

PDSA Improvement Methodology

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MHA623
Healthcare Quality

Lecture 6



Our Roadmap

Quality improvement
methodologies Overview

1

Common
planning tools

3

Six-Sigma
methodology

5

Planning
phase
orientation

2

PDCA cycle

4

Accreditation
overview

6

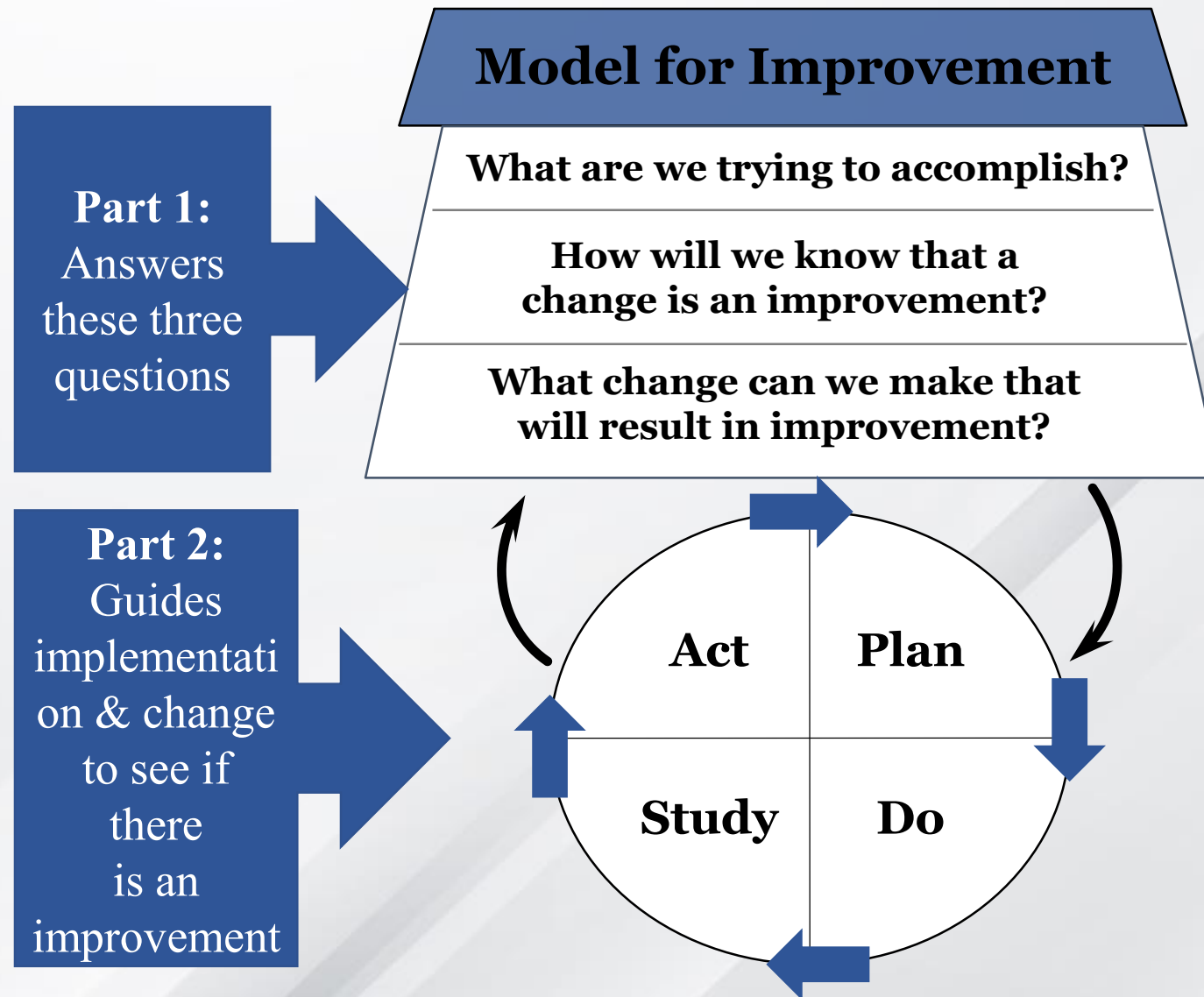


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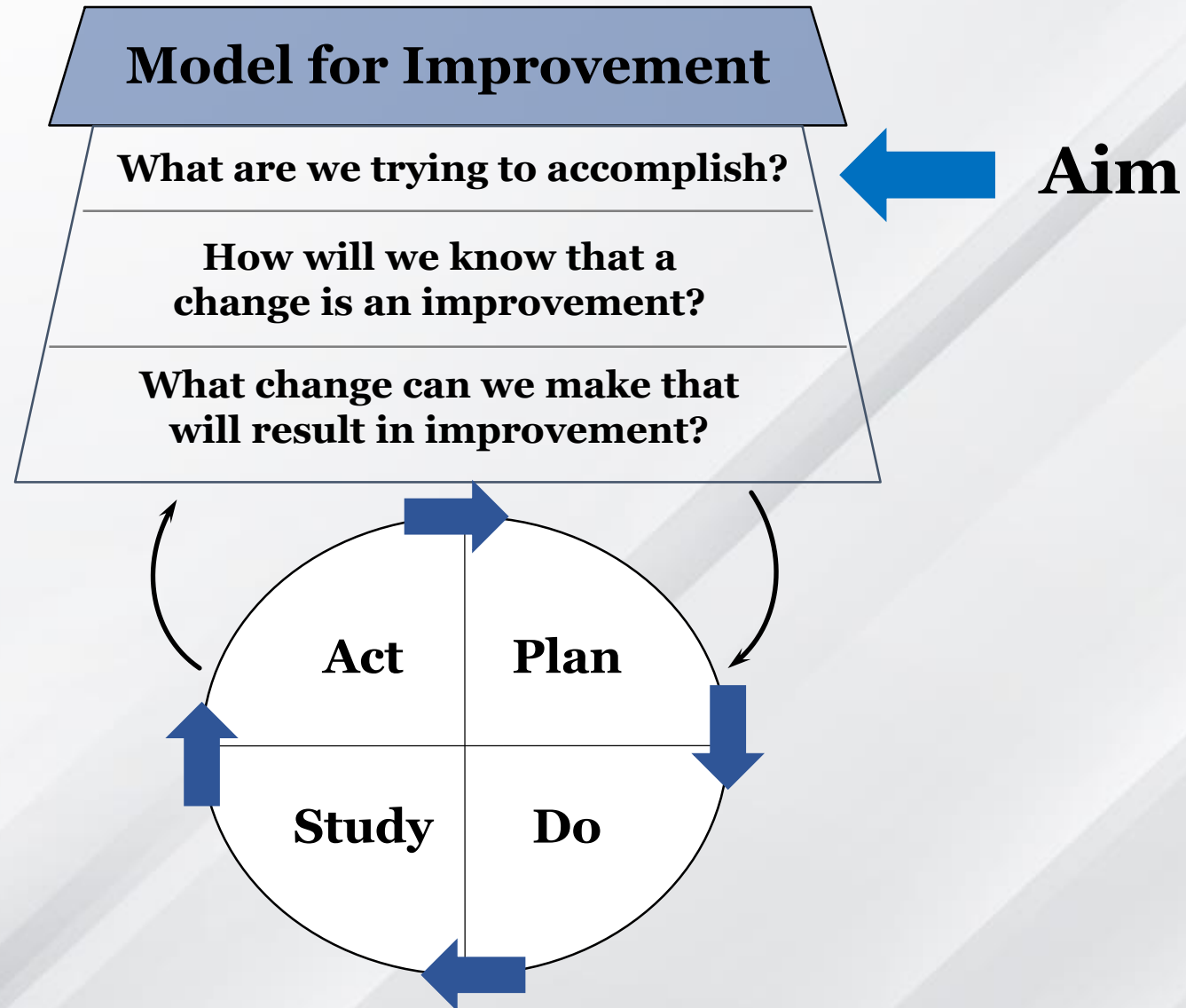
Intended Objectives

1. Explain the purpose and structure of the PDSA cycle in quality improvement.
2. Identify the four key steps of the PDSA cycle: Plan, Do, Study, Act.
3. Differentiate between outcome, process, and balancing measures within the PDSA framework.
4. Recognize essential planning tools that support effective PDSA implementation.
5. Identify common pitfalls in executing PDSA cycles and strategies to avoid them.

The Model for Improvement



The Model for Improvement



Why a Project AIM Statement?

