



Refresher: Measurement and PDSA Cycles

Provincial BOOST Collaborative Learning Session 2

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Overview

- Measurement for improvement
- Plan-Do-Study-Act (PDSA) Cycles
- Practice



Measurement for **Improvement**

“Measurement should be used to speed things up, not slow things down.”

IHI (1996). Breakthrough Series guide: Reducing delays and waiting times. Boston: Institute for Healthcare Improvement.



Measurement for **Improvement**

Intended to help us:

- Understand the current state
- Understand if what we're doing is an improvement
- Document and share results of change
- Learn

Not intended for:

- Judgment
- Research



ASPECT	ACCOUNTABILITY	RESEARCH	IMPROVEMENT
Measurement Aim	Comparison, choice, reassurance, spur for change	New knowledge	Improvement of care
Measurement Methods Test observability	No test, evaluate current performance	Test blinded or controlled	Test observable
Bias	Measure and adjust to reduce bias	Design to eliminate bias	Accept consistent bias
Sample size	Obtain 100% of available, relevant data	"Just in case" data	"Just enough" data, small sequential samples
Flexibility of hypothesis	No hypothesis	Fixed hypothesis	Hypothesis is flexible; it changes as learning takes place
Testing strategy	No tests	One large test	Sequential tests
Determining if a change is an improvement	No change focus	Hypothesis, statistical test (t test, F test, chi square) with p-values	Run charts or Shewhart control charts (use statistical process control methods)
Confidentiality of the data	Data available for public consumption and review	Research subjects' identities protected	Data used only by those involved with improvement

Source: Solberg LI, Moser G, McDonald S. (1997) The three faces of performance measurement: Improvement, Accountability and Research. Journal of Quality Improvement, 23(3).



Developing **Project** Measures

- Make sure interests of end users are represented in measures
- If possible, look at data before and after change
 - But don't eliminate a measure if not possible
- Choose 3-8 measures that are useful and manageable

