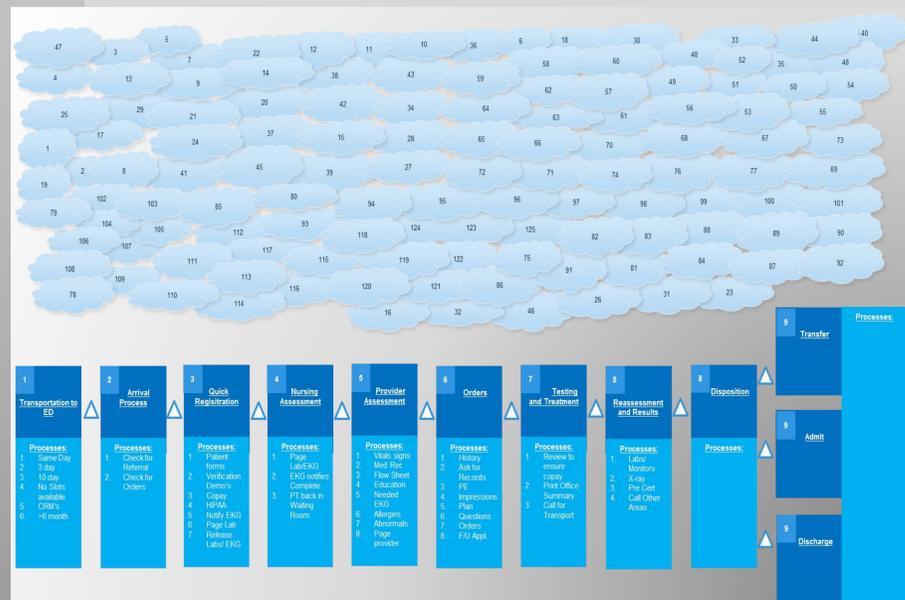


Leaming JM, Knauss EA, Griffie NK, Greene JJ

INTRODUCTION

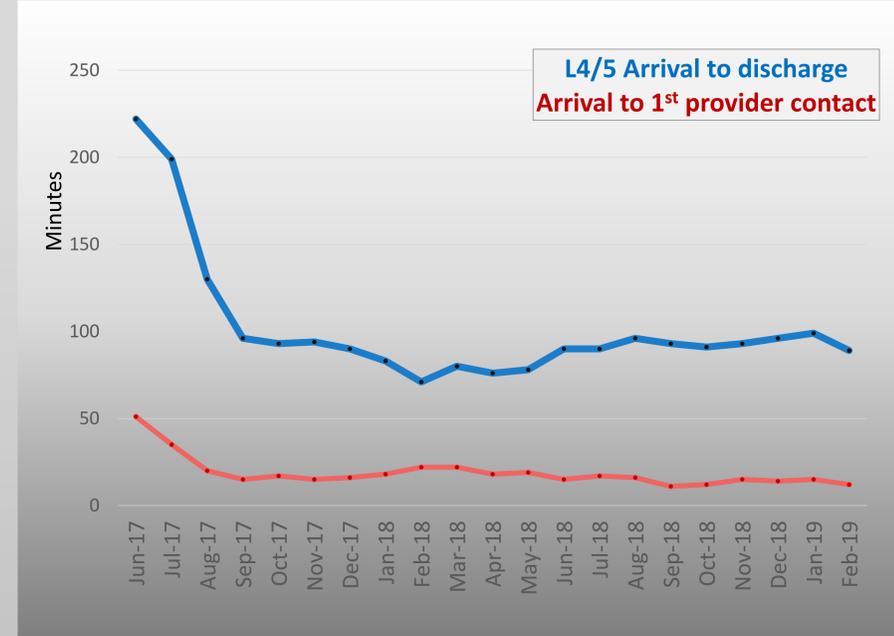
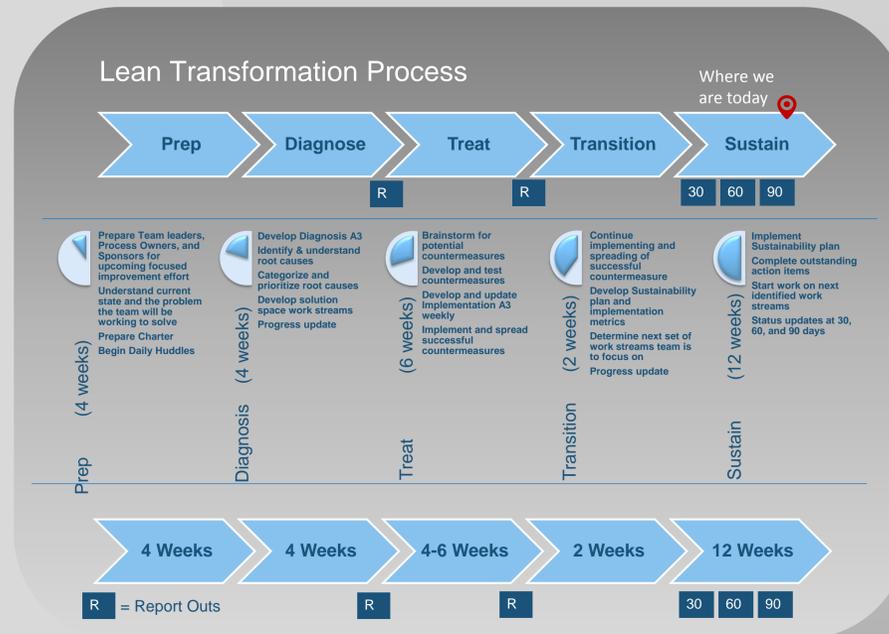
Rapid Cycle Change is a process where project-specific data collected during the Plan-Do-Study-Act (PDSA) process is used to test small-scale process improvements and determine if the change should be accepted, modified, or rejected. Measurement is done at the unit level by the same staff delivering the care, and collection is short term in nature. This type of measurement is one of the most effective levers for achieving and sustaining process improvements. By having hospital leaders invest in establishing an expectation that unit and department care teams will identify key process variables, measure them, report the results widely, and improve them as needed, collaborative efforts beyond the emergency department can effect quality metrics.



