Introduction to Lean & PDSA

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Definition of Lean

Lean

[lēn]

noun

1. a customer-centric methodology used to continuously improve any process through the elimination of waste

2. based on the ideas of "Continuous Incremental Improvement" and "Respect for People"

The Purpose of Lean

The **Purpose** of Lean is to improve performance and results by removing waste and standardizing work within a process
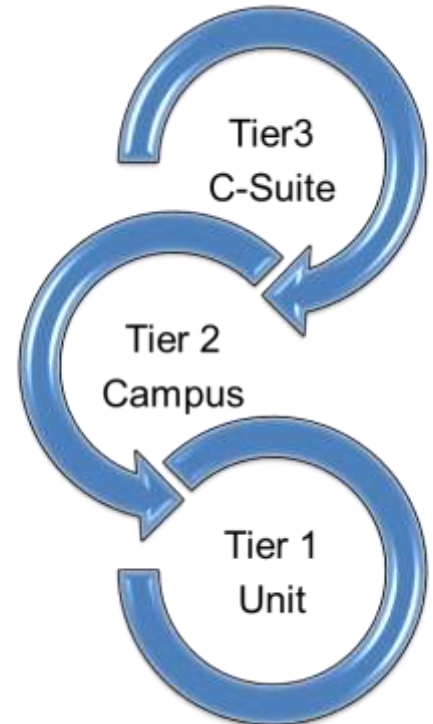
Erlanger Examples of Lean Implementation

- Tiered Huddles
  - Focus on Quality, Safety, Performance, & Service
  - Goal: report & resolve problems quickly
  - Create feedback loop

Erlanger Examples of Lean Implementation

- Leader Standard Work / Process Standard Work

- Goal: to capture the best method with the least amount of waste

- Puts everyone "on the same page"

Standard Work Form

Coordinator

#	Essential Tasks	Daily	Weekly	Bi-Weekly	Monthly	Bi-Monthly	Quarterly	Annually	As Needed
1	Check webinar; contact those who completed/make apt and get ins; docu	☑							
2	Verify ins for all new pts sched next day; document findings	☑							
3	Bariactric Referaals; contact to set seminar/webinar; scan referral; docu	☑							
4	Scan in all completed NP packets once physician has seen pt	☑							
5	Work SC phn pool, return pt calls and ansering questions if poss; doc	☑							
6	On-Base Faxes; attach to patient charts	☑							
7	Scanning/attaching other bariactric docs to appropriate file	☑							
8	Make next Nutritional appointments for those who completed on line class	☑							
9	Reminder calls to next day NP appointments	☑							
10	Get and distribute daily mail	☑							
11	Reminder calls to monthly Seminar participants to verify if they are attend				☑				
12	Prepare NP packet for Monthly Seminar				☑				
13									
14									
15									

Erlanger Examples of Lean Implementation

- 5S Organizational Projects
  - Sort
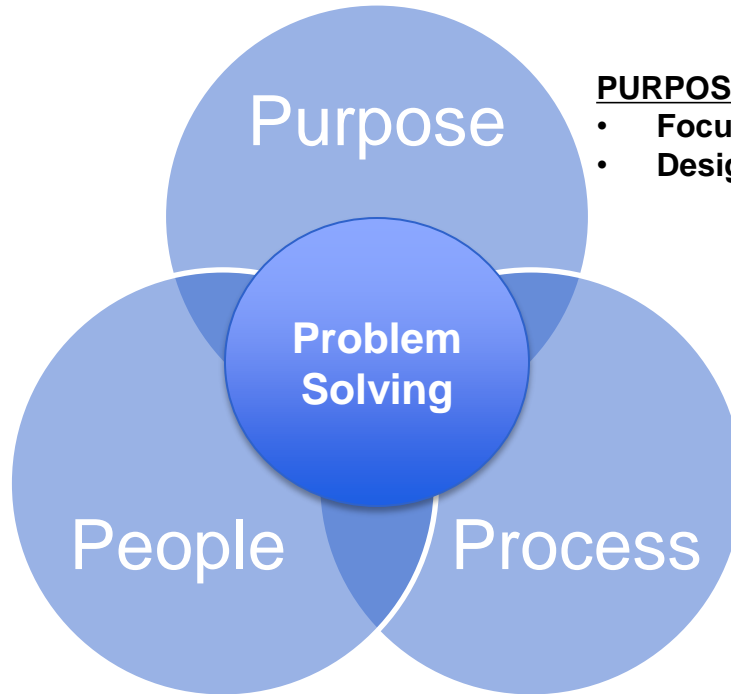 - Set in Order
  - Shine
  - Standardize
  - Sustain

Before

After

NICU Supply Room

PRINCIPLES OF A LEAN HEALTHCARE ORGANIZATION

Purpose

PURPOSE
- **Focus on Patients**
- **Design care around them**

Problem Solving

PEOPLE
- **Respect all**
- **Develop people**

People

Process

PROCESS
- **Identify value from patient perspective**
- **Get rid of waste**
- **Minimize time to treatment**