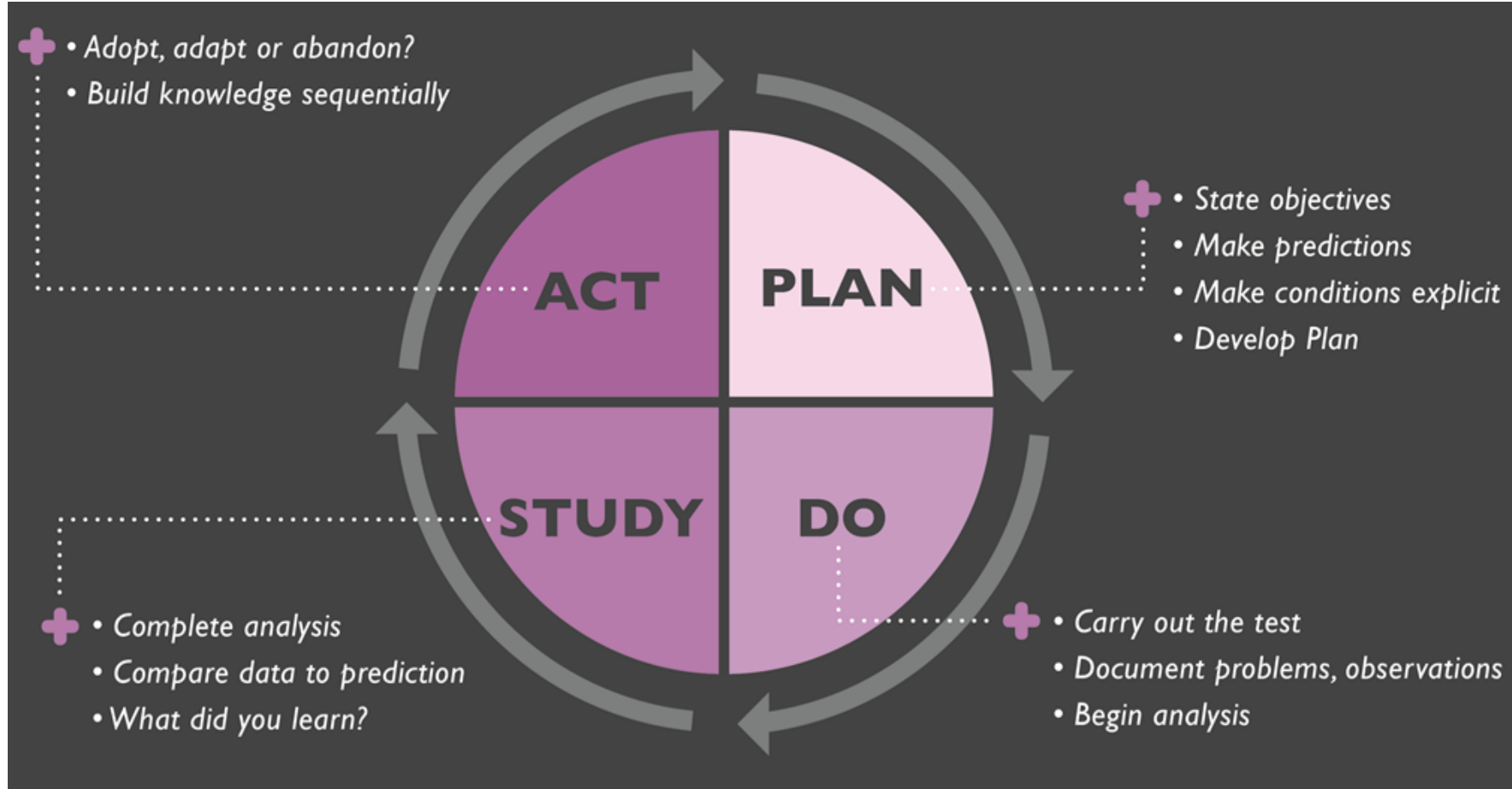


Types of Measures

OUTCOME	PROCESS	BALANCING
<ul style="list-style-type: none"> • Based on your Aim Statement (usually) • What is better for the patient/customer? • Promise to the patient/customer • What, ultimately, will be better? (not what are you trying to “do”) 	<ul style="list-style-type: none"> • Voice of the system • What is being done differently that we want to capture? • What is now being done consistently? 	<ul style="list-style-type: none"> • What unintended consequences might occur? • What are we worried about – that we can do something about?
<p>Example 1: Median wait time from referral to seen by specialist</p>	<p>Example 1: Percent of referrals to the specialist that have complete information</p>	<p>Example 1: Median wait time from specialist to date of surgery.</p>
<p>Example 2: Percent of patients with a Surgical Site Infection</p>	<p>Example 2: Percent of patients who had appropriate hair removal or no hair removal</p>	<p>Example 2: Staff satisfaction with new forms for Surgical Site Infection guidelines</p>



PDSA Cycle



PDSA Cycle

PLAN

Determine what you want to learn and how you can learn it

DO

Test and measure to find out if your prediction was right

STUDY

Compare your prediction to the actual result

ACT

Decide what to do next



Steps: Plan



The learning opportunity, test, or implementation was planned and includes:

- Questions to be answered
- Predictions of the answers to the questions
- Plan for collection of the data to answer the questions



Steps: Do



The plan was attempted. Observations are made and recorded, including those things that were not part of the plan.



Steps: **Study**

STUDY

Time was set aside to compare the data with the predictions and study the results.



Steps: **Act**

ACT

Action was rationally based on what was learned.



Example: Meeting Time Punctuality

PLAN

5 minutes per agenda item will keep the meeting from running over the scheduled time

DO

Bring a timer to meeting and time each agenda item, stopping discussion at the 5 minute mark

STUDY

For some agenda items, 5 minutes was not enough time to fully address the issue

ACT

Have an alert at 5 minutes, but allow the discussion to carry on for up to 3 more minutes if necessary



Example: Falls with Injury

PLAN

Get hip protectors, ask one resident to try them for 1 week. Assess impact on number of falls with injury.

DO

Ask resident to wear this week.

