Length of Stay Reduction Project

UC San Diego Health System

Overview

I provided analysis and modeling required to complete an organization wide length of stay reduction project.

Problem

The executive team identified length of stay as a key initiative as part of UC San Diego Health's commitment to continuous process improvement. The overall inpatient length of stay had been increasing, and was higher on average when compared to similar academic medical institutions.

Process

The project consisted of four separate task forces. I supported each task force by providing the analytics needed to conduct root cause analysis, identify solutions, and model scenarios to make data driven decisions. Below, I will summarize the task forces and examples of analysis I performed specific to each group :

Technology and Innovation: I evaluated the accuracy and usefulness of a EPIC released Length of Stay predictive algorithm. I also led a project to leverage new EPIC functionality to begin tracking discharge delays leading to increased length of stay for inpatients.

Outlier Mitigation: I developed Tableau dashboards to track the success of the project. I also developed automated, actionable reports in Tableau that were sent to key staff members on a daily basis to drive focused interventions for this patient population.

Ancillary Throughput: I conducted root cause analysis to quantify which ancillary services (Imaging, Consult Services, Rehab, Lab, PT, OT) were the main bottlenecks to discharges. My analysis led to multiple process improvement projects in specific areas.

Observation Unit: I conducted root cause analysis to uncover opportunities to cohort short stay patients in a unit dedicated to efficient care and turnover. This led to the creation of a dedicated space in the ED to care for observation patients instead of transferring them to an inpatient bed. I worked closely with the ED management team in modeling out the patient population and space needs to drive the operational plan.

Solution

The length of stay was reduced to 2% to meet the goal. While the length of stay raw change was minimal, many of the resulting process improvement projects led to increased efficiency for specific department's workflows. A few examples of analysis are shown below :

Discharge Delay Process