Waste

- Waste is any task or item that does not add value from the perspective of the customer or patient
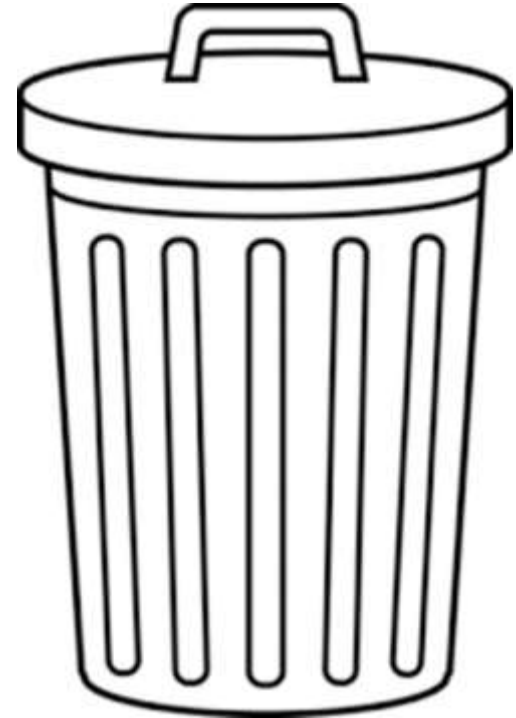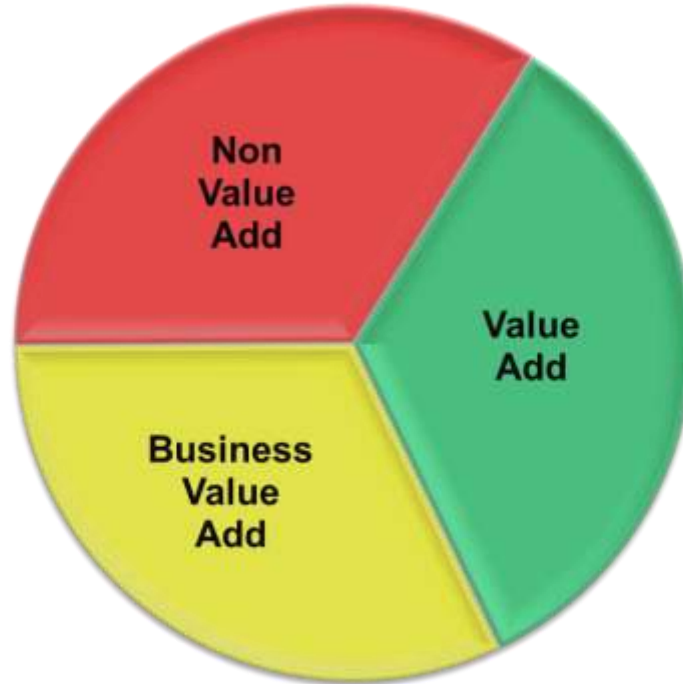
Defining Value

Non Value Add
- Walking/Searching for supplies
- Rework & inspection

Business Value Add
- Charting
- Annual training
- Accounting

Non Value Add

Value Add

Business Value Add

Value Add
- Surgery
- Providing direct care to patient
- Administering meds

D. O. W. N. T. I. M. E. is WASTE

Defects — •Any goods requiring inspection, repair, or disposal (e.g. misdiagnosis, HAI, wrong side surgery, etc.)

Overproduction — •Delivering more than the next process needs (e.g. unnecessary diagnostic tests, uneaten meals, ordering meds that the patient does not need, etc.)

Waiting — •Idle time between jobs (e.g. patients in waiting rooms, doctors & patients waiting for test results, ED patients waiting to be admitted, etc.)

Non-Utilized Talents — •Underestimating employees' potential (e.g. nurses putting up supplies/working below level of licensure, etc.)

Transportation — •Moving materials and parts around the workplace (e.g. movement of patient through the hospital)

Inventory — •Any supply of inventory in excess of demand (e.g. medication that may expire, pre-printed forms, overstocked consumables, etc.)

Motion — •Action that does not add value to the product (e.g. hospital/office layout not consistent with workflow, supplies not stored where needed, etc.)

Extra Processing — •Efforts that add no further value to the product (e.g. unnecessary paperwork, follow up appointments that do not improve patient outcomes, etc.)

Find the Waste

- April 5, 0930: Mom checks in for 4yo WCC that had been rescheduled because original appointment canceled by clinic due to doctor's vacation.
- Registrar says she arrived one hour late (Mom thought appointment was 0930, but computer says it was 0830); Asked to wait
- 20 minutes pass, mom informed doc will see them; registration step finds insurance changed; new information gathered; 10 minutes required for registration; asked to wait for MA
- 15 min later, MA brings back to vital signs room to check weight/height, then walks child to back hall for vision screen, then to next hall to perform hearing screen, then back to original hall to exam room. MA comments "important not to be late to appointments".
- 10 min pass, physician enters and performs exam, provides guidance, enters orders for vaccinations, tells mom to make appointment for 5y assessment. 13 min spent with child and mom; mom forgot to ask 2 questions because she is worried she will be late picking up her other child
- 15 min later, LPN enters with syringes for immunizations, apologizing for the wait because he couldn't find the VIS for one shot and had to go back to the printer to reprint it, but the printer was out of paper and he had to go to the back supply room where there was 15 boxes of printer paper (he says in passing that he wonders why they don't stock paper near the printer like he suggested); performs injections. Releases family and goes to see if he can take his lunch break.
- That night, while physician documenting the record at home via the portal, she notes the documented vaccine expiration date was Mar 29. Sends angry email to practice manager, then calls mom to apologize and tell her to return for another dose in one month "so it will count for school". In the process, forgets to document the enlarged left neck lymph node noted on exam earlier that day.

