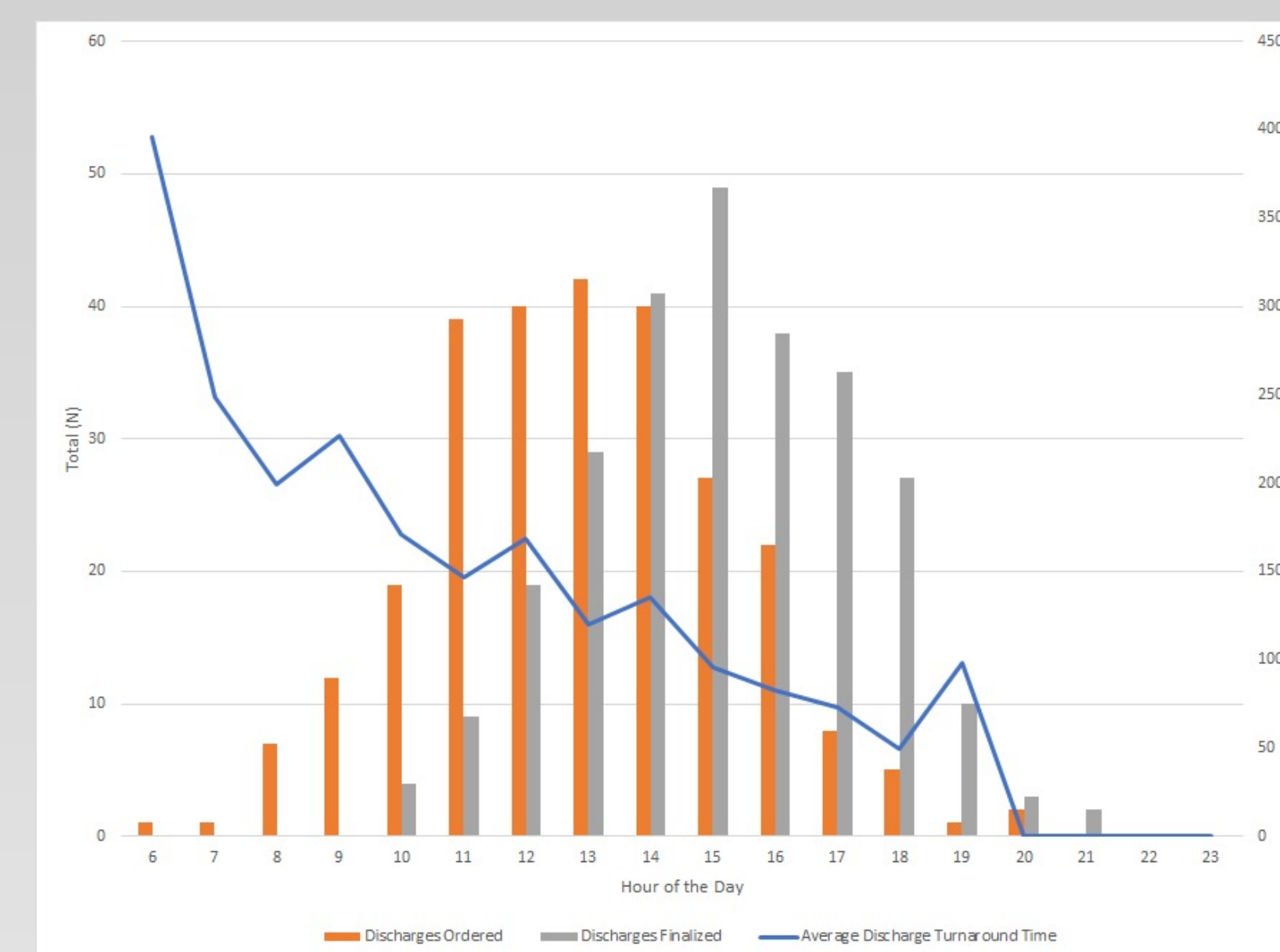


Figure 1. Discharges on Floor A by Hour of the Day.