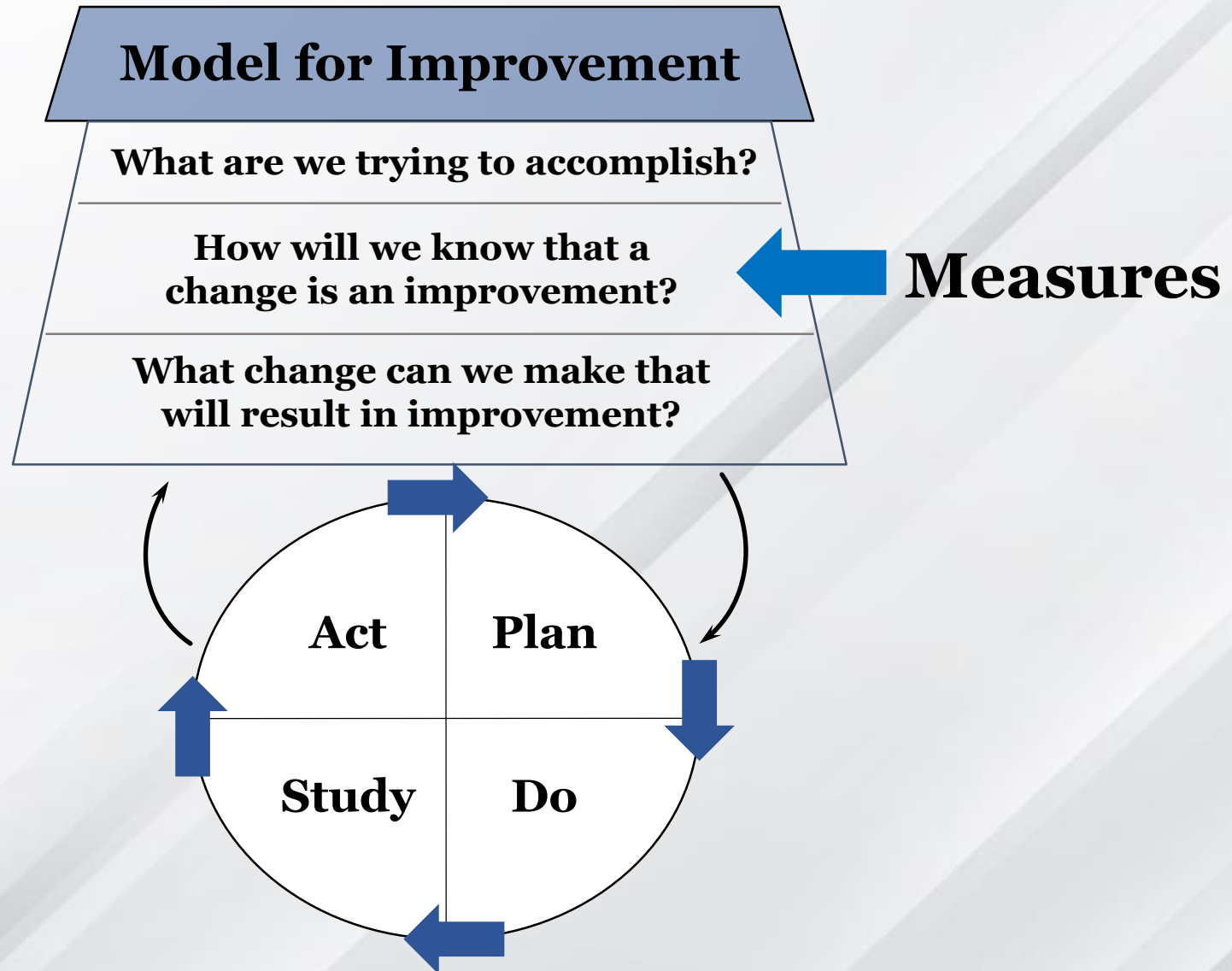
- Answers and clarifies “*What are we trying to accomplish?*”
- Creates a shared language to communicate about the project.
- Facilitates organizational conversations and understanding.
- Provides a basis for developing the rest of the project (measures and changes).

Aim Statements

- Provides a *focused* rationale and *vision* for *what* your team plans to accomplish.
- **Are SMART :**
 - S:** Specific
 - M:** Measurable
 - A:** Action-Oriented
 - R:** Relevant/Realistic
 - T:** Timely



The Model for Improvement



Why do we measure?

- Measures facilitate learning and are not for judgment or comparison.
 - ***Recognize areas for improvement:***
Define the gap between where we are and where we need to be.
 - ***Provide feedback as a means to evaluate:***
Are the changes we're making having the desired impact?
 - ***Characterize the robustness of change:***
How does our system respond to the changes we've made?

Measurement Assumptions

- The purpose of measurement is for **learning**, not judgment.
- All measures have **limitations**, but the limitations do not negate all value.
- Measures are one ***voice of the system***. Hearing the voice of the system. gives us information on how to act with and within the system.
- Measures **tell a story**; goals give a **reference point**.

Three Types of Measures

1. Outcome Measures: Voice of the customer or patient.

How is the system performing? What is the result?

