



NATIONAL QUALITY CENTER

Lean Tools

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Learning Objectives

At the end of the presentation you will have learned:

- What defines Lean
- Why tools are important
- Useful Lean tools and how to apply them

What Is Lean?

- Lean is a method of quality improvement that wants to maximize customer value and minimize waste
- The term described the Toyota Motor Companies business practices during the 1980s
- Its goal is to provide the best value to the customer that an organization can deliver

Lean Philosophy and Approach

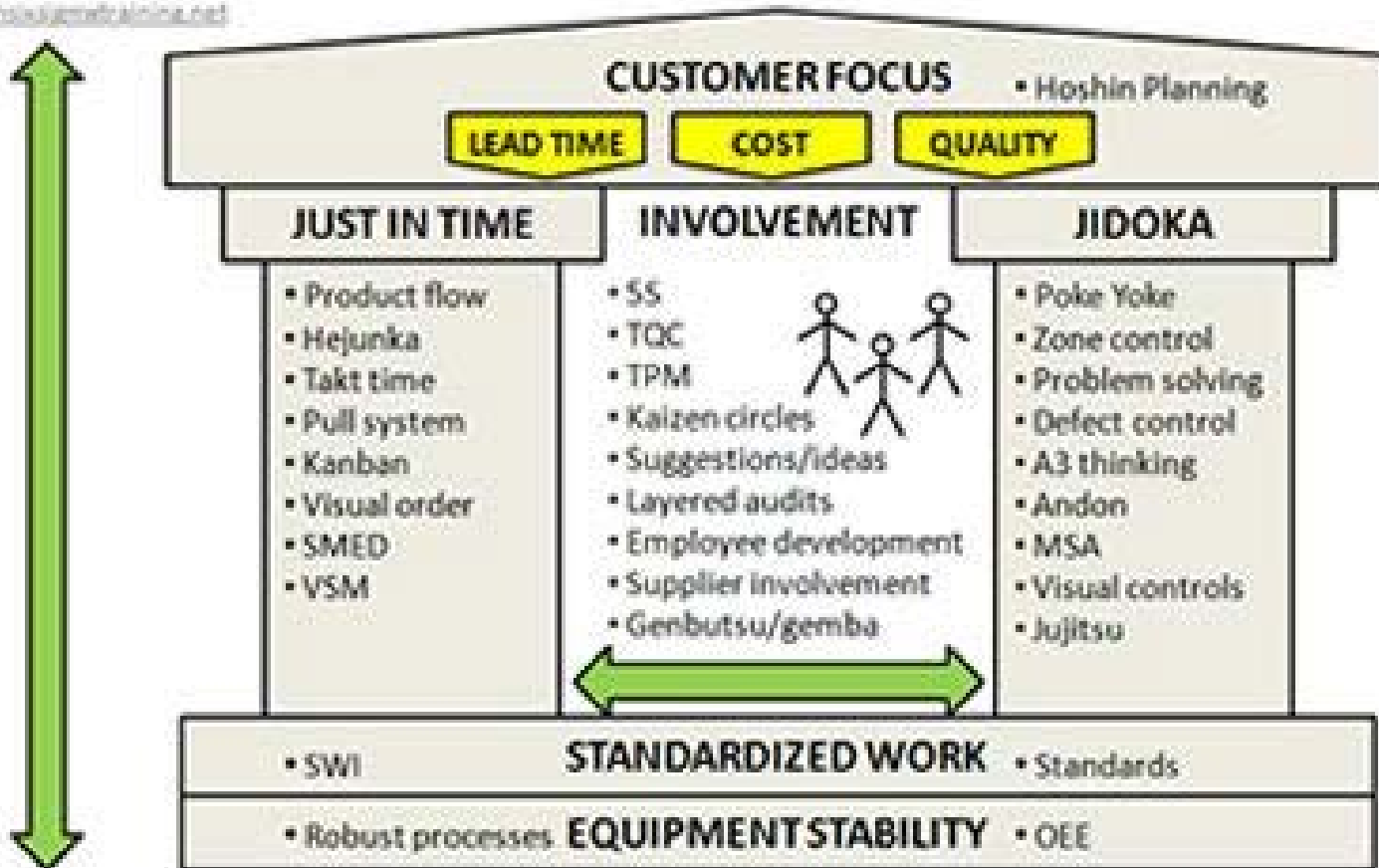
- Create an organizational culture of continuous improvement
- Engage in systems thinking and strategic planning
- Develop work force to be problem solvers
- Create value for the customer or patient
- Extend beyond traditional organization boundaries
 - How to “pull” together all segments of the value stream
 - Need to develop partnerships
 - Multi agency problem solvers

