

# Quality and Safety Series

## Rapid-Cycle Improvement

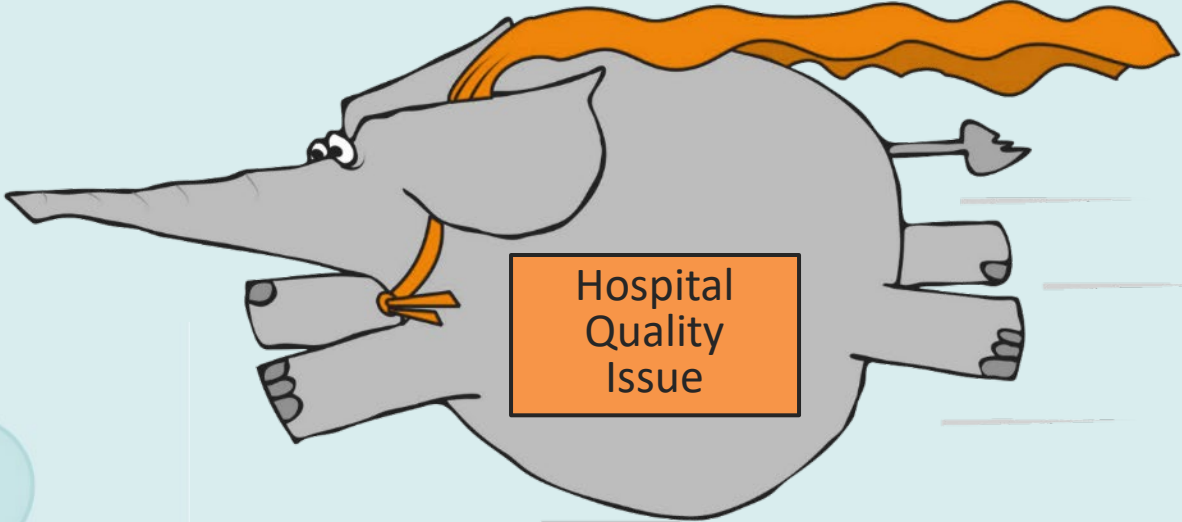
*“Eating an Elephant, One Bite at a Time”*