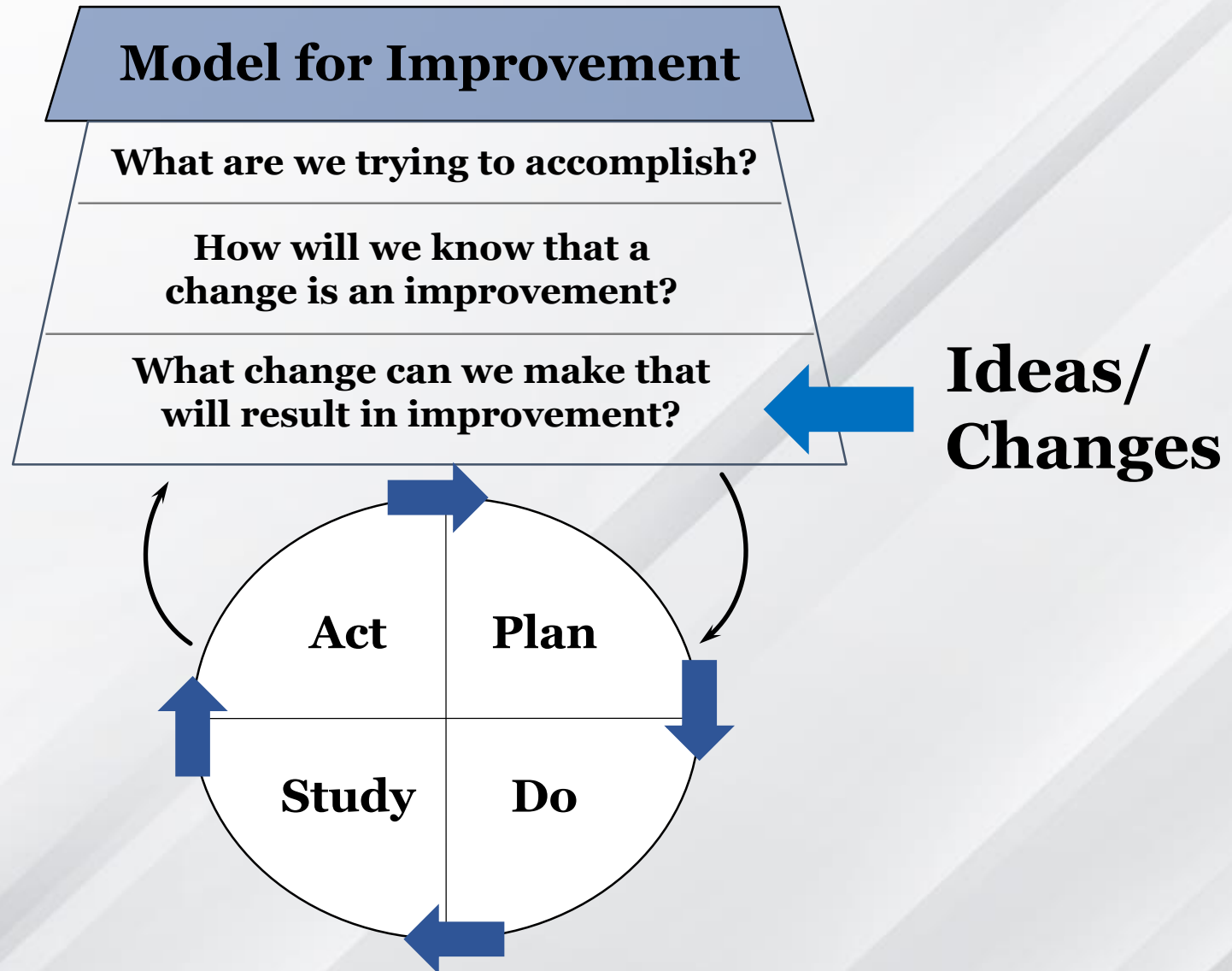
2. Process Measures: Voice of the workings of the system.

Are the parts/steps in the system performing as planned?

Three Types of Measures

3. Balancing Measures: Looking at a system from different directions/dimensions. What happened to the system as we improved the outcome and process measures (e.g. unanticipated consequences, other factors influencing outcome)?

The Model for Improvement



Examples of Change Concepts

Chapter 06

- Eliminate Waste.
- Improve Work Flow.
- Optimize Inventory.
- Change the Work Environment.
- Producer/Customer Interface.
- Manage Time.
- Focus on Variation.
- Error Proofing. (*Poka Yoke*)
- Focus on the Product or Service.



Error Proofing (Poka Yoke)

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➤ **Definition:** A quality improvement method that prevents errors before they occur by designing processes that make mistakes impossible or easily detectable.



Error Proofing (Poka Yoke)