Lean Systems Thinking



www.lean.org.uk/central/index.html

TOYOTA PRODUCTION SYSTEM



Example



“For us to become the best place to give care and the best place to get care, *we need an army of problem solvers and innovators.*”

Eric W. Dickson, MD, MHCM, FACEP
President & CEO

Center for Innovation and Transformational Change, UMass
Memorial Health Care University of Massachusetts Medical School,
slides 7-10, 14



What is Lean?



*Respect for People
&
Continuous
Improvement*

Align Vision and Mission Statements

Vision

UMMS RWP envisions an end to the HIV epidemic in Central New England. We will achieve this by focusing on prevention and treatment, through partnerships. We will decrease HIV transmission in our communities by providing our clients with exceptional, seamless health care delivery, and education from risk reduction to diagnosis to effective treatment.

Mission

UMMS RWP is committed to continuously improve the health of people living with HIV/AIDS throughout the diverse communities of Central New England. We achieve this through culturally sensitive excellence in clinical care, comprehensive medical case management, teaching, and specialty and supportive referrals. We are committed to providing care based on the DHHS clinical service guidelines with protocols updates as new information becomes available to meet patients' needs and health goals.



Respect for People

Hospital	UMass Medical School RW Program Infectious Disease and Immunology
Seek first to understand	Consistently excel at patient-centered care in an environment free of stigma
Listen to others	Respecting one another—staff, patients, and affected others
Practice and encourage critical thinking	Effecting change through teamwork, continuous quality improvement principles and consumer input
Provide the time to work on process improvement	Acting with personal integrity and accountability
Other ways to show respect for people?	Supporting our diverse communities
	Creating a supportive environment for both staff and patients



Continuous Improvement

Create a culture where:

- Focus on the problem; not the person
- Problems are recognized as opportunities
- It's okay to make legitimate mistakes
- Problems are exposed because of increased trust
- People are not problems: They are problem solvers!
- Emphasis is placed on finding solutions instead of assigning blame
- Finding and exposing problems is expected of everyone

Center for Innovation and Transformational Change, UMass Memorial Health Care
University of Massachusetts Medical School, slides 7-10, 14

Why Do Tools Matter

Tools help you accomplish your goals



They facilitate our work

Tools

- DMAIC Framework
- Value Stream Map
- Spaghetti Diagram
- 5S
- Root Cause Analysis