# OBJECTIVES

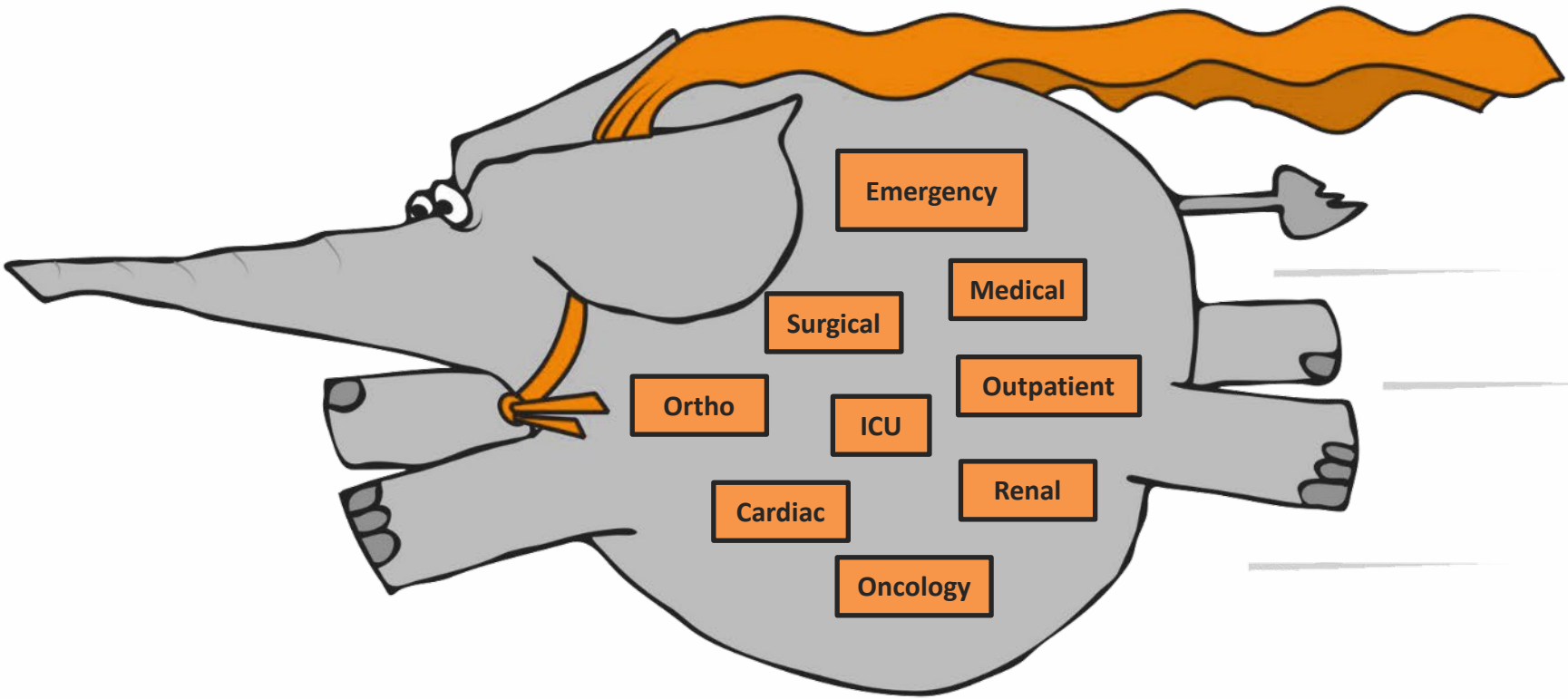


- Define rapid-cycle improvement.
- Identify the rapid-cycle improvement steps.
- Discuss the key differences in rapid-cycle improvement vs. a standard quality improvement process.

# Trying to Eat the Elephant



# One Bite at a Time

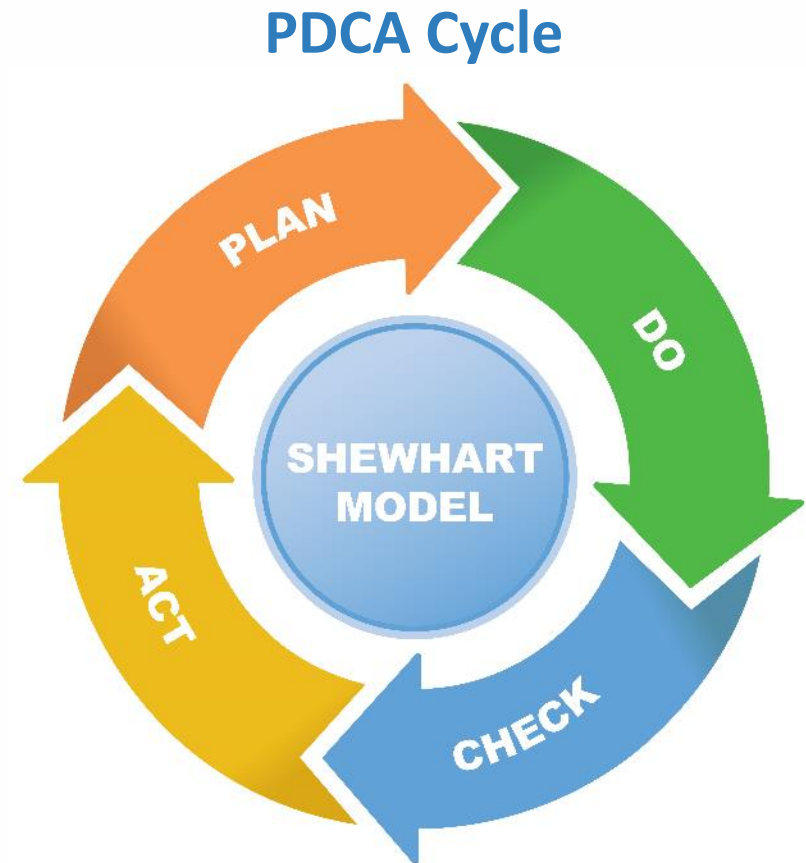


Rapid-cycle improvement and quick tests of change help you eat that elephant.

