

# Triage Patient Flow Redesign in an Urban Academic Emergency Department

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## Background

Increased mandate to deliver efficient and high quality care as well as issues of overcrowding, cost of care, speed of and delivery of service have been the focus of Emergency Department (ED) management among EDs in the country as public reporting systems for the ED quality and flow expand.

## Demographics

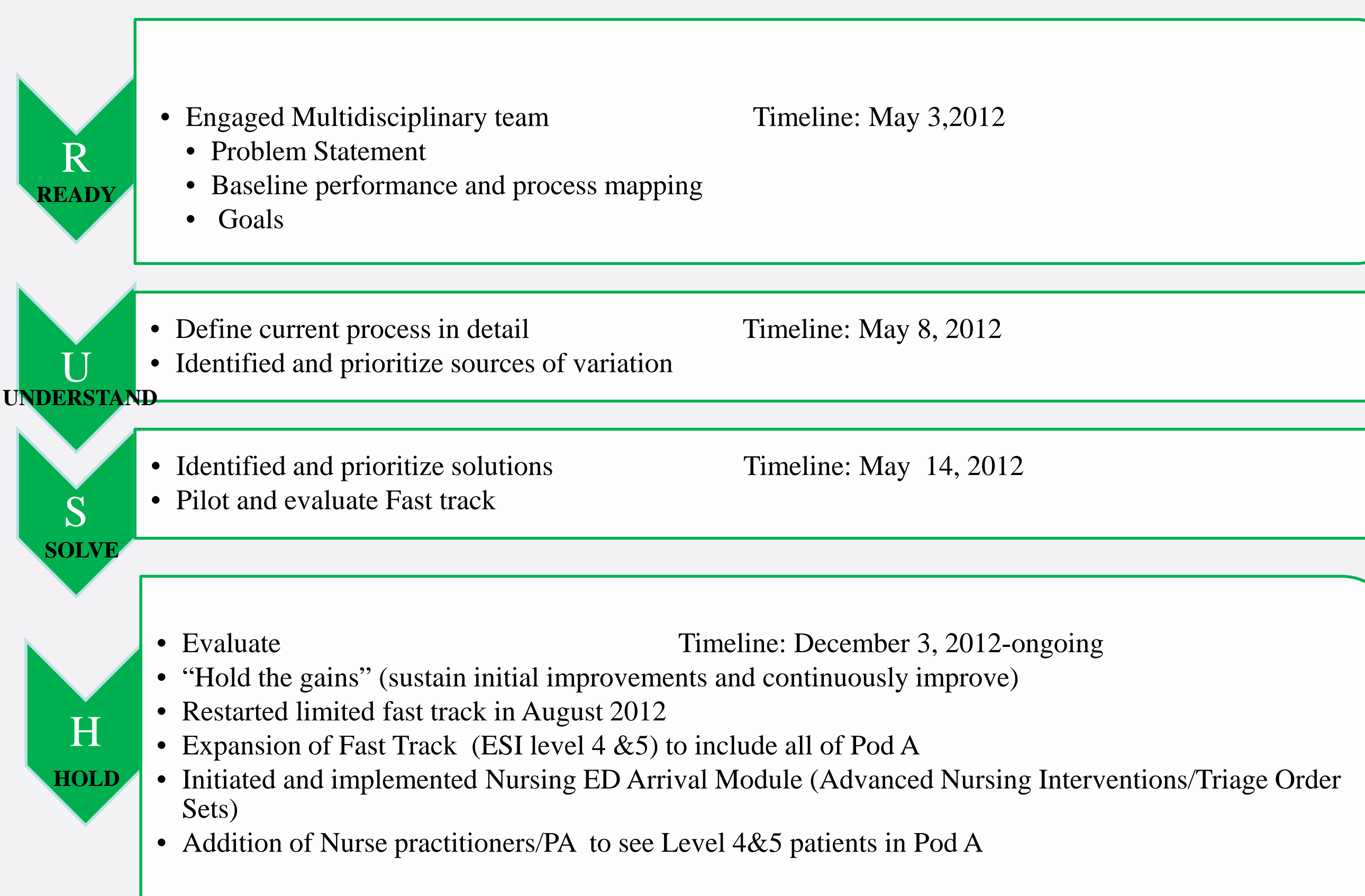
**Setting:** The study site was a 500 bed urban academic center with 60 bed comprehensive Emergency Department in Chicago serving an average of 65,000 patients a year.