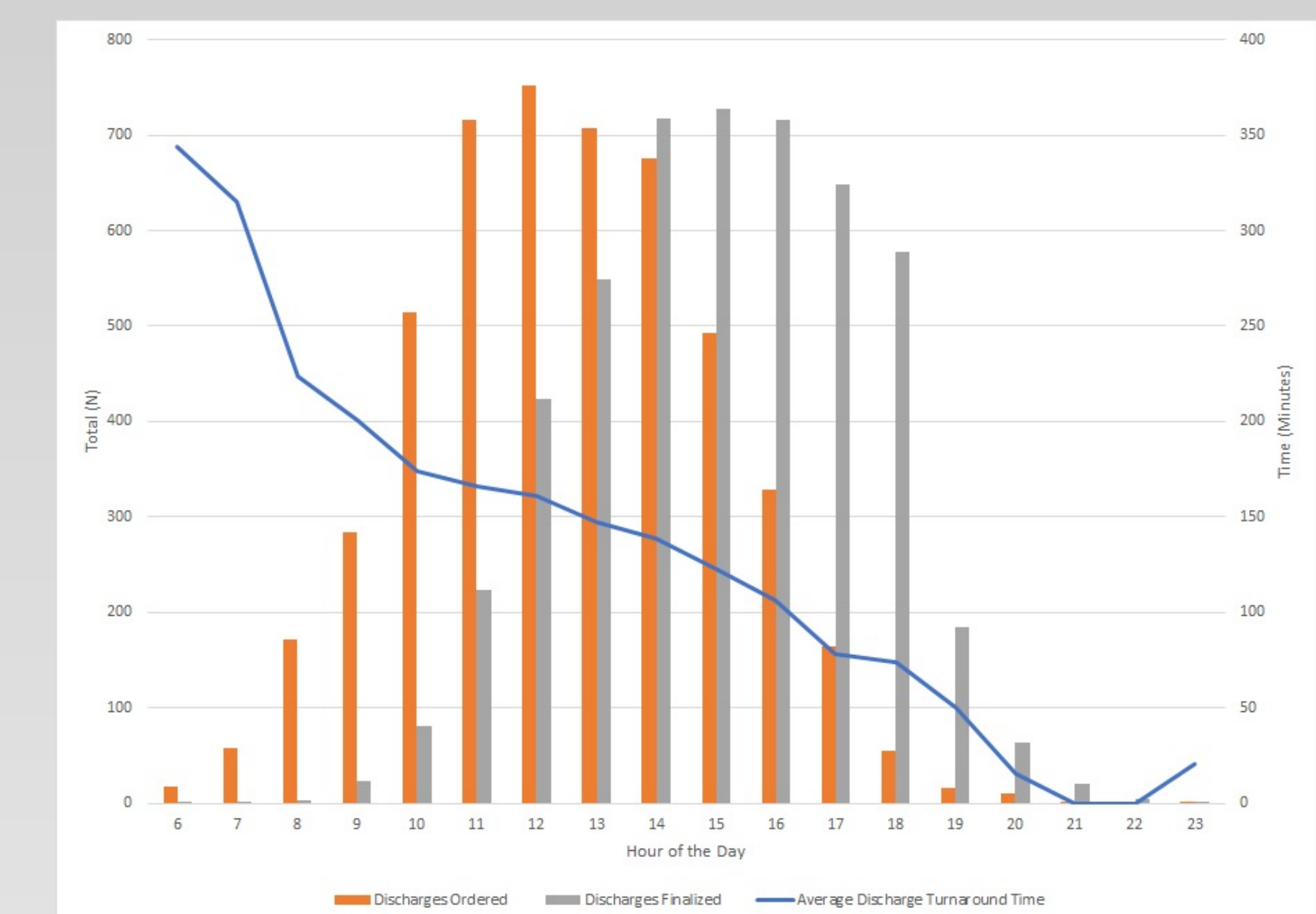


Figure 2. Discharges on Multiple Floors by Hour of the Day.

Recommendations

Our analysis leads us to 3 key recommendations for Lahey Hospital & Medical Center

1 Enhance Data Tracking of Testing Delays

- Currently, impact of weekend testing unavailability is not tracked by avoidable bed days reports
- Enhanced tracking of testing delays may allow better quantification of financial impact to institution and provide impetus to extend testing availability over the weekend

2 Increase Staffing of Case Managers

- Case managers are operating at capacity and bandwidth is often absorbed by “putting out fires” on a daily basis
- Increasing number of case managers can substantially alleviate bottlenecks by allowing earlier discharge planning measures and reducing turnover

3 Prioritize Rounding by Discharge Potential

- Re-ordering patient discussion during MDR can allow some staff (e.g. case managers) to leave early and begin processing discharge logistics
- Prioritizing care team rounds by likelihood of discharge can allow providers to write discharge orders earlier in the day and prevent downstream delays

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