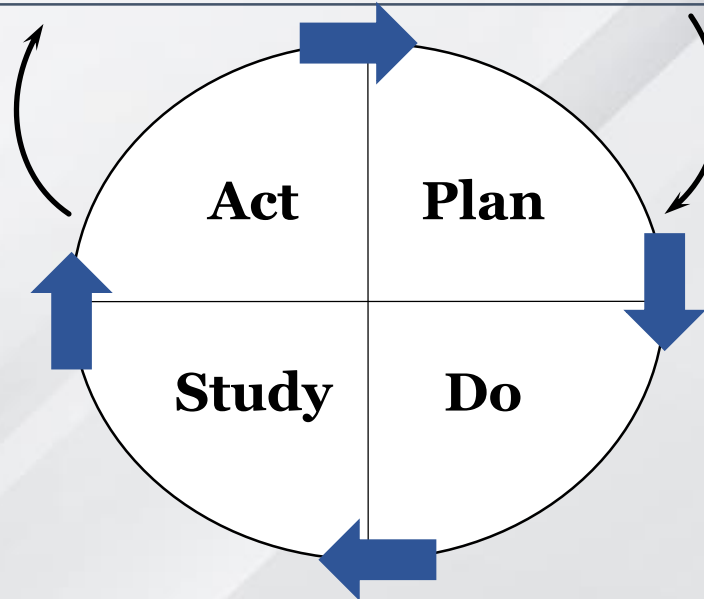
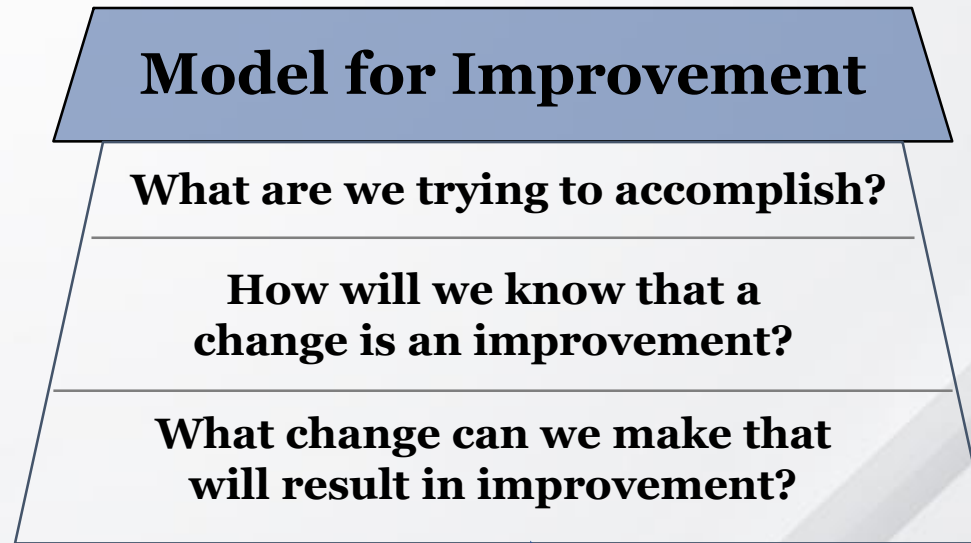
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➤ Examples:

- **Barcode Medication Administration (BCMA):** Ensures correct patient, drug, dose, and time.
- **Pre-Surgical Checklists:** Prevents wrong-site surgeries.
- **Color-Coded Wristbands:** Identifies high-risk patients (e.g., allergies, fall risk).
- **Automatic Hand Hygiene Sensors:** Reinforces infection control compliance.

The Model for Improvement



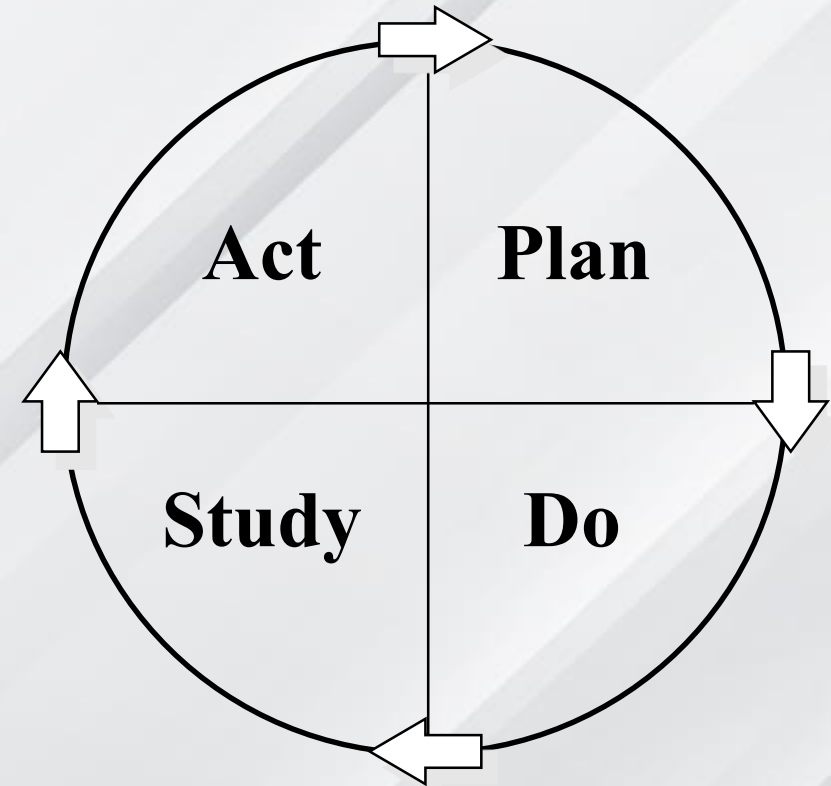
**P-D-S-A
Cycle**

The PDSA Cycle

Four Steps: Plan, Do, Study, Act

➤ Also known as:

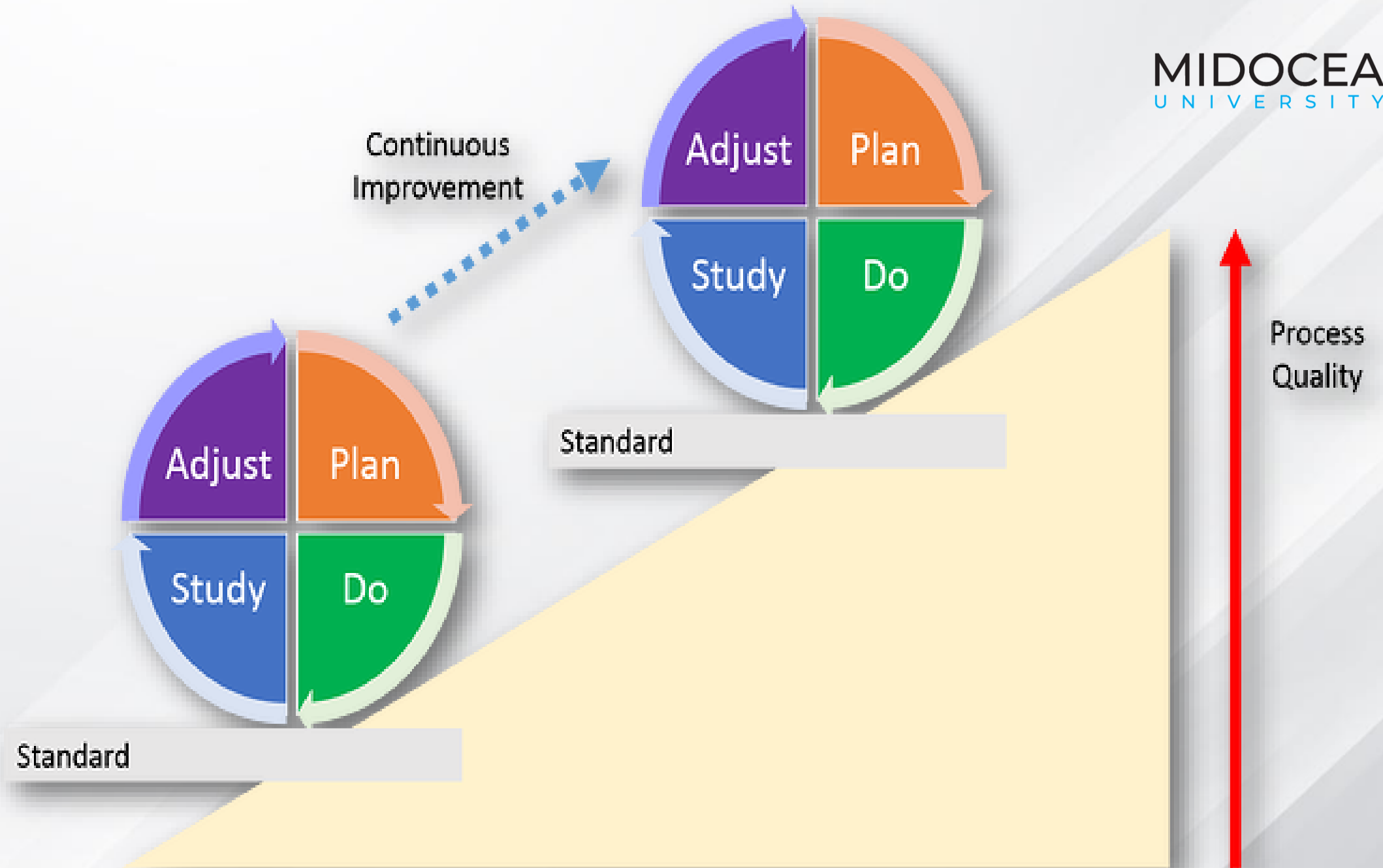
- Shewhart Cycle.
- Deming Cycle.
- Learning and Improvement Cycle.



Use PDSA Cycles for

- Testing or adapting a change idea
 - May answer a question related to the aim.
- Implementing a change.
- Spreading the changes to the rest of the system.





Steps of PDSA Cycle

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1. Plan

- **First, identify and understand your problem or opportunity.**
- **Perhaps the quality of patient care isn't meeting the desired standards, or an aspect of the healthcare delivery process should be achieving better outcomes.**

Steps of PDSA Cycle

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1. Plan

- **Explore the information available in full.**
- **Generate and screen ideas,** and develop a robust implementation plan.
- **Be sure to state your success criteria** and make them **as measurable as possible**, You'll return to them later in the Check stage.