### Key Lean Principles:

- Eliminate unnecessary waste, maximize value to customers.
- Achieve smooth, continuous flow of work with minimal delays.
- Continuous improvement and never ending pursuit of perfection.

### Tools and Methods:

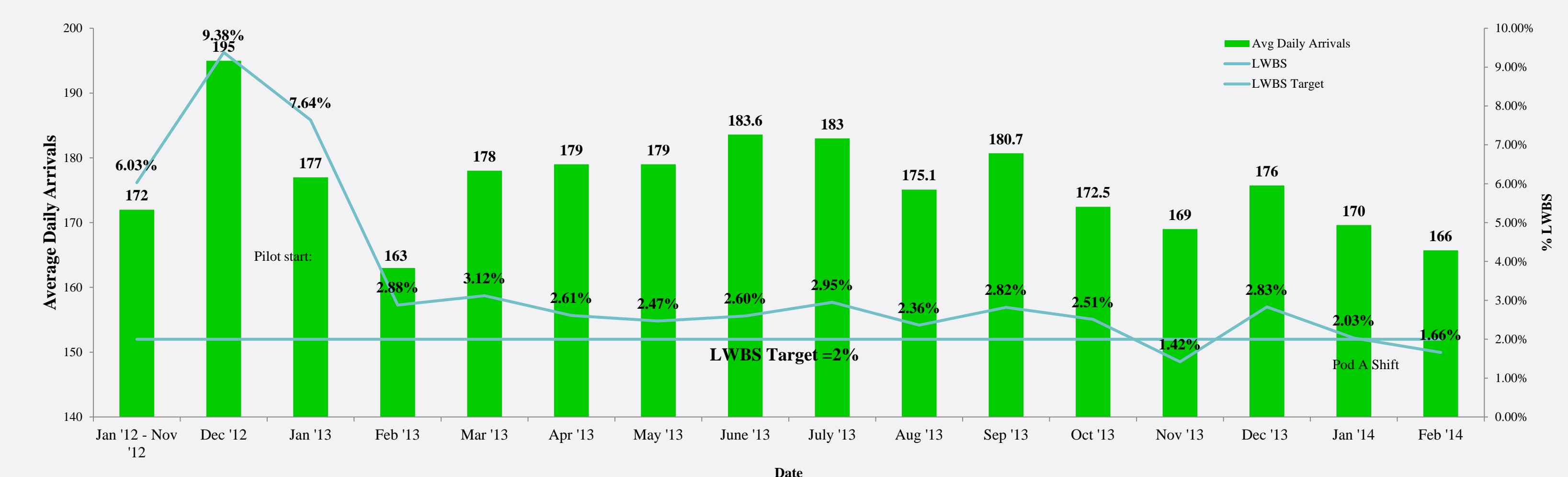
- Value stream mapping of current and future process steps including flow of products, people and information
- Short cycle continuous improvement sessions
- Reassignment/reorganization of space
- Rapid assessment and disposition process
- Streaming patients with low acuity to Fast Track area
- Advanced nursing interventions/triage order sets initiated by triage nurses
- Addition of midlevel providers in triage Pods