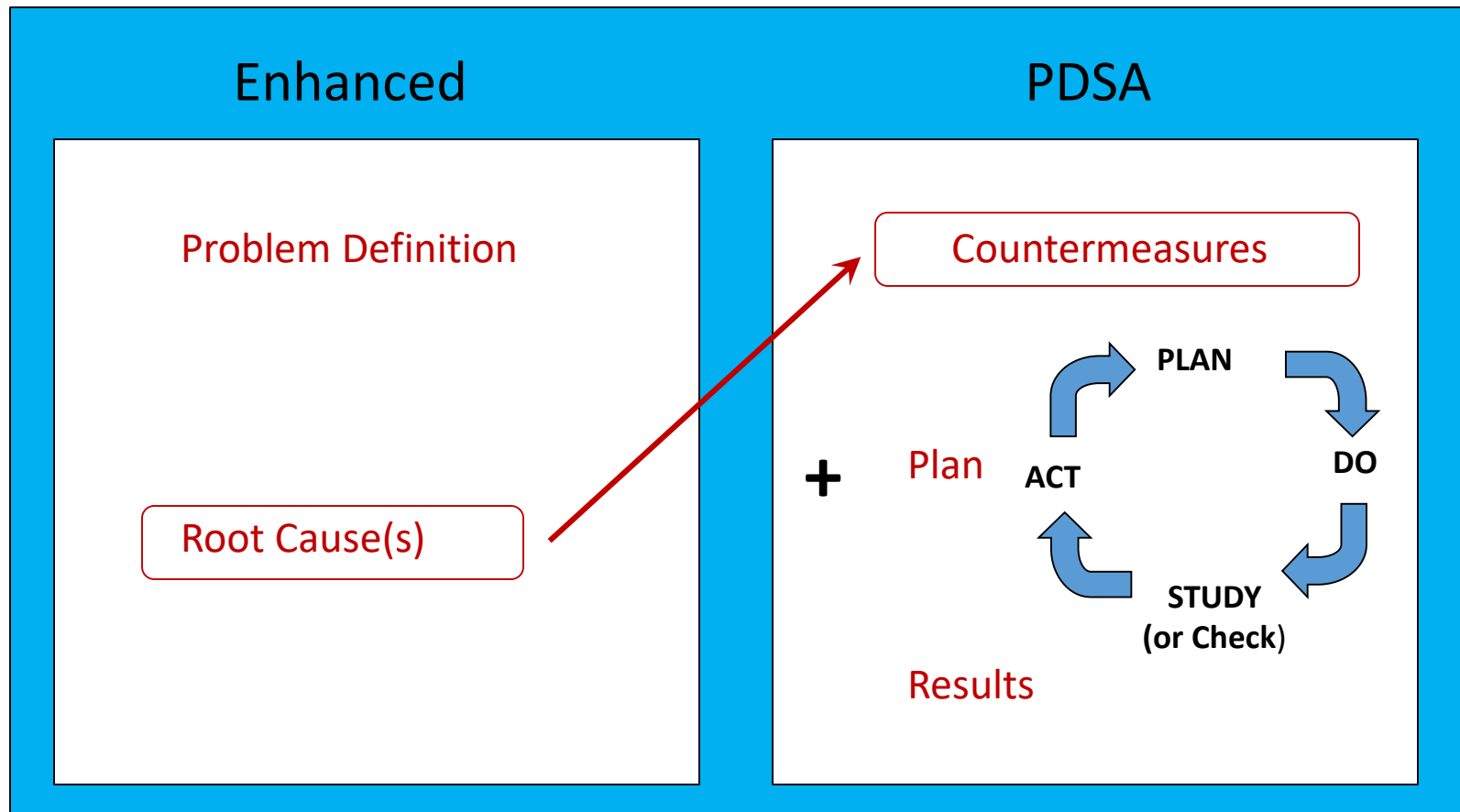


Project Framework: DMAIC

An approach to problem solving that uses a scientific methodology

- **D**efine the scope and purpose of a project
- **M**easure by collecting data and developing a value stream map
- **A**nalyze the data and determine root causes
- **I**mprove by developing “fixes” for the root cause
- **C**ontrol by tracking performance indicators

Problem Solving: Enhanced PDSA: “A3”