Steps of PDSA Cycle

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2. Do

- **Test the proposed solution** with a **small-scale pilot** to **assess its effectiveness** while **minimizing disruption**.
- **Conduct trials** in a specific department, location, or patient group to **evaluate outcomes before full implementation**.
- **As you run the pilot project, gather data** to show whether the change has worked or not, **You'll use this in the next stage**.

Why Pilot Testing?

- Force us to think small.
- Increases your belief that the change will result in improvement.
- Opportunity for learning without impacting performance.
- Help teams adapt good ideas to their specific situation.

Steps of PDOSA Cycle

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3. Study

- Next, **analyze your pilot project's results against the expectations** that you defined in Step 1, to assess whether your idea was a success.
- If it wasn't, return to Step 1. If it was, advance to Step 4.
- You may decide to try out more changes, and repeat the Do and Study phases.
- But if your original plan definitely isn't working, you'll need to return to Step 1.

Steps of PDSA Cycle

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4. Act

- This is where you implement your solution.
- But remember that **PDSA/PDCA** is a loop, not a process with a beginning and end.
- Your improved process or product becomes the new baseline, but you continue to look for ways to make it even better.

Practical Example



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A **75-year-old male patient**, admitted for pneumonia, **falls while walking unassisted**, resulting in a minor head injury and extended hospitalization. Frequent falls in the **geriatric ward** highlight the need for better **fall prevention measures**. The hospital's **quality improvement team** decided to implement a **PDSA approach**.



Practical Example

Reducing Patient Falls Using the PDSA Cycle

1. Plan

- **Problem:** High incidence of patient falls in a hospital ward.
- **Solution:** Implement a **fall prevention program** (e.g., risk assessment, bed alarms, staff training).
- **Success Criteria:** Reduce falls by **30% within 3 months**.

Practical Example

Reducing Patient Falls Using the PDSA Cycle

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2. Do

- **Pilot Test:** Apply the program in a single ward.
- **Actions Taken:** Train nurses, use fall risk signage, and monitor compliance.
- **Data Collection:** Track the number of falls before and after implementation.

Practical Example

Reducing Patient Falls Using the PDSA Cycle

3. Study

- **Analysis:** Compare fall rates before and after the intervention.
- **Outcome:** Falls reduced by **25%**, but some staff reported difficulty using bed alarms.

Practical Example

Reducing Patient Falls Using the PDSA Cycle

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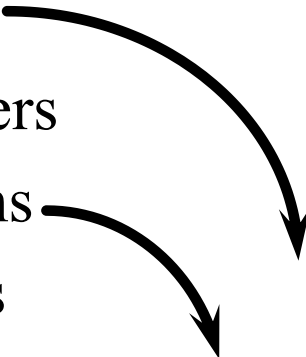
4. Act

- **Full Implementation:** Expand the program hospital-wide, with improved staff training on bed alarm usage.
- **Continuous Improvement:** Regular audits and feedback loops to optimize fall prevention strategies.

Key Points for PDOSA Cycles

- Do initial cycles on smallest scale and within shortest timeframe possible:

- Think baby steps...a “cycle of one” usually best.