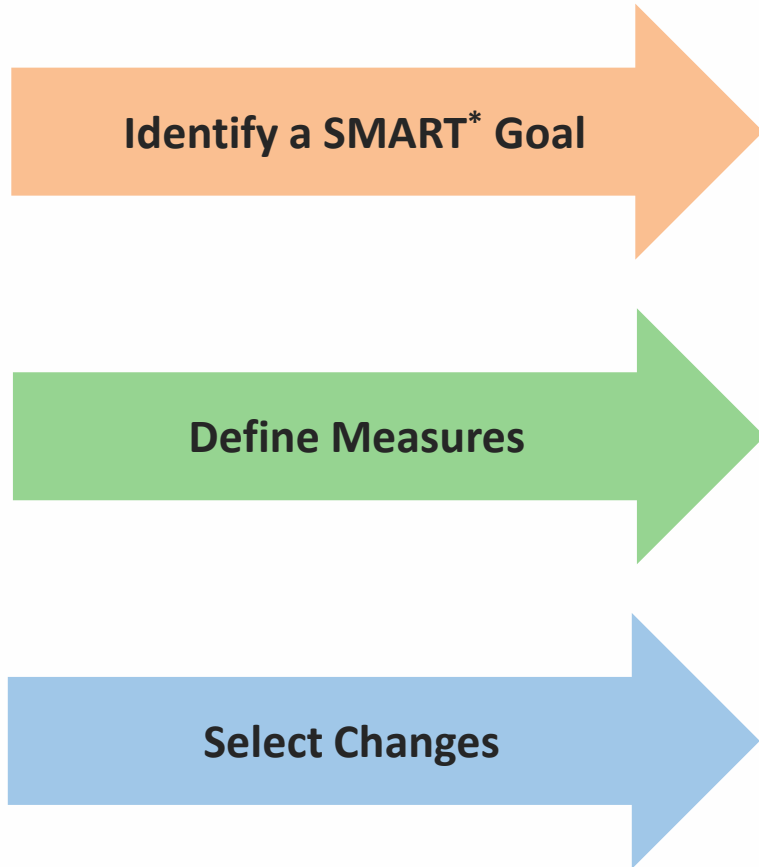
# Rapid-Cycle Improvement

*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.

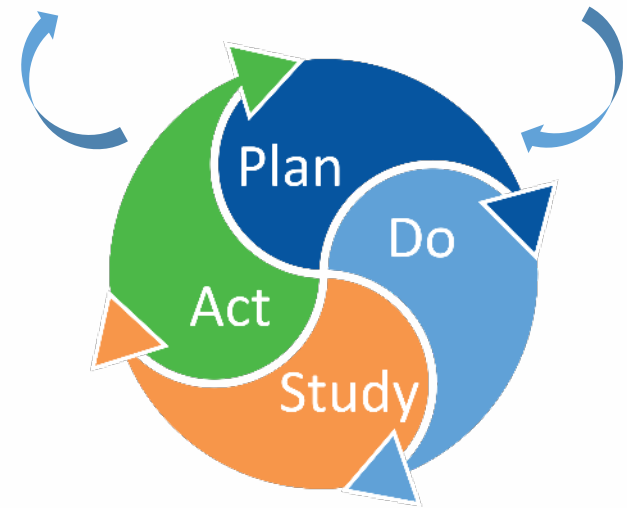


# Getting Started



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

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?








