Using Lean and A3 Thinking to Manage Improvement Projects

Presenters:
Melanie Ridley, HANC QI Consultant
Gabe Deckert, HANC Project Director
Learning Objectives

**Purpose:** Introduce concepts of Lean thinking to support management of improvement projects.

Participants will be able to

- Discuss the importance of documenting project learnings, process, and outcomes all in one place
- Apply an A3 problem-solving approach to address root causes
- Practice A3 problem-solving strategies
What is Lean Thinking?

- Lean appears to be a technical system - use the tools, change the process, gain efficiencies.
- **Lean is actually a way of thinking and behaving** - a new focus leading to new behaviors and therefore new culture.

Simple definition - deep meaning

<table>
<thead>
<tr>
<th>2 Principles</th>
<th>2 Habits</th>
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</thead>
<tbody>
<tr>
<td>Continuous Improvement of Customer Value</td>
<td>Improvement</td>
</tr>
<tr>
<td>Respect for People</td>
<td>Coaching</td>
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Adapted content from Mike De Luca, Torre Consulting
# Lean Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Customer</td>
<td>The patient</td>
</tr>
<tr>
<td>Value</td>
<td>Service, product or solution that the patient wants or needs</td>
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<tr>
<td>Value-added</td>
<td>Any activity that results in change in the form, fit or function for the patient</td>
</tr>
<tr>
<td>Waste</td>
<td>Activities that are not valuable to the patient</td>
</tr>
<tr>
<td>A3</td>
<td>Named for the paper size (11”x17”) that was originally used for this one-page summary or storyboard of the improvement work</td>
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# Lean Thinking: What is Waste?

## Categories:

- **Process waste** “any activity that consumes resources without producing value for the customer” = Muda
- **Overburden** = Muri
- **Unevenness** = Mura

<table>
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<th>Process Wastes, Muda</th>
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<tr>
<td>Defects: Rework, re-dos, corrections</td>
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<tr>
<td>Overproduction: Making more than the customer needs</td>
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<tr>
<td>Waiting: Delays and queues of all types</td>
</tr>
<tr>
<td>Neglect: Skills, capacity or capabilities of people, equipment and systems</td>
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Adapted content from Mike De Luca, Torre Consulting
“Go See, Ask Why, Show Respect”
“Hard on the Process, Easy on the People”

Source: https://www.coursera.org/learn/fixing-healthcare-delivery-advanced-lean

The Waste Wheel

**Type 1:** Non-value added, currently required
- Defects
- Overproduction
- Waiting
- Not utilized talent
- Transportation
- Inventory excess
- Motion waste
- Excess processing

**Type 2:** Non-value added, can be stopped immediately without detriment
- Processing
- Motion
- Time
- Over-production
- Transportation
- Inventory
Lean Production System Key Elements

- **Standardized work** (protocols, playbooks) incorporated into smooth flowing Value Streams (flow)

- **Customer-Supplier relationships** (tight connections, no fumbles) with specific time and performance expectations.

- **Scientific method to continually improve** using the creativity of all personnel.

- **Continual waste reduction** (5S, Process Observation)

Source: https://www.coursera.org/learn/fixing-healthcare-delivery-advanced-lean
Introduction to A3 Thinking

- Building a learning system within your health center
- A3 is the framework for all parts of the improvement process
- Coaching is an important part of A3 development
- Iterative process that captures learning

“A good A3 is a reflection of the dialogue that created it.”

~John Shook, Managing to Learn
A3 and PDSA Together for Learning and Improvement

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Source: https://www.coursera.org/lecture/patient-safety-project-planning/building-your-a3-4NFqQ
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2) Current State:

3) Goal: To reduce the amount of time the critical trauma patient spends in the ED waiting for an ICU bed. Goal is 1.5 hours from patient entering the RS to patient arriving in ICU when a bed is available by 9/26/2014.

4) Root Cause Analysis:

5) Solutions:

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1. Weekly trauma to ICU data sent every Friday
2. Cases with patient in ED > 2 hrs to be reviewed and root cause documented

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7) Act:
Marilyn to continue sending weekly Trauma to ICU data to team. Issues to be brought up with team and monthly Trauma Committee as needed.

What problem are we trying to solve?

Defining “problem”

Any performance other than the desired performance at any given time.

When defining the problem, seek to answer the questions of:

- What do you actually know about the problem?
- How do you know it?
- How big of a problem or how important is it?

“A problem well stated is a problem half solved”
~ Charles Kettering
Current state: How do things look now?

Gather input

So, first step is to understand the current state

- Look at the data: What do you know? How do you know it?
- How far is performance from the target? What is the gap?
- Go to where the process happens and observe (Process Map)
- Talk to patients and staff to get their input (Driver Diagram):
  - “What gets in the way of this working well for the patient? For you?”
  - “Why does it happen that way”
  - “How do you know when to…?”
  - “What else do you think I should know about this process?”
Future state: Where are we trying to go?