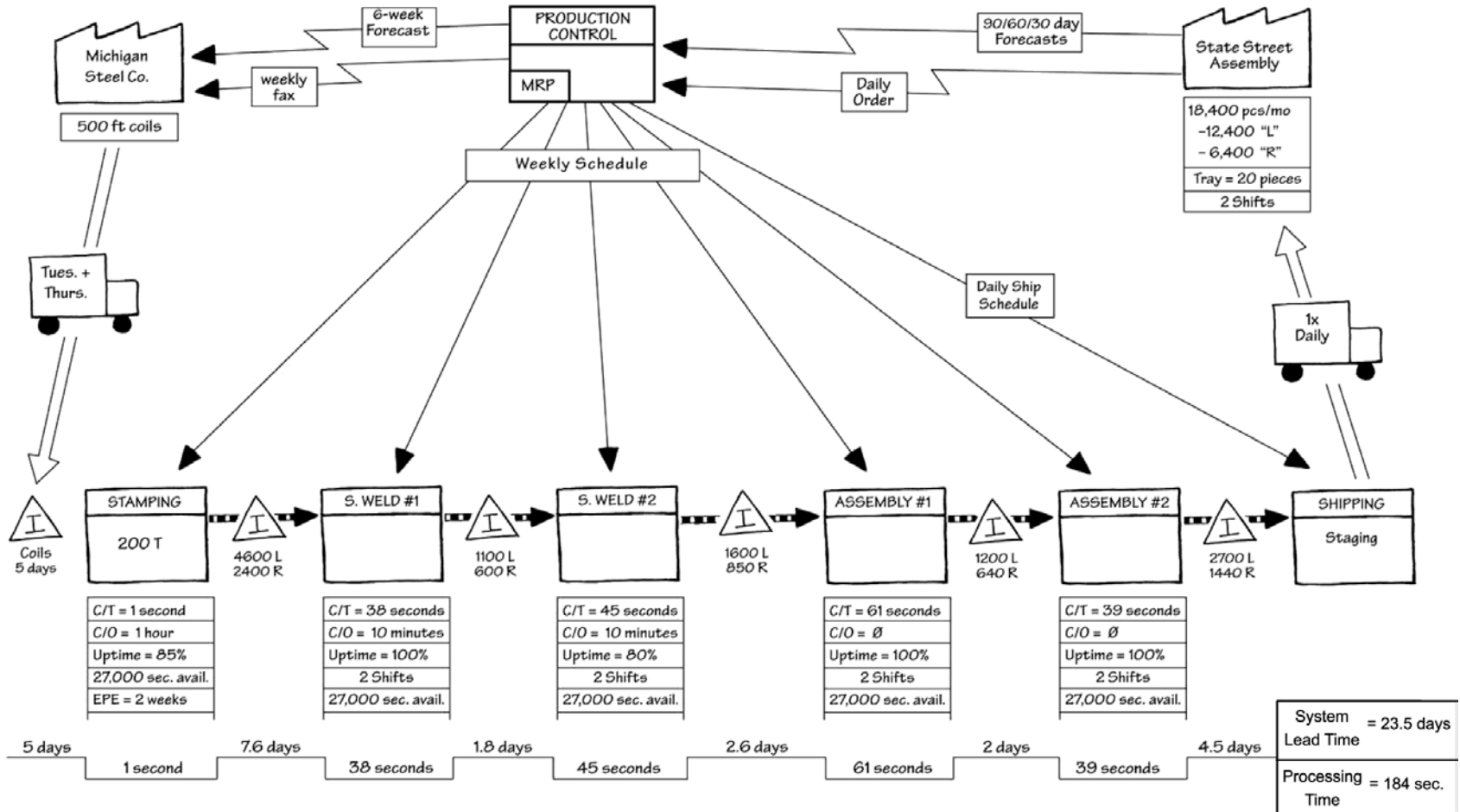


Enhances “Plan” in PDSA with better understanding of the problem and causes, to generate better countermeasures

Value Stream Maps

- This is a 30,000 foot overview of a process
- It maps the inception of the process to its final end point
- This is definitely a team exercise
- You need data and you need to know the time it takes to complete a process