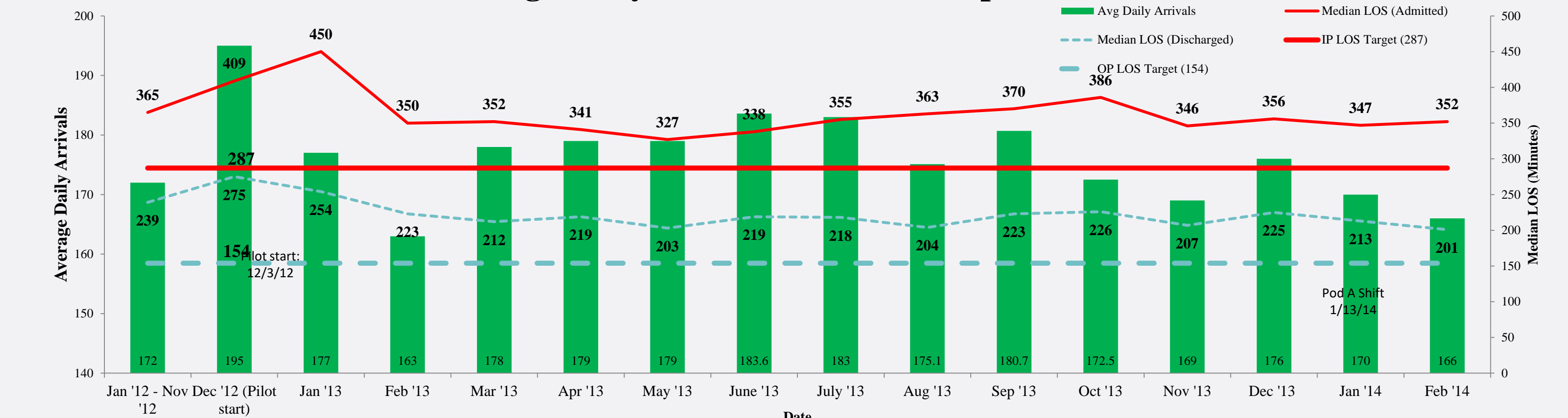
## Results

Interventions implemented by streaming and directing patients to different care areas in the ED have shown improvement in LWBS and length of stay of patients predicted to be discharged. Average length of stay of patients' awaiting inpatient beds stayed similarly the same and average length of stay for discharged patients decreased approximately by over 60 minutes. Patient Satisfaction scores minimally increased (mean score) by 4%.