# 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

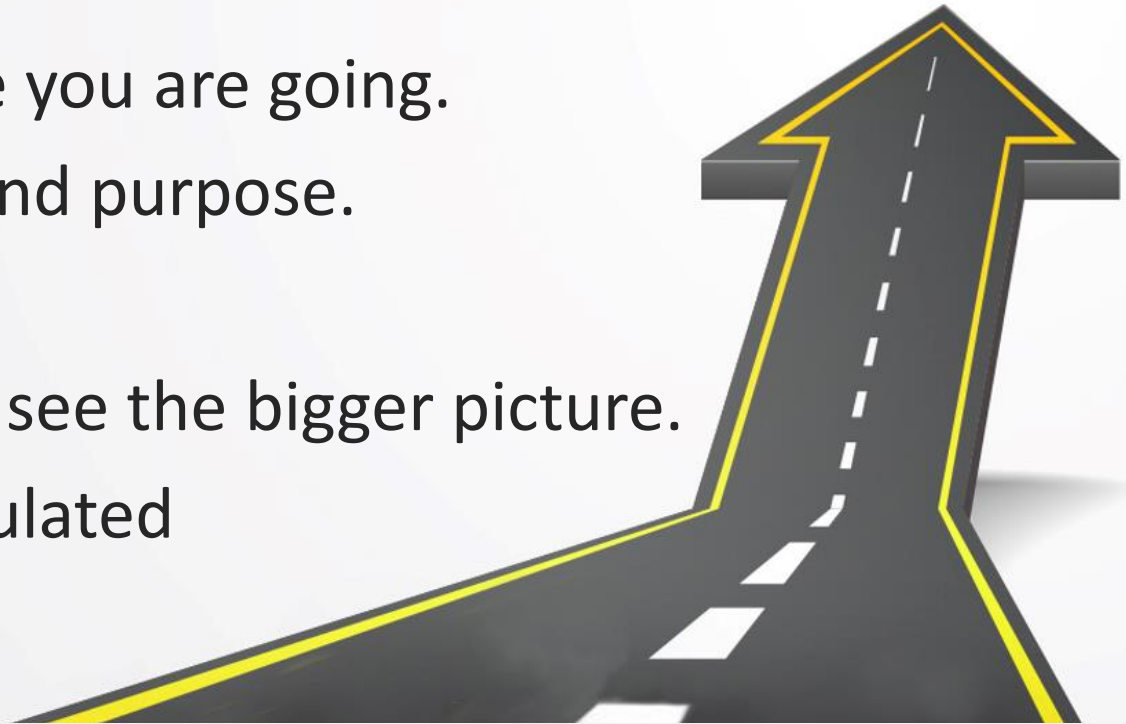
 <b>S</b>	<b>Specific</b>
 <b>M</b>	<b>Measurable</b>
 <b>A</b>	<b>Attainable</b>
 <b>R</b>	<b>Relevant</b>
 <b>T</b>	<b>Time-Bound</b>