The Value Stream Map



Note: C/T = cycle time; C/O = change-over time; EPE = every part every ____

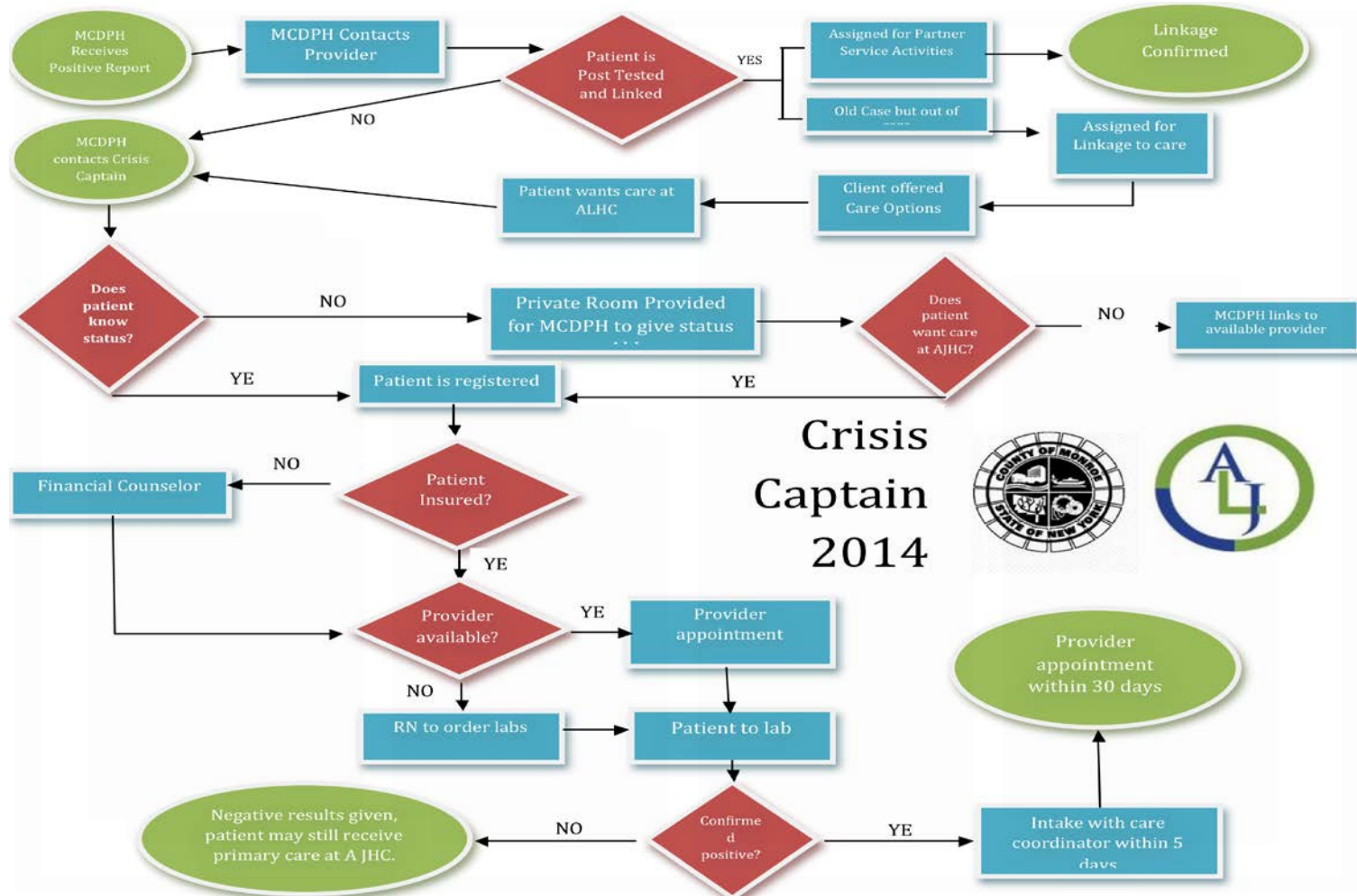
Source: Womack (2003)

QI Across Agencies To Reduce Time Same Day Linkage To Care

NY Links: Monroe County DPH, Jordan Health Causal Analysis

Monroe County DPH	Jordan Health
Client dependent for follow up	No clearly defined and inefficient linkage process
Large case load with patients who are high risk, unknown status and viral load	Cumbersome care coordination intake before patient registration, financial counseling, and lab work
Public health risk	Stigma for care coordinators to work with MCDPH “reporting clients to health department” and “sex police” image
The longer patients are out of care, the more difficult it is to find them	

What were your process problems? What value was added from the perspective of the client/patient, staff?