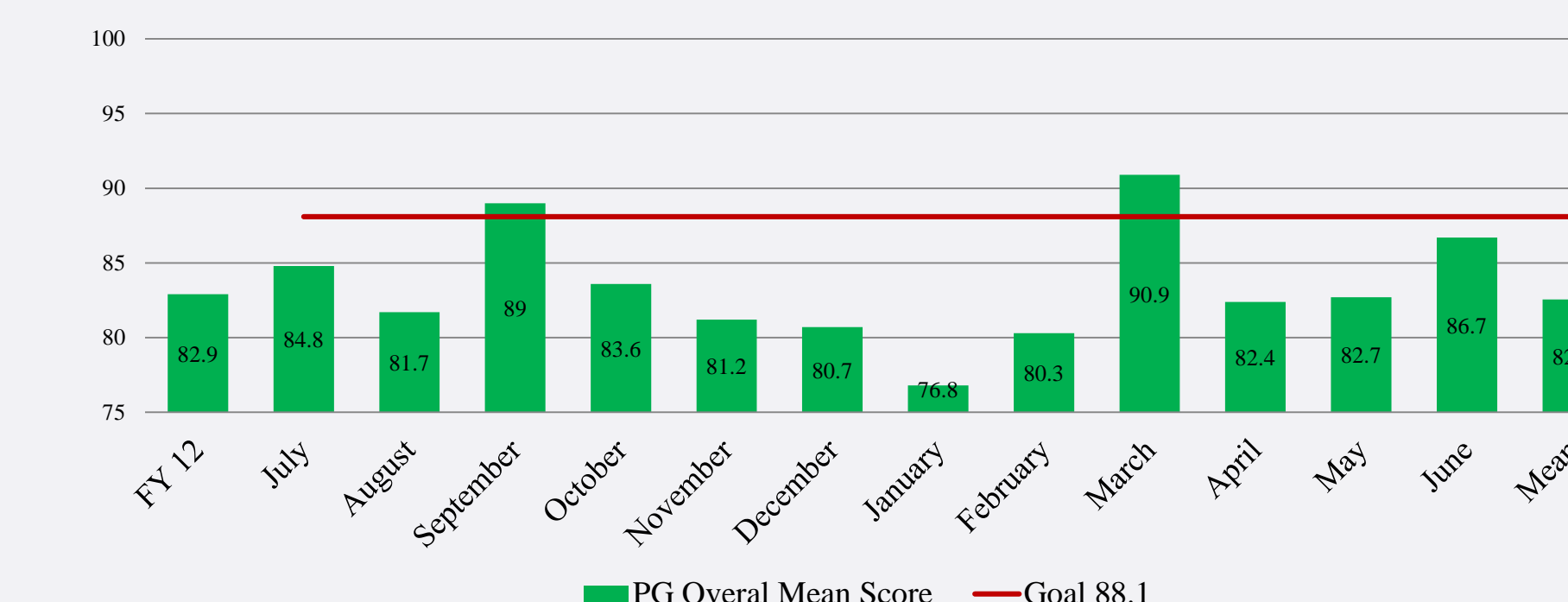
Average Daily Arrivals - LWBS



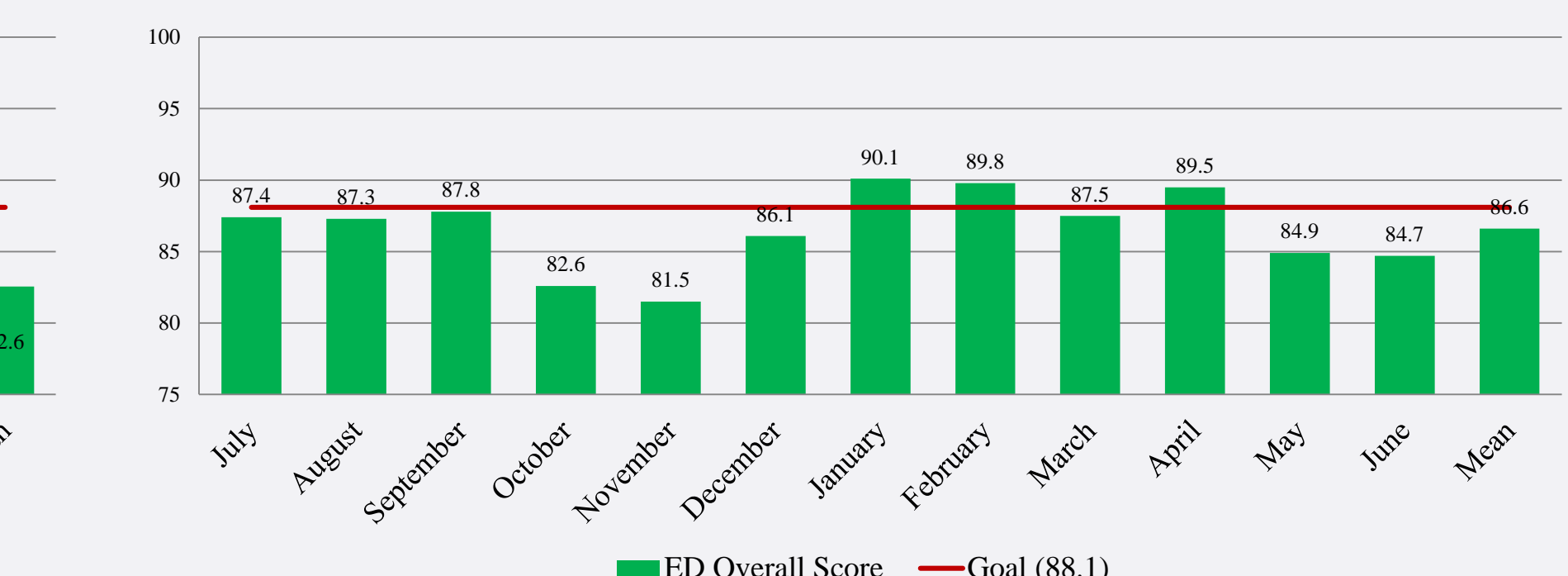
Average Daily Arrivals - Median Reported LOS



Emergency Department  
FY 13 Patient Satisfaction- Overall



Emergency Department  
FY14 Patient Satisfaction - Overall



## Conclusion

The use of "Lean approach" methodology offers improvement opportunities in the ED and has shown favorable effects especially with streaming of patients into groups by altering practices in relation to the function of Emergency Severity Index (ESI) triage scale to improve patient flow and throughput. Further studies are recommended in understanding the "Lean approach" effects in relation to patient safety and quality outcomes and on staff satisfaction.

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