# Goal As a Vision

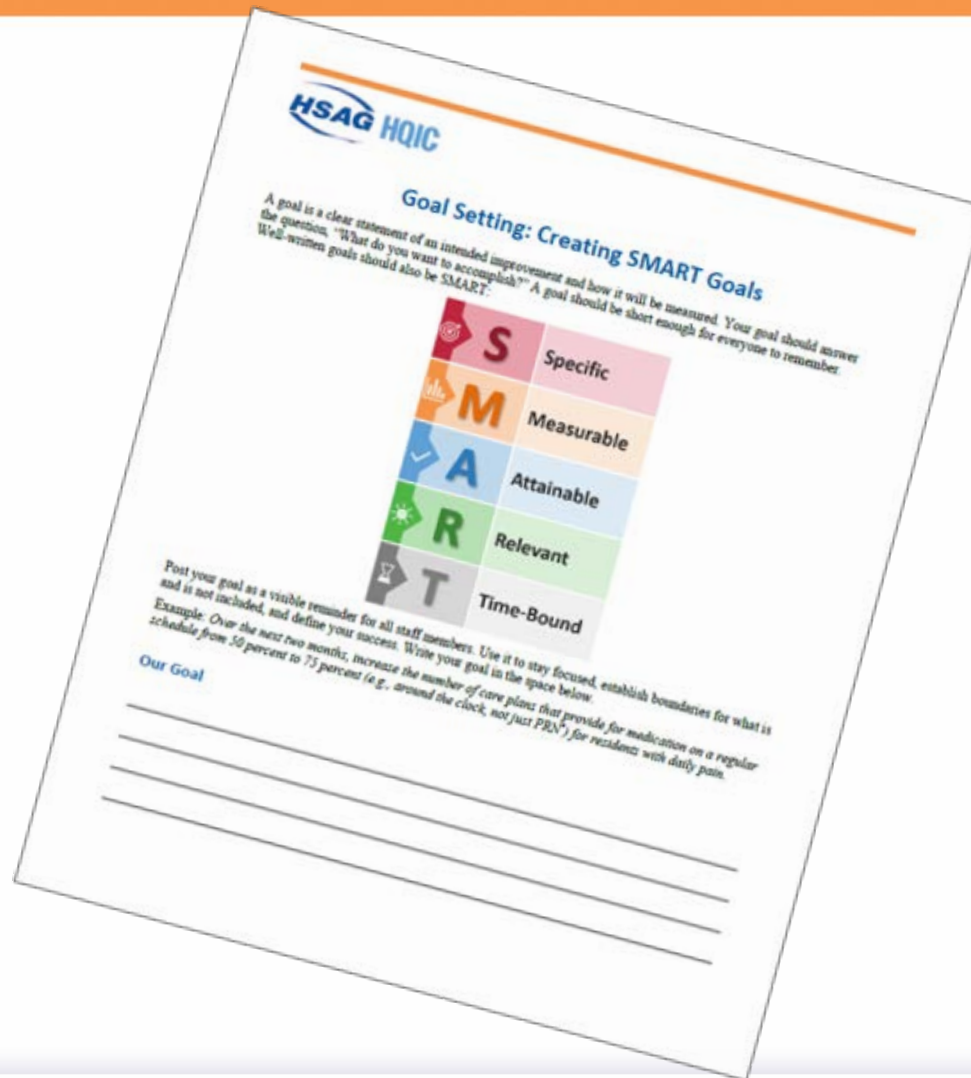
## The SMART goal serves as your team's vision.

- 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



**HSAG HQIC**

## 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:

 <b>S</b>	<b>Specific</b>
 <b>M</b>	<b>Measurable</b>
 <b>A</b>	<b>Attainable</b>
 <b>R</b>	<b>Relevant</b>
 <b>T</b>	<b>Time-Bound</b>

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

*Example: Over the next two months, increase the number of care plans that provide for medication on a regular schedule from 50 percent to 75 percent (e.g., around the clock, not just PRN) for residents with daily pain.*

**Our Goal**

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# 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.



## Data Collection Plan

<b>What to measure</b>	Name of parameter or condition
<b>Type of measure</b>	Process or outcome
<b>Type of data</b>	Attribute or measured
<b>Operational definition</b>	Clear and concise, repeatable <i>Interrater reliability</i>
<b>Specification</b>	Target values
<b>Target</b>	Desired result
<b>Data collection form</b>	Standardized form
<b>Sampling</b>	Yes/no methodology
<b>Baseline</b>	Current results
<b>Source</b>	Who is responsible? Where are the data?