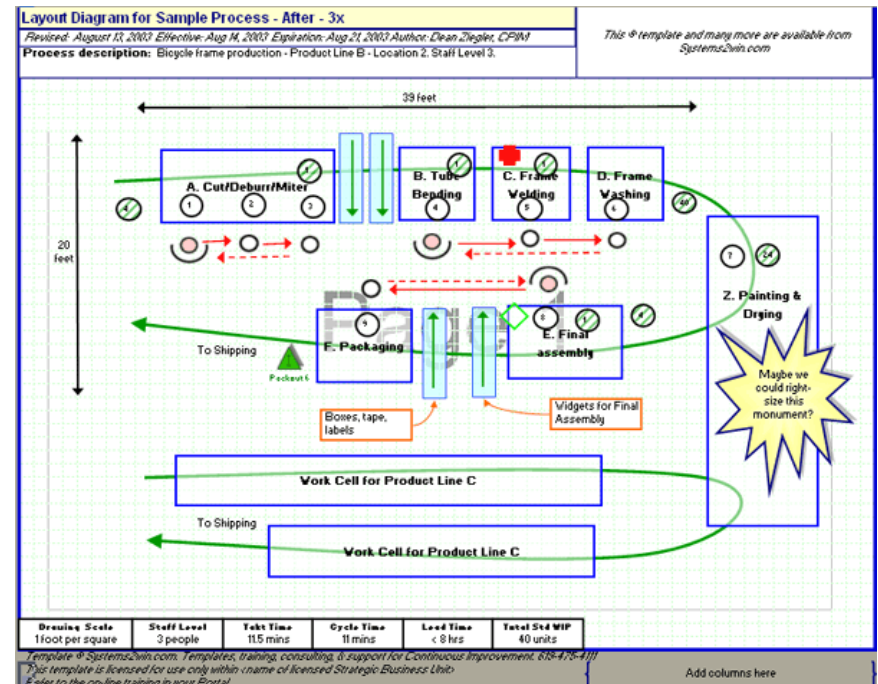
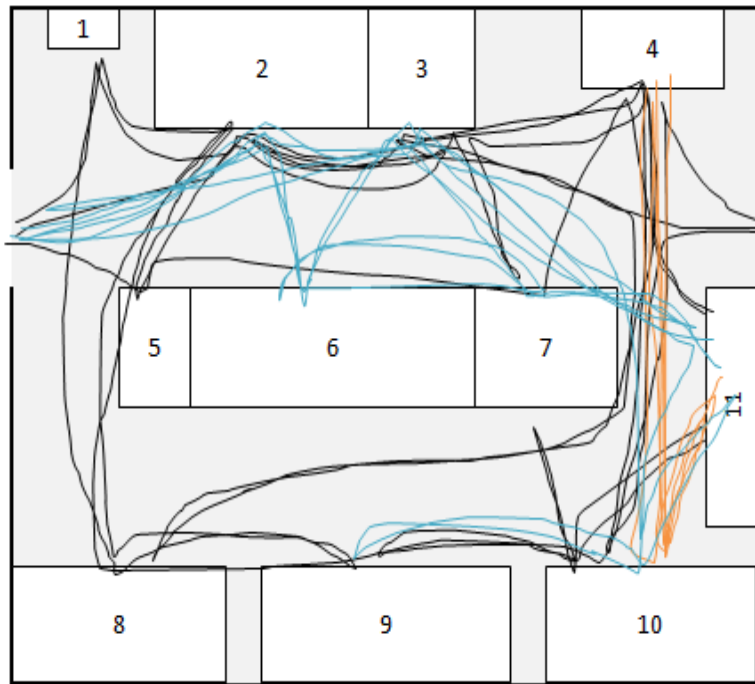


Current Status

- Standardized process
 - Use of MOUs
 - Designated staff assigned crisis captain role
 - Private room for MCDPH to counsel client
 - Patient registration, insurance, labs, and provider appointments done the same day;
 - Crisis Captain serves as a patient navigator
 - Buy-in from client, MCDPH, JH
- Results
 - Same day
 - Within 3 days
 - Spread to other agencies in Rochester

Lean Tools

The Spaghetti Diagram



Which one looks more efficient?

