

Small Tests of Change: Using PDSA Cycles to Drive Improvement



champ-program.org

COLLABORATION FOR HOME CARE ADVANCES IN MANAGEMENT AND PRACTICE



This presentation was delivered by Jane A. Taylor, Improvement Advisor and CHAMP Faculty, at CHAMP's Geriatric Medication Management Webinar #1 in 2009.

CHAMP Activities are possible with generous support from The Atlantic Philanthropies and The John A. Hartford Foundation

Small Tests of Change Using PDSA Cycles to Drive Improvement



**Jane A. Taylor, EdD
Improvement Advisor
The CHAMP Program
2009**



Objectives

- Learn the 4 steps in a PDSA cycle (Plan-Do-Study-Act) Cycle
- Understand the rationale for testing changes.
- Distinguish between tests and tasks
- Develop your capacity to construct and execute PDSA cycles

The Model for Improvement Answers the Question