STUDY

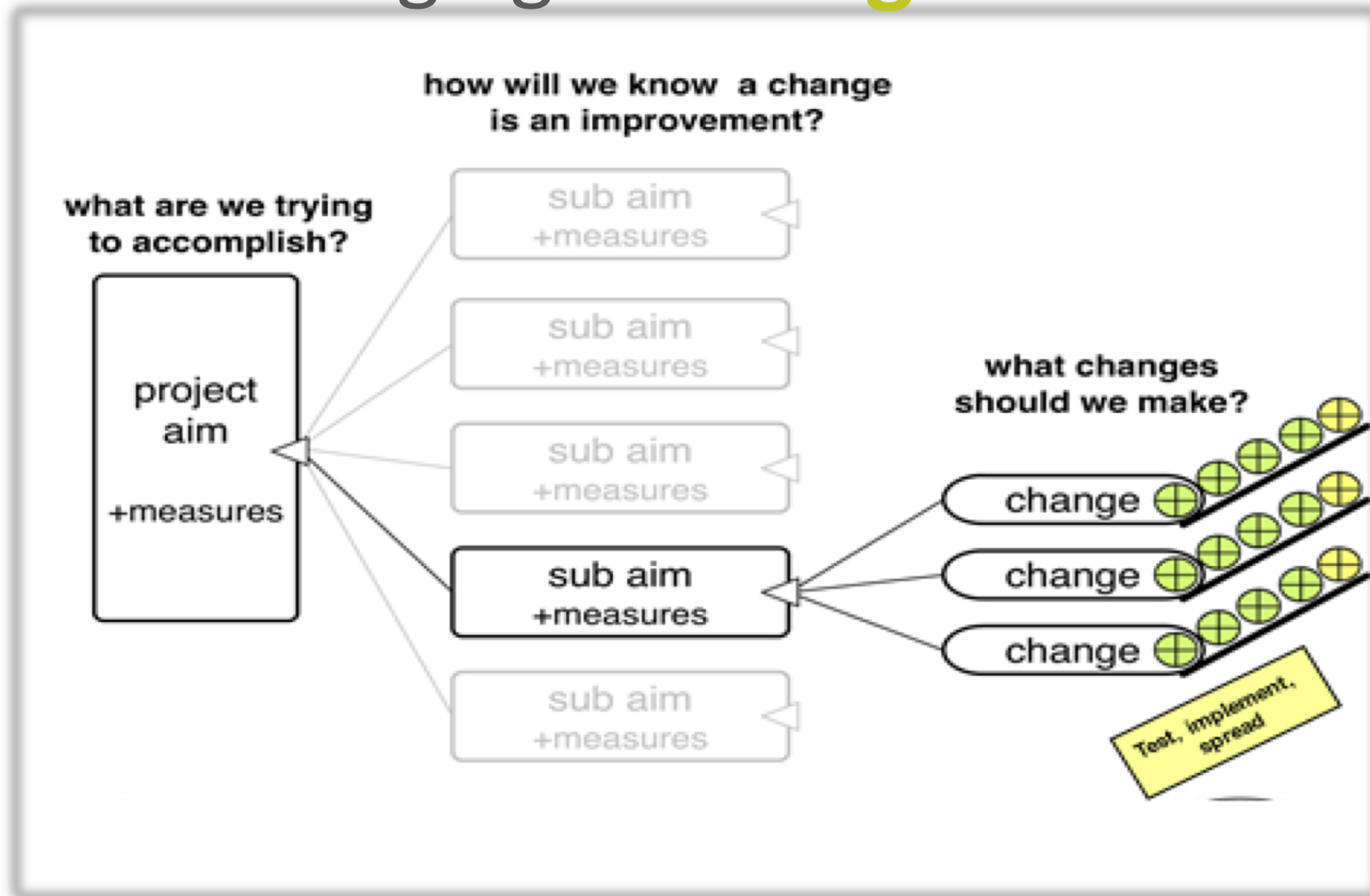
Get feedback from resident. We learned they're not comfortable and hard to put on.

ACT

Adapt the test to look at: new brand? Better way to put on? Test with other residents?