Find the Value

What to do?….

- Despair…you are doomed to experience it again tomorrow

- Or rejoice…you found waste that can be eliminated!

Plan-Do-Study-Act (PDSA)

The PDSA cycle gives us a way to quickly test changes on a small scale, observe what happens, tweak the changes as necessary, and then test again

PDSA

- The PDSA cycle is an iterative four-step management method for the control and continuous improvement of processes
- The cycle for continuous improvement based on the scientific method

Plan

- Write your AIM statement (use an AIM statement worksheet)
- Plan your metrics
  - What metric do you want to improve?
  - How can you measure it or collect the data?
  - Is the data qualitative (Survey Monkey) or quantitative (quantitative is better if we have it)
  - Establish a baseline chart
- Discuss potential interventions to achieve your AIM statement. Consider feasibility.
- Plan your test

Do
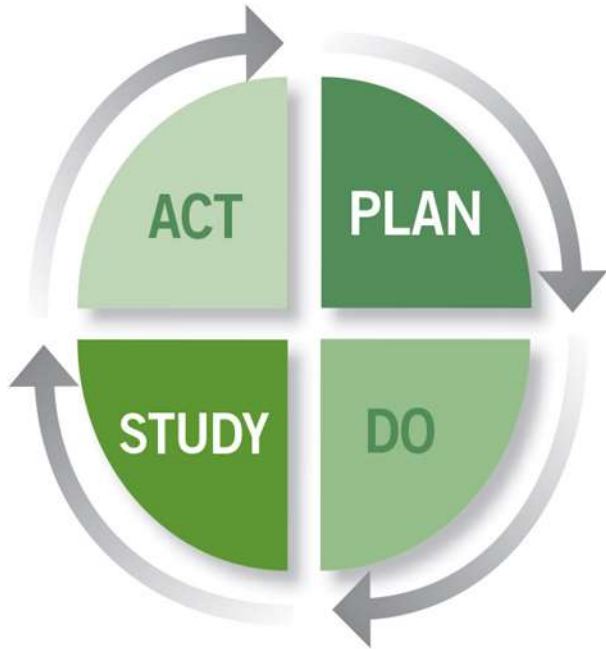
- Carry out the test
- Collect post-intervention data
- Document problems and unexpected observations
- Begin to analyze the results
  - Graph / Control Chart
  - Pareto Diagram
  - Fishbone Diagram

Study
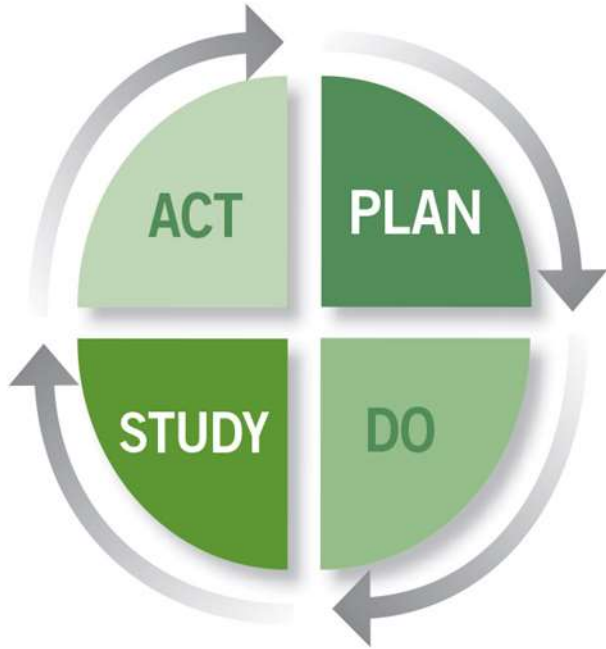
- Complete your analysis of the data
  - Is there an improvement from your baseline?
  - Was your change statistically significant or did your results remain the same?
  - Did you meet your desired target from your AIM statement?
- Summarize and reflect on what you learned

Act

If the target of the AIM statement was met, how do you maintain the gains?

If target of the AIM statement is not met, refine the change, based on what you learned from the test

- Determine what additional changes you should make for further improvement

- Conduct another PDSA cycle

Lean 101 Training

- Sign up on Erlanger Intranet
- Go to EOLs to sign up
- Full day of hands-on training

- Reach out to Nicole Ford at Nicole.Ford@erlanger.org with questions

Questions?

References

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