How Continuous Process Improvement Changed Culture and Reduced Lab Result Delivery Time by over 30% (and counting)
Session Objectives

1. Describe the improvement method we used to build capability & deliver results

2. Understand that if you’re not changing the work, you’re not changing the value

3. Understand our story, including moments of courage & connection
Seattle Cancer Care Alliance

- Nationally ranked non-profit cancer center
- Serves 40,000 patients/year
  - Most patients have lab tests run regularly

Alliance Lab

- Main blood draw & testing lab
- Runs ~30,000 tests/month
- Improvement focus: Hematology Testing
What We’ve Achieved

Monthly CBD Turn-Around-Time 90th Percentile

Started Value Creation Experiments Here

<table>
<thead>
<tr>
<th>Month</th>
<th>Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep-18</td>
<td>86</td>
</tr>
<tr>
<td>Oct-18</td>
<td>75</td>
</tr>
<tr>
<td>Nov-18</td>
<td>77</td>
</tr>
<tr>
<td>Dec-18</td>
<td>73</td>
</tr>
<tr>
<td>Jan-19</td>
<td>71</td>
</tr>
<tr>
<td>Feb-19</td>
<td>63</td>
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<td>Mar-19</td>
<td>57</td>
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<td>Apr-19</td>
<td>54</td>
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<td>May-19</td>
<td>56</td>
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<td>Jul-19</td>
<td>51</td>
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<tr>
<td>Aug-19</td>
<td>43</td>
</tr>
<tr>
<td>Sep-19</td>
<td>40</td>
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10/22/2019
What We’ve Achieved

“

The work flow is better and less stressful for us and better for patients.

"
SITUATIONAL APPROACH
- Value-Driven Purpose -
1. What is our purpose? What problem are we trying to solve?

PROCESS
2a. What is the work to be done?
2b. How are we improving the actual work?

CAPABILITY DEVELOPMENT
3. How are we developing capability?

Responsible Leadership
4. What management system and leadership behaviors are required to support the new way of working?

Basic Thinking, Mindset, Assumptions
5. What basic thinking underline this transformation?
1. What is our purpose? What problem are we trying to solve?

Our purpose is to produce accurate test results that allow providers to diagnose, measure, and monitor how well treatment is working, and to evaluate if patient is eligible for other treatments (dosage, trials, etc).
Our Improvement Story: PDSA Cycles

Daily CBD Turn-Around-Time: Dec 2018 to Sept 2019

Problem 1:
From 86 to 56 min

Problem 2:
From 54 to 41 min

Problem 3:
Meet 41 min DAILY
Alliance Lab Testing Transformation House

**PROCESS**

2a. What is the work to be done?

2b. How are we improving the actual work?
Improvement Process

Plan
- Observe the work
- Display/show the Facts
- Set Target Conditions
- Propose Changes
  (ERACS)
- Experiment

Do
- Reflect
- Standardize

Study
- Adjust
<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Skill</th>
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<tbody>
<tr>
<td>Customer value is #1 priority and it is all centered around the WORK</td>
<td>See and Identify Value Creating Work</td>
</tr>
<tr>
<td>Difference between Value Creating Work, Essential Work and Waste</td>
<td>Observe and measure WORK (Timing)</td>
</tr>
<tr>
<td></td>
<td>Visualize WORK</td>
</tr>
<tr>
<td></td>
<td>Display/Show the Facts</td>
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<tr>
<td></td>
<td>Improve work using ERACS</td>
</tr>
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</table>
Our Improvement Story: PDSA Cycles

Daily CBD Turn-Around-Time: Dec 2018 to Sept 2019

Problem 1:
From 86 to 56 min
Week 1 Experiment

Plan

Week 1 11.26 - 11.30

Goal = 56 min
Oct 2018 = 74 min
if this, then

Prep 177

Current Tasks

Store 125
Store 31
Manual 1620
Diff 10
Match 10
Prep 64
Sort 11
Review 80

Plan
Week 1 Experiment

What did we accomplish this week?
- experimented with step 1: Prep

<table>
<thead>
<tr>
<th>Before</th>
<th>Proposed</th>
<th>After</th>
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<tr>
<td>191 sec</td>
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<td></td>
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<tr>
<td>Accept</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grab</td>
<td>25 sec</td>
<td>43 sec</td>
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<tr>
<td>Highlight</td>
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<td>116</td>
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<tr>
<td>XN tests</td>
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<td>116</td>
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</tr>
<tr>
<td>XN tests</td>
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</tbody>
</table>

Before:
- 171 sec variation
- Highlight
- XN tests

After:
- 25 sec
- Highlight
- XN tests

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When: Mon, Wed, Thurs, 11/26, 11/28, 11/29

Who: XN operators: Mason, Carlos, Kenna, Mary Rose


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Where is the rack?
Week 1 Experiment

• Techs had concerns about work being added downstream

• Twisting motion reduced

• Observed inconsistent rules applied to “Highlighting” step
Week 1 Experiment

- Do experiment for 1 week
- Study & Adjust based on results
- Chose decision making method for adopting changes as new standard
- Adopted new process
Improvement Process

Plan
- Observe the work
- Display/show the Facts
- Set Target Conditions
- Propose Changes (ERACS)

Do
- Experiment
- Reflect
- Standardize

Study

Adjust
5. Mindset
Leaders as Teachers
Small changes
Lean is technical & social
Questions & Discussion
Full-screen images are visually satisfying and add interest to your presentation.
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TARGET = 53 min

Goal = 41 min

Let's go for the Dec goal! 41 min

July Actual = 5

Goal = 41 min

Sept Av = 40 min Great work!!!
XN Takt

1. Available Time
   60 min \times 60 \text{ sec} = 3600 \text{ sec}

2. Demand = 62 samples

3. \frac{3600 \text{ sec}}{62 \text{ samples}} = \text{Takt} = 58 \text{ sec}
Full-screen images are visually satisfying and add interest to your presentation.
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Full-screen images are visually satisfying and add interest to your presentation.
Hematology High-level Work Story

Batch of 5
2200 seconds

Manual Differential (normal only)

Match to WBC

Prep Sample

Sort & Deliver

Review Histogram

SP-10 Makes Test

WBC Test
Collaboration & Connection