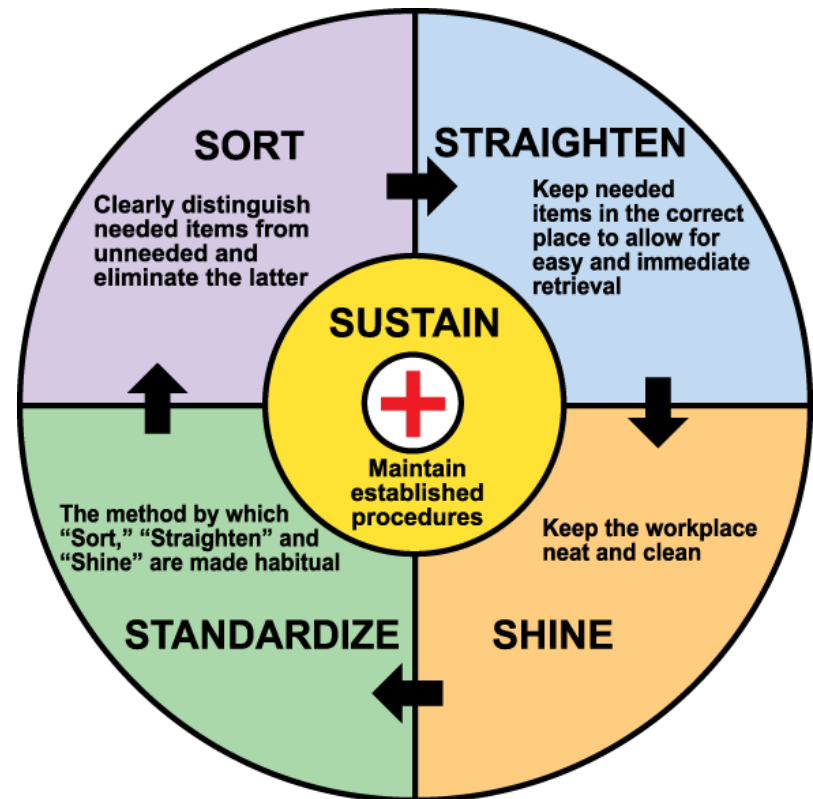
The Spaghetti Diagram

- This tool maps out the physical steps someone undertakes to complete a task
- It defines efficient and inefficient workflow
- It provides an opportunity to eliminate waste

Lean Tools

5S

1. Seiri (Sort)
2. Seiton (Straighten)
3. Seiso (Shine)
4. Seiketsu (Standardize)
5. Shitsuke (Sustain)



Why Is This Important?

Think of this applied to a work area like a lab table and reflect on the Spaghetti Diagram

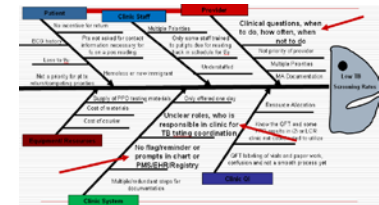
- Is your workstation arranged in such a way that eliminates waste?
- Do you have clutter that you have to navigate around?
- Have you standardized your workflow process
 - Patient flow through a clinic
 - Organizing lab equipment in sequence to match the sequence of tests to perform
- Will you get to the point of standardizing your procedures?

Root Cause Analysis

- Why we use this:
 - Identify the underlying problems and solve them
 - What underlies the outward?
 - toothache? – maybe referred pain?
 - Runny nose – maybe allergies?
- What it accomplishes
 - An open discussion about all the contributing factors that lead to process problems
 - Engages all staff in the analysis and in developing solutions

List of Root Causal Analysis Tools

- 5 Whys
 - Ask the question why five times to the stated problem
 - Ensure action addresses root cause
- Fishbone or Cause and Effect or Ishikawa
- Other types of mapping with identification of key problem steps and why
 - Process mapping – understand a process
 - Time value mapping – bottlenecks
- Macro and micro mapping



Idea Systems

A process and environment for empowering people,
allowing for continuous improvement and aligning with
True North

IDEA BOARD			
Huddle day and time	IDEAS IN PROGRESS		
	Idea	Owner	Due Date
Huddle Steps 1. Review metrics 2. Ideas in progress 3. New ideas (if time and again talk time) 4. Celebrate!			
NEW IDEAS			
PARKING LOT Ideas that do not make it to PROGRESS when a huddle is assigned	NEEDS HELP Ideas that do not make it to PROGRESS when a huddle is assigned	COMPLETED IDEAS	

+

Idea		#
Name(s):	Date:	
What is the problem/waste?		
Why is it happening?		
Idea:		
Date the Idea was Implemented:		

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Idea Board + Idea Cards + Metrics + Team Huddles + Celebration

Seeing and surfacing problems is a *good thing!*

Idea Card

Idea	
Name(s):	Date:
What is the problem/waste?	
Why is it happening?	
Idea:	
Date Implemented:	

Huddle day and time	IDEAS IN PROGRESS			
	Idea	Task	Owner	Due Date
Huddle Steps 1. Review metrics 2. Ideas in progress 3. New ideas (if time and open task line) 4. Celebrate!				
NEW IDEAS 				
	PARKING LOT (Review every 3 months and move to IN PROGRESS when a task is assigned)	NEEDS HELP (Review every 3 months and move to IN PROGRESS when a task is assigned)	COMPLETED IDEAS	

Thank You!

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