INNOVATION

A high-acuity community emergency department had opportunity for improving on goals for ED patient throughput such as ED process lead time, meeting expectations of patients in the ED and improving ED patient interactions. Through a 1-year process improvement project, lean principles for examining key areas identified as of greatest impact were applied.

Through identification and participation of key stakeholders such as hospital administration, registration, laboratory, radiology, and registration, rapid and profound identification of emergency department key processes was accomplished. The lean transformation project was facilitated by the emergency department management, but the identification, change implementation, testing and transformation was a result of participation with those most familiar.



LESSONS LEARNED

By empowering those most familiar with the processes identified as influencing emergency department throughput by use of lean transformation principles, the emergency department was able to make significant changes to throughput and patient satisfaction.

RESULTS

Through the implementation of this project there were decreases in the arrival-to-admission order interval for emergency department patients and arrival to admission unit time interval. There was an overall increase in the total visits from 108.7 patients per day to 115 patients per day. Patient satisfaction significantly improved with mean patient satisfaction rising from 16.2% to 87.6%. Modest improvements in CT turnaround time (5 minutes) created large annual impacts in hours saved for patients (1500 hours). Overall there was a 11,665-hour yearly impact in hours saved for all ED patients from arrival to departure (admission or discharge) as a result of the rapid cycle improvements made through process improvement.

Indicator	Baseline Jan. Aug 2017	Fiscal Year 2018 Average	Monthly Impact	Yearly Impact
Total Visits	108.7 per/day	115 per/day	183 patient increase per month	2190 patient increase per year
Press Ganey Overall Satisfaction		80%	Able to establish Baseline for 90% Goal	
Indicator	Baseline Jan. Aug 2017	Fiscal Year 18 Average	*Monthly Impact (Hours Saved or Lost)	**Yearly Impact (Hours Saved or Lost)
Arrival to Admission Unit	314 min	298 min	500 hours	6000 hours
Arrival to Discharge L4 & L5	114.5 min	89.25 minutes	285 hours	3424 hours
Arrival to 1st Provider Contact	19 min	18 min	57 hours	687 hours
Arrival to Departure All	232 min	209 min	972 hours	11665 hours
Arrival to Triage Start	9 min	10.75 min	+97 hours	+1169 hours
Discharge Order to Discharge L4 and L5	23.5 min	18.75 min	52.7 hours	632.4 hours
Arrival to Recommend to Admit	233 min	191 min	321 hours	3847 hours
CT Order to Collection	56 min	***51 min	125 hours	1500 hours
Triage Start to ED Roomed	14 min	7.4 min	163 hours	1956 hours