# Data Pitfalls

*“Every system is perfectly designed to get the results it gets.”*

—W.E. Deming<sup>1</sup>



## 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<sup>2</sup>

# What to Change



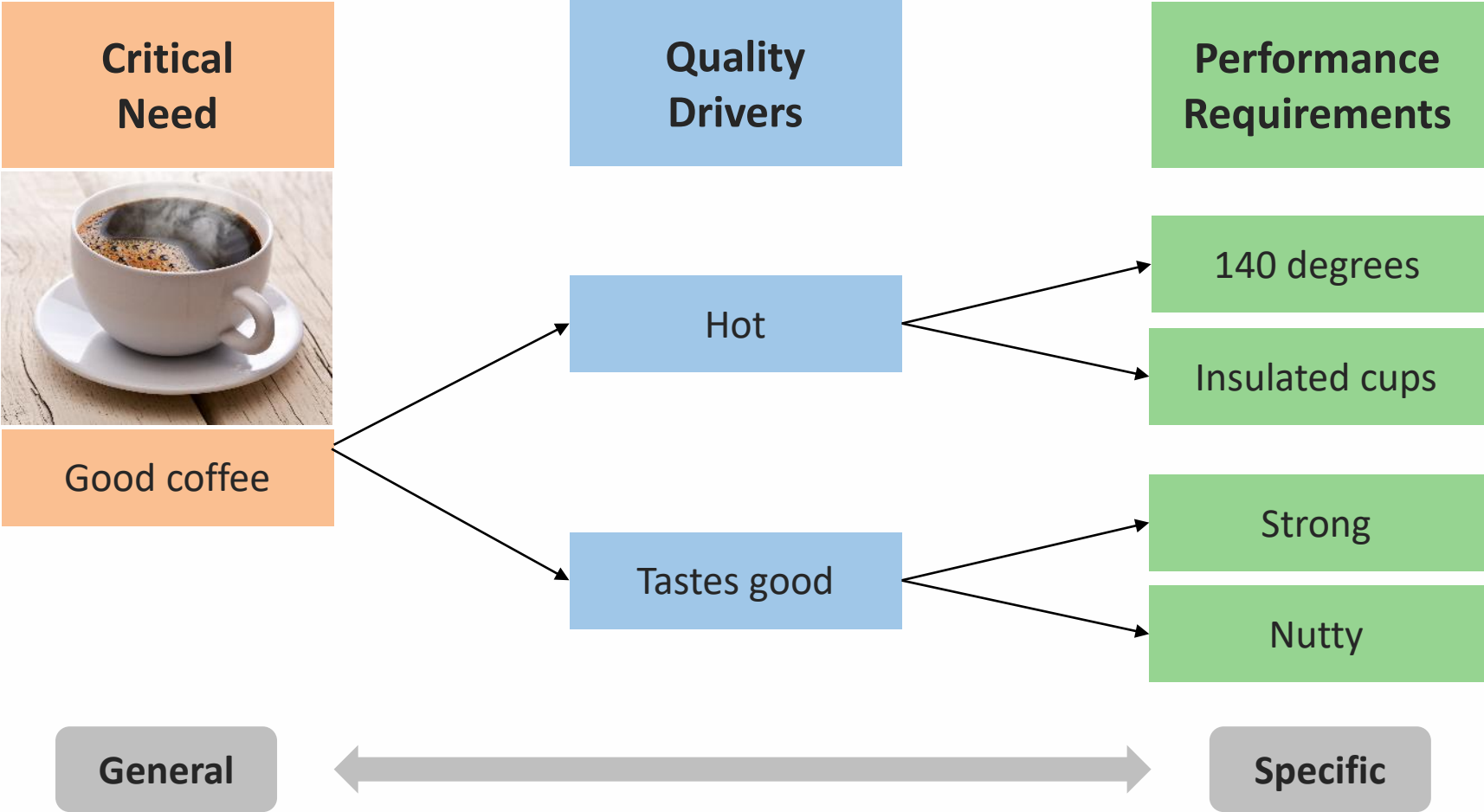
- Understand the problem.
- Create a multi-disciplinary team.
- Interview frontline personnel.
- Identify the root causes.
- Target the intervention(s) to change root causes.