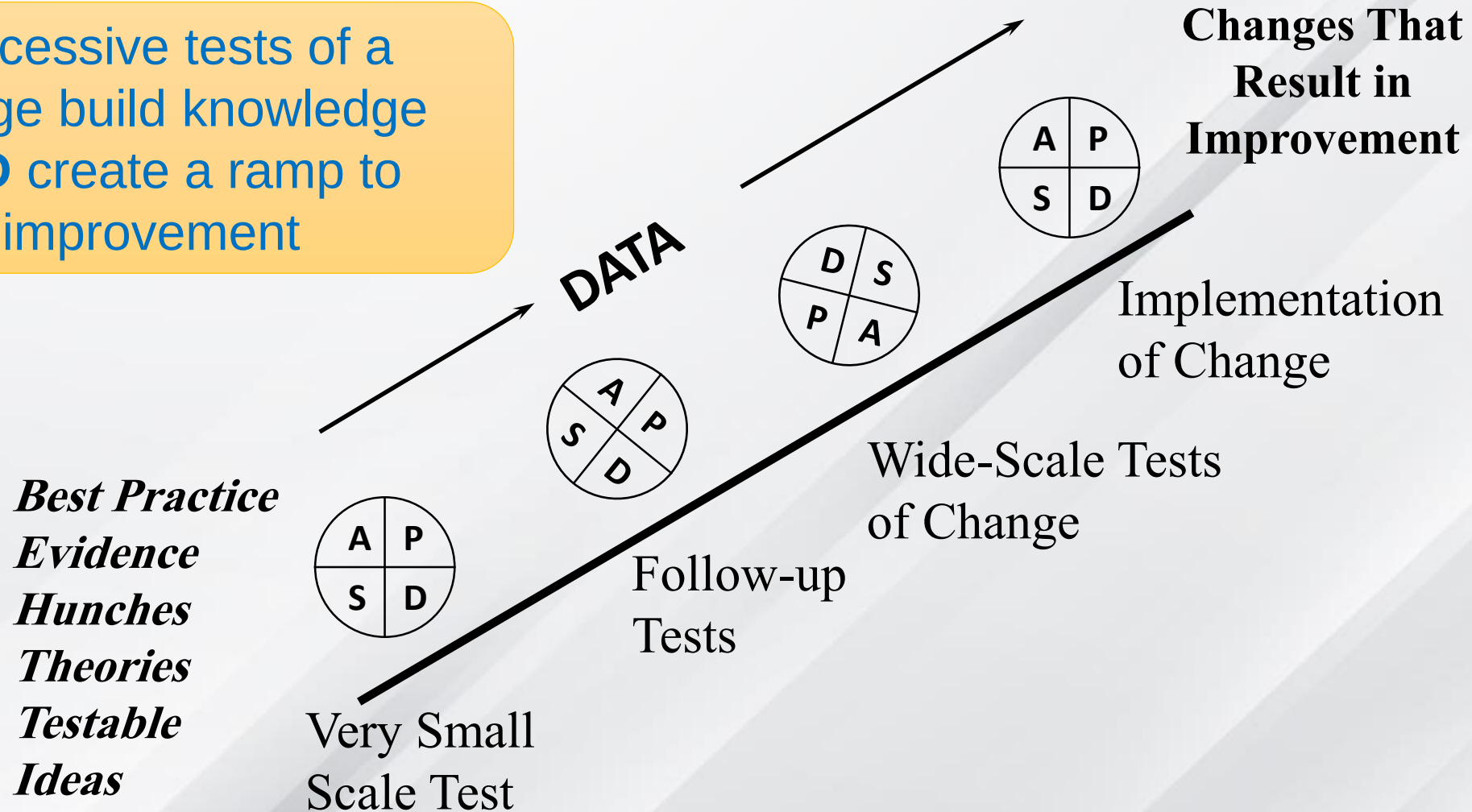
- Years
 - Quarters
 - Months
 - Weeks
 - Days
 - Hours
 - Minutes
- 

***Drop down “two levels”
to plan Test Cycle!***

PDSA Cycle Ramps

Sequential Building of Knowledge

Successive tests of a change build knowledge **AND** create a ramp to improvement





PDSA WORKSHEET

Team Name:	Date of test:	Test Completion Date:
Overall team/project aim:		
What is the objective of the test?		

PLAN:

Briefly describe the test:

How will you know that the change is an improvement?

What driver does the change impact?

What do you predict will happen?

PLAN

List the tasks necessary to complete this test (what)	Person responsible (who)	When	Where
1.			
2.			
3.			
4.			
5.			
6.			

Plan for collection of data:

DO:

Test the changes.

Was the cycle carried out as planned? ☐ Yes ☐ No

Record data and observations.

What did you observe that was not part of our plan?

STUDY:

Did the results match your predictions? ☐ Yes ☐ No

Compare the result of your test to your previous performance:

What did you learn?

ACT:

Decide to Adopt, Adapt, or Abandon.

☐

Adapt: Improve the change and continue testing plan.
Plans/changes for next test:

☐

Adopt: Select changes to implement on a larger scale and develop an implementation plan and plan for sustainability

☐

Abandon: Discard this change idea and try a different one

Common PDSA Pitfalls

1. Testing changes where link to overall aim or key driver is unclear.
2. Failing to execute the whole cycle:
 - Plan, Plan, Plan-D-S-A (too much planning, not enough doing).
 - P-Do, Do, Do-S-A (too much doing, not enough studying).

Common PDSA Pitfalls

4. Not learning from **“failures”**.
5. Lack of detailed execution plan.
6. Failure to think ahead a few cycles.

Wrap Up

1. **Quality improvement** requires structured methodologies like PDSA and Six Sigma.
2. **The Model for Improvement** helps define clear aims, measures, and change strategies.
3. **SMART Aim Statements** provide direction and measurable outcomes.
4. **Different types of measures** (outcome, process, balancing) ensure comprehensive evaluation.

Wrap Up

5. **PDSA cycles** should start small, iterate, and scale based on results.
6. **Pilot testing** reduces risks and helps refine interventions before full implementation.
7. **Common pitfalls** include unclear objectives, over-planning, and failure to analyze results.
8. **Continuous learning** and adaptation are key to sustainable quality improvement.



Thank You