Bringing It All Together



PRACTICE

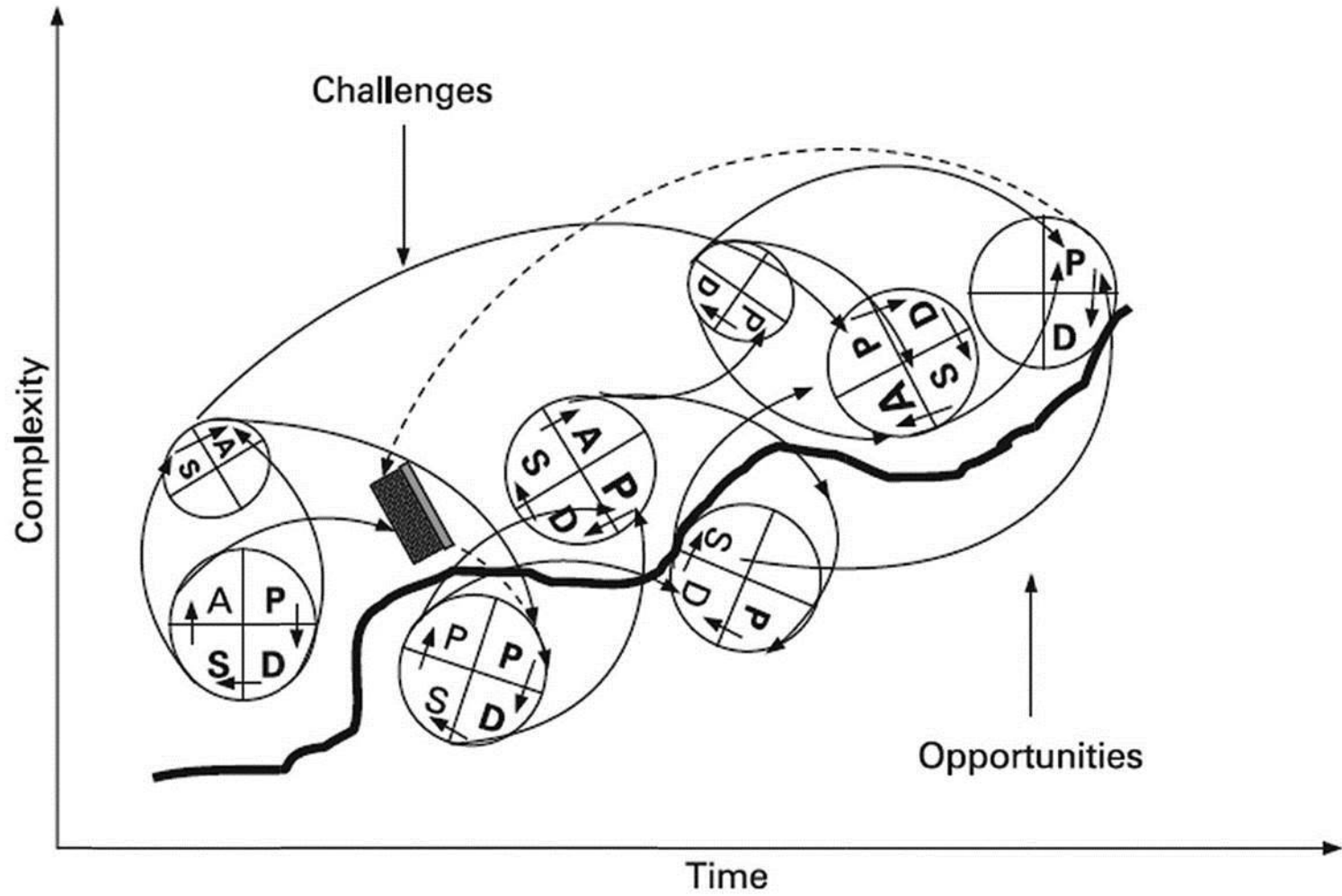


Practice

Using change ideas from your driver diagram:

- Develop Plan for PDSA cycle to test change
- Identify how you will measure test





References and Resources

- Langley, Moen, et al. (2009) The improvement guide: A practical approach to enhancing organizational performance – 2nd edition
- Solberg, Moser, McDonald. (1997) The three faces of performance measurement: Improvement, Accountability and Research. Journal of Quality Improvement, 23(3)



Questions