# Other Tools to Define/Plan



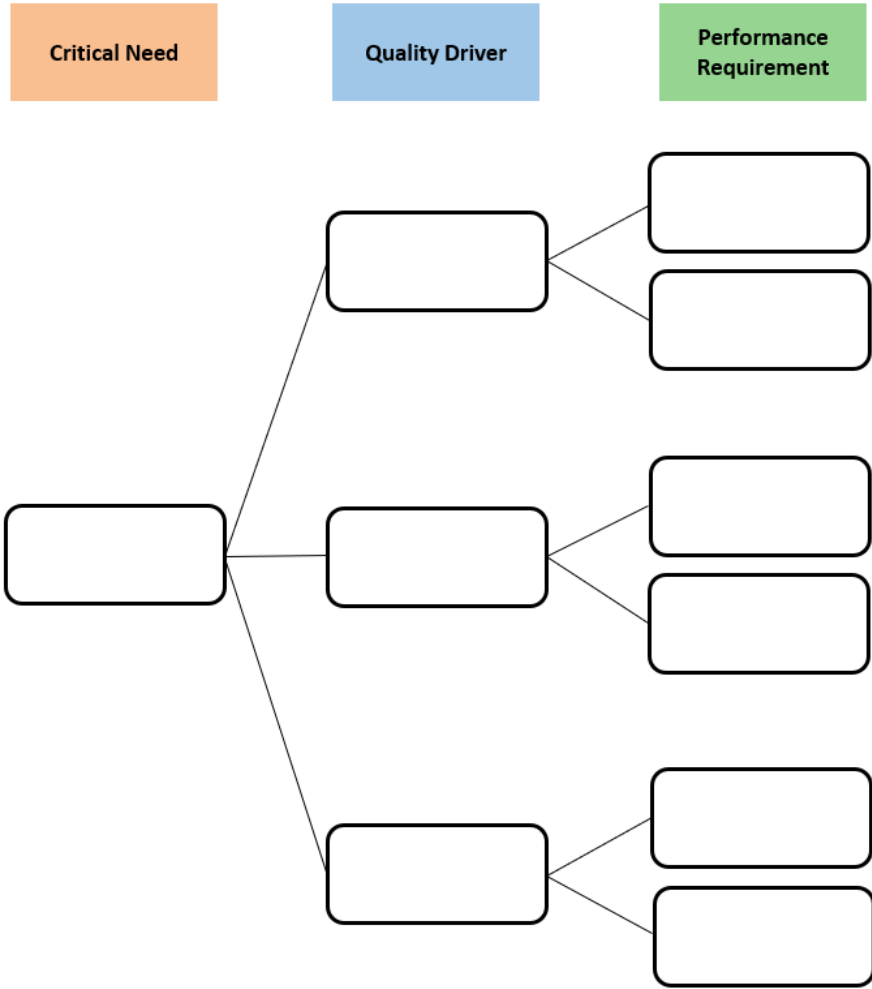
- VOC: Voice of the customer
- CTQ tree: critical to quality
- Process mapping
- Stakeholder mapping
- Ishikawa Cause-and-Effect Fishbone Diagram

# Critical to Quality (CTQ) Tree





# HSAG CTQ Worksheet



# 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



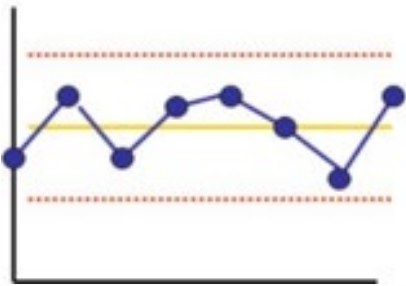
# The Variation Story



# Identifying Variation

## Common Cause

No data points outside controls

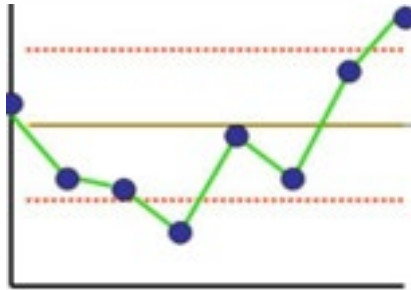


## Common Cause Variation

- 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

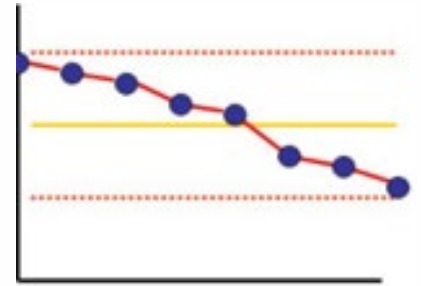


## Special Cause Variation

- 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



## Change Trend

- A pattern that move 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

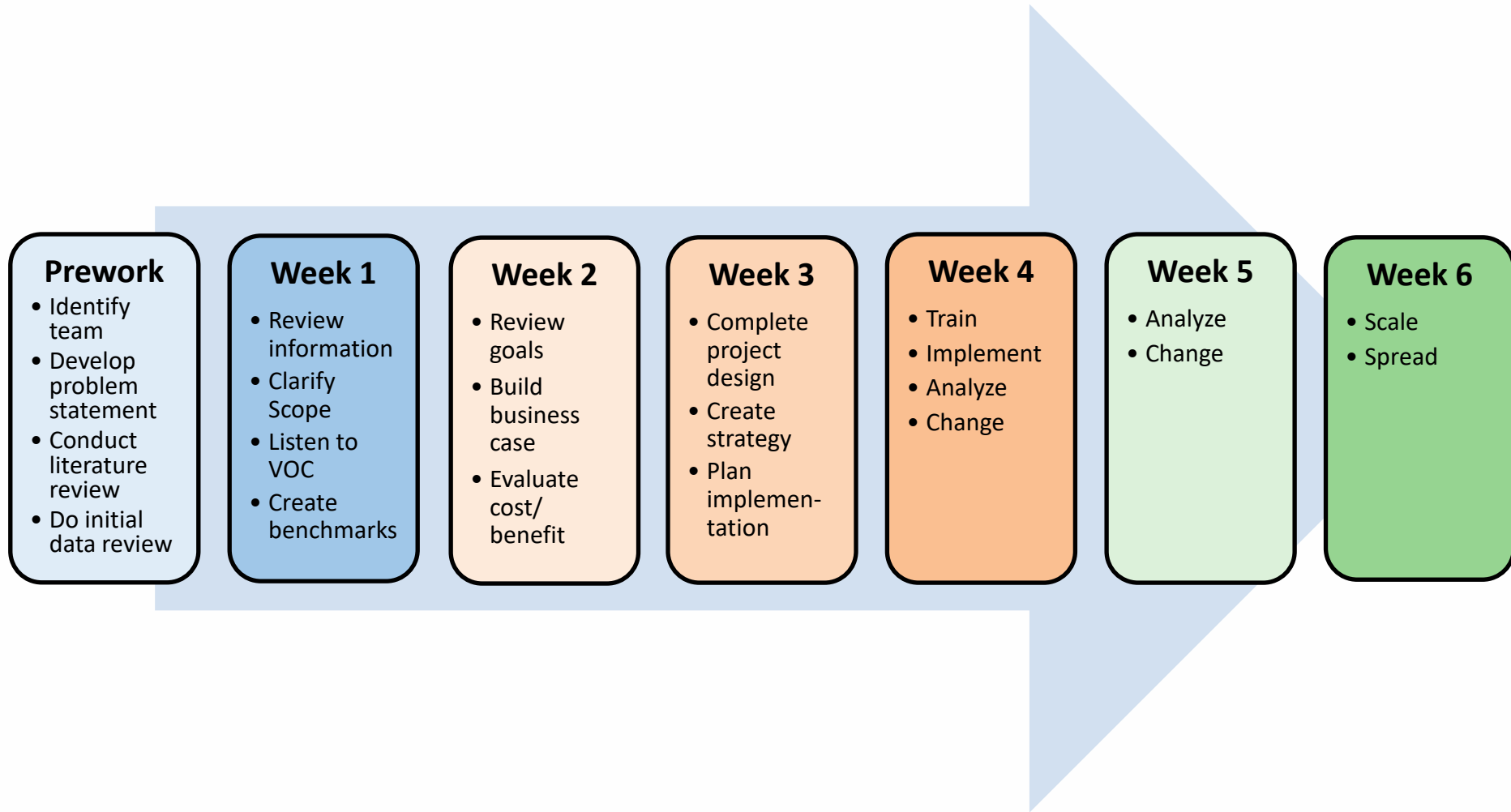
## Spread

The ability to replicate an intervention to other areas

## Scalability

Building the infrastructure to support full-scale implementation

# Sample Timeline for Rapid-Cycle Improvement



# 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!

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