Setting your goal

- Understanding value to the customer (patient)
- How to set goal targets: QIP, HEDIS, UDS, strategic plan
- Visualizing the “gap” with your data
Identify The Root Cause(s) of a Problem

Investigating the question: “What causes are preventing us from meeting our target?”

Be sure to start with a problem instead of a solution. It is tempting to assume we know what will fix the problem before it is thoroughly examined.

Root Cause Analysis

- An in-depth process for identifying the most basic factor(s) underlying a variation in performance (“the problem”)
- Focus is on systems and process
- Focus is not on individuals

Coaching Tip

Hard on the process; easy on the people

Root Cause Analysis is not about finding who to assign blame. It is about making the invisible, visible and understanding how a system or process leads to the outcomes observed.
Root Cause Analysis: Brainstorming

how to brainstorm: RULES

DEFER JUDGEMENT
GO FOR VOLUME
ONE CONVERSATION at a time
BE VISUAL
HEADLINE
Build on the Ideas of Others
Stay on TOPIC
Encourage WILD IDEAS
Root Cause Analysis: Fishbone Diagram

Fishbone diagram: root cause analysis identifying barriers to acceptance of CRC screening.

Source: https://bmjopenquality.bmj.com/content/7/4/e000400

Smita Bakhai et al. BMJ Open Qual 2018;7:e000400

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5 Whys

An interactive question-asking technique, used to explore the cause and effect relationships underlying a particular problem.

How to Complete the 5 Whys:

1. Identify the problem (write on the whiteboard or piece of paper)
2. Ask “why?” the problem happens and write down the answer
3. Ask “why?” again and write down the answer
4. Ask “why?” as many times as needed (might be more than 5) until the team is able to identify the root cause(s)
Participant Question:

- Have you used Root Cause Analysis to better understand the problem you are working to improve?

- If you have used Root Cause Analysis (e.g., brainstorm, fishbone diagram, 5 Whys) as part of an improvement project, type into the chat what problem you were trying to solve and what strategy you used.
Activity!

We are going to role play a 5 Whys exercise. We will need 5 volunteers.

Instructions for our volunteers:

1. You will receive a script in the chat.
2. Team Member 1 begins, reading the first passage of the script.
3. Team Members will take turns responding as part of the activity according to the script.
4. Ready? Let’s go!
A health center has a colorectal cancer screening rate that is consistently below the desired target of 46%.

A survey of patients revealed a number of potential barriers.

RCA is going to help better understand one particular barrier:

“Lack of knowledge (Didn’t know I needed it; Never heard of it; Thought I was too young)”

“5 Whys” Activity

Problem Statement
When we asked unscreened patients why they did not get their colorectal cancer screening, 42% of patients cited a lack of knowledge as the main barrier. Our health center provides patient education materials on this preventive screening. So why are so many patients unaware they need it?

| Why? | TM2: In a brief observation of two providers in clinic we saw that only one-half of patients were provided the health education materials |
| Why? | TM3: When we asked the Medical Assistants why many patients are not receiving materials they said that patients refuse the materials offered |
| Why? | TM4: Patients have shared that the health education materials are not in their language |
| Why? | TM5: Health education materials in Spanish and Chinese are only refilled once per month but often run out by mid-month |
| Why? | TM2: Our health education department only schedules a print of materials every other month based on historical use data from 3 years ago |
| Root Cause: | Not enough health education materials are printed in Spanish and Chinese to meet current patient need |
## A3 and PDSA Together for Learning and Improvement

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<td><strong>Evaluation of Effect</strong> Run Charts, pareto, other data</td>
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<td><strong>Current State</strong> What do you know? How do you know it? Data, Process Mapping, Driver Diagram</td>
<td><strong>Follow-up Actions</strong> Plans to adapt, adopt, spread interventions</td>
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Using the A3 Tool throughout the project cycle

- Key audiences for sharing your work
- Beginning
- In-Progress/Inherited
  - Subprojects/“Parent and Child A3s”
- Report-Out
Questions & Answers
Thank you!

Webinar Evaluation Link: Insert Link here and in chat

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   Email: akim@partnershiphp.org
Melanie Ridley, HANC QI Consultant
   Email: melanie@ridleyconsulting.net
Gabe Deckert, HANC Project Director
   Email: gabriel@thehanc.org
Additional Resources

- Questions and Coaching on A3 Thinking (link)
- A Quick Guide to Starting Your Quality Improvement Projects (link)
- Lean in Health Care Overview (link)
- Introduction to Lean Thinking (link)
- Lean Health Care Organization: Catalysis (link)