Quality and Safety Series

Rapid-Cycle Improvement

“Eating an Elephant, One Bite at a Time”
OBJECTIVES

- Define rapid-cycle improvement.
- Identify the rapid-cycle improvement steps.
- Discuss the key differences in rapid-cycle improvement vs. a standard quality improvement process.
Trying to Eat the Elephant

Hospital Quality Issue
Rapid-cycle improvement and quick tests of change help you eat that elephant.
Rapid-Cycle Improvement

A quality improvement method that accelerates change efforts in 3 months or less.

- Use the PDCA Cycle (may also use DMIAC*).
- Make and test changes during a short timeframe.
- Monitor concurrent data.
- Adapt according to results.
- Conduct a re-test.

*DMIAC = define, measure, analyze, improve, control
Getting Started

Identify a SMART* Goal

Define Measures

Select Changes

Model for Improvement

What are we trying to accomplish?

How will we know that a change is an improvement?

What change can we make that will result in improvement?

*SMART = specific, measurable, achievable, realistic, timely

Key Reminders for Rapid-Cycle Improvement

• Focus on a small sample/area.
• Do short test cycles (90 days).
  – Adhere to timelines.
  – Keep project management the key.
• Sample/test the area most likely to reflect the attributes being measured.
• Limit interventions.
SMART Goals

- Specific
- Measurable
- Attainable
- Relevant
- Time-Bound
Goal As a Vision

The SMART goal serves as your team’s vision.

• Indicates where you are going.
• Sets direction and purpose.
• Gives context.
• Helps the team see the bigger picture.
• Should be articulated frequently.

“*You communicate vision through little conversational nuggets and consistent daily sound bites.*” — D. Huyer

HSAG SMART Goal Worksheet

Goal Setting: Creating SMART Goals

A goal is a clear statement of an intended improvement and how it will be measured. Your goal should answer the question: “What do you want to accomplish?” A goal should be short enough for everyone to remember.

Well-written goals should also be SMART:

- **S**pecific
- **M**easurable
- **A**ttainable
- **R**elevant
- **T**ime-bound

Post your goal as a visible reminder for all staff members. Use it to stay focused, establish boundaries for what is included and is not included, and define your progress. Write your goal in the space below:

Example: Over the next six months, increase the number of core pills that provide for medication on a regular schedule from 50 percent to 75 percent, e.g., around the clock, not just P.M. or for residents with daily pain.

Our Goal

[Template available at: www.hsag.com/hqc-quality-series]
Measure—Critical

“What gets measured gets managed.” —P. Drucker

• Quantify the relationship between inputs and outputs—think correlation.
• Try to identify data that are readily available to decrease burden.

<table>
<thead>
<tr>
<th><strong>Data Collection Plan</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What to measure</strong></td>
</tr>
<tr>
<td><strong>Type of measure</strong></td>
</tr>
<tr>
<td><strong>Type of data</strong></td>
</tr>
<tr>
<td><strong>Operational definition</strong></td>
</tr>
<tr>
<td><strong>Specification</strong></td>
</tr>
<tr>
<td><strong>Target</strong></td>
</tr>
<tr>
<td><strong>Data collection form</strong></td>
</tr>
<tr>
<td><strong>Sampling</strong></td>
</tr>
<tr>
<td><strong>Baseline</strong></td>
</tr>
</tbody>
</table>
| **Source**              | Who is responsible?  
Where are the data? |
“Every system is perfectly designed to get the results it gets.” —W.E. Deming

**WARNING**

Do not fall into the trap of reacting to common cause variation. Data do not change without process change.

“The definition of insanity is repeating the same behaviors and expecting different results.” —A. Einstein

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What to Change

• Understand the problem.
• Create a multi-disciplinary team.
• Interview frontline personnel.
• Identify the root causes.
• Target the intervention(s) to change root causes.
Other Tools to Define/Plan

- VOC: Voice of the customer
- CTQ tree: critical to quality
- Process mapping
- Stakeholder mapping
- Ishikawa Cause-and-Effect Fishbone Diagram
Critical to Quality (CTQ) Tree

Critical Need: Good coffee

Quality Drivers:
- Hot
- Tastes good

Performance Requirements:
- 140 degrees
- Insulated cups
- Strong
- Nutty

General to Specific

HSAG HQIC
Study—Analyzing the Results

• Displaying the data
  – Run charts
  – Control charts or SPC* charts

• Analyzing the data
  – Are these the predicted results?
  – Look for impact of the intervention

• Change or variation
  – 5 to 8 points above or below the mean

SPC = statistical process control
The Variation Story

Happy Leader

Celebrate!

Who is responsible?

I want answers!

Pizza Party!
Identifying Variation

**Common Cause**
- No data points outside controls
- Fluctuation caused by unknown factors resulting in a steady but random distribution
- Do not react to these points
- No trend

**Special Cause**
- Few data points outside controls
- Shift in output caused by a specific factor
- Something occurred/changed to create a change in output
- May need to change the process

**Change Trend**
- 5 to 8 data points above or below the mean
- A pattern that moves in a direction over time
- It is common to be 5–8 data points above or below the mean
- A trend can be good or bad
The Three “A’s” of Act

Adapt
• Some change realized
• Modify process

Adopt
• Realized expected change
• Continue process

Abandon
• No change realized
• Failure of process
Expanding the Process

Spread
The ability to replicate an intervention to other areas

Scalability
Building the infrastructure to support full-scale implementation

Sample Timeline for Rapid-Cycle Improvement

**Prework**
- Identify team
- Develop problem statement
- Conduct literature review
- Do initial data review

**Week 1**
- Review information
- Clarify Scope
- Listen to VOC
- Create benchmarks

**Week 2**
- Review goals
- Build business case
- Evaluate cost/benefit

**Week 3**
- Complete project design
- Create strategy
- Plan implementation

**Week 4**
- Train
- Implement
- Analyze
- Change

**Week 5**
- Analyze
- Change

**Week 6**
- Scale
- Spread
Key Take-Aways

• Rapid-cycle improvement is a 90-day initiative.
• Rapid cycle uses all steps of PDCA but focuses on a small group or target area.
• Be alert for “scope creep.”
• You can conduct multiple cycles of PDCA while you improve processes.
• Data will drive your decision to adapt, adopt, or abandon.
• Once the outcome is achieved, you can scale and spread throughout the organization.
Thank you!

Questions: hospitalquality@hsag.com