

Using Lean Management to Improve Triage Patient Throughput

Gabriella Malagon-Maldonado, PhD, DNP, RN, NEA-BC

Jackie Hiner, MSN/Ed, APRN, CNS, RNC-OB

Objectives

By the end of this presentation, participants will be able to:

- Describe the problem solving methodology behind lean management
- Identify strategies to sustain projects beyond implementation
- Summarize the results of the project and apply recommendations based on findings



Sharp Mary Birch Hospital for Women & Newborns

- 209-bed acute care facility in San Diego, CA
- Nationally recognized hospital for women, expectant mothers, and babies
- Magnet[®] and Baby-Friendly Designation
- One of the largest level III NICU in Southern CA
- Designated a Center of Excellence in Minimally Invasive Gynecology
- Offers a full-range of women's services, including robotic gynecologic surgery
- Delivers more than 9,000 babies each year



Lean Management

LEAN

- Removes waste
- Increases speed
- Removes non-value added process steps
- Focuses on the customer
- Influences how you manage and structure the business

Six Sigma

- Reduces variation
- Improves quality
- Reduces variation at each remaining step
- Optimizes remaining process steps
- Focuses on the customer

**A BAD SYSTEM WILL
BEAT A GOOD PERSON
EVERY TIME**

W. EDWARDS DEMING

- Define, Measure, Analyze, Improve, and Control (**DMAIC**):
Problem-solving methodology behind lean management



Define



Measure



Analyze



Improve



Control



Triage Throughput

Goal Statement

Decrease patient throughput time for patients being transferred from Triage to PSCU by approximately 85% from an average of 205 minutes (3 hours 25 min) to less than or equal to 30 minutes.

In Scope

- All patients admitted to Triage and dispositioned to the Perinatal Special Care Unit (PSCU)
- Start = Time of admission notification (previously present to Triage)
- Stop = Time patient arrives to PSCU

Out of Scope

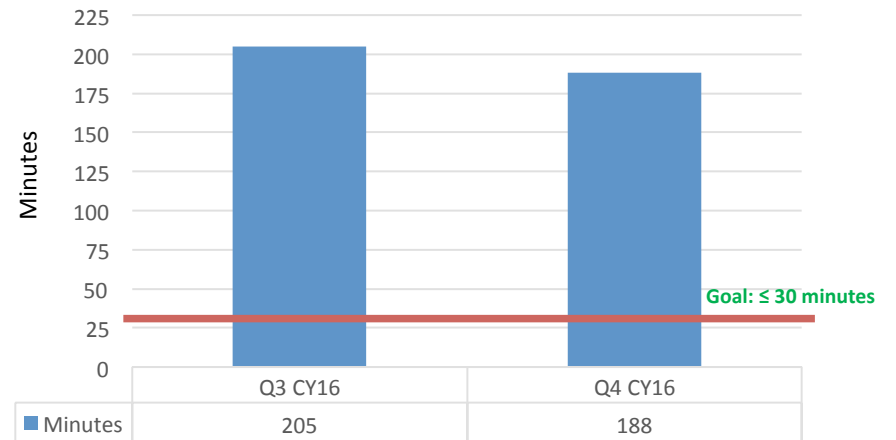
- Presentation to Concierge
- Triage patients dispositioned to the Labor & Delivery Unit, Women's Acute Care Unit, Home, or other

Critical Success Factors and Non-Negotiables

- Leadership commitment
- Staff and team involvement
- Budget neutral

Measurement

Average Throughput from Triage to PSCU Baseline Data



Define ?

Measure

Analyze

Improve ↑

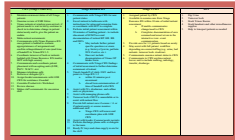
Control

Improvement Strategies

1st Improvement Strategies

1. Triage Standard Roles

- Development, implementation, and evaluation of Triage standard work for Charge Nurse, Clinical Nurse, and Resource Nurse



2. Daily Management System

- Visual control board assessed throughput time during both shifts



2nd Improvement Strategies

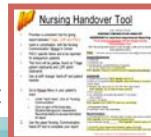
3. Transfer from Triage to PSCU SBAR including "Tips"

- SBAR outlined expectations for the transfer process including "Tips" for commonly missed orders from Triage. Education shared with Triage and PSCU and expectations posted on huddle board

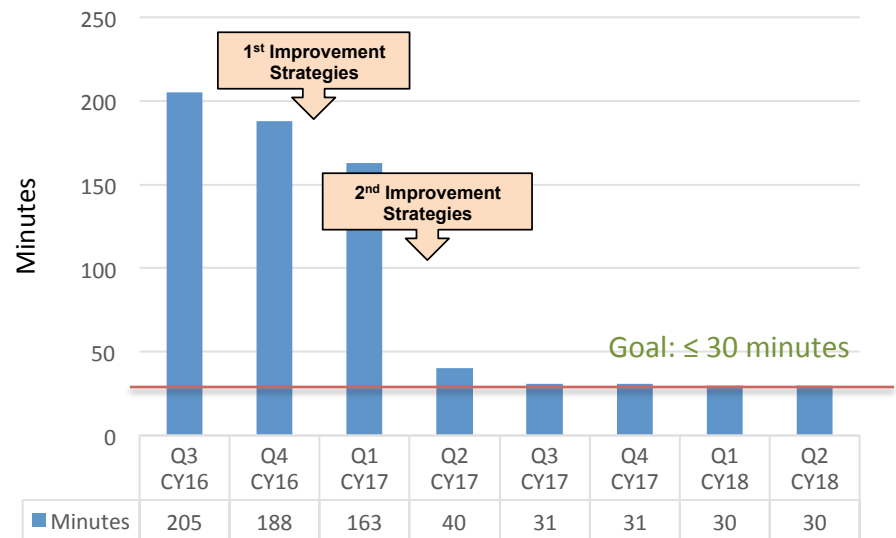


4. Utilization of Standard Handover Instrument

- Ensured standardized handover and enhanced side-by-side report



Average Throughput from Triage to PSCU



$p < 0.001$

Define ?

Measure

Analyze

Improve ↑

Control

Control and Replication

- Established daily dashboard to track throughput from triage to PSCU
- Action triggers if data exceeds 30 minutes
- Established process to make throughput visible to staff on a monthly basis; share data with PSCU and Triage Unit Practice Councils
- Planning replication of improvements for other disposition types

CONTROL PLAN						
Project Title: Triage to PSCU Throughput						
Goal of the Project: Decrease patient throughput time for patients being transferred from Triage to PSCU by 85% from an average of 205 minutes to less than or equal to 30 minutes.						
Project Lead by: Black Belt: Green Belts:			Control Plan Owner:			
Plan Detail						
Action / Documentation	Frequency	Objective	Goal	Data Source	Response Plan	Monitor by
Continue with Daily Management System (DMS)	Each shift	Monitor and control defects	30 minutes	DMS	Escalate defects to Supervisor/ Manager	Charge RN
Review any defects	As needed	Identify barriers/ improvement opportunities	Zero defects	DMS/ Charge RN /Cerner	Share trends/ learnings with Triage/PSCU	Manager/ Supervisor
Provide Triage throughput data for PSCU disposition	Monthly	Monitor Triage throughput	Spread learnings to all dispositions	Dashboard; Standing agenda item	Share trends/learnings with Triage & disposition unit	Manager/ Supervisor
Develop structure/process to replicate	Monthly	Decrease throughput	TBD	DMS / Dashboard /Cerner	Quality meeting report out	Director/ Manager
Sponsor:			Sign Off: Process Owner:			

References

- Helsing, T. (2016). *Deming, history and foundations of Six Sigma*. Retrieved from <https://sixsigmastudyguide.com/deming/>
- Lean Six Sigma (2018). *The five phases of Lean Six Sigma*. Retrieved from <https://goleansixsigma.com/dmaic-five-basic-phases-of-lean-six-sigma/>
- Sharp HealthCare (2018). *About Lean Six Sigma*. Retrieved from <http://sharpnet.sharp.com/sixsigma/about-lss.cfm>
- Wayne, D. (2018). *Deming Management Philosophy and Six Sigma Quality*. Retrieved from <http://www.q-skills.com/Deming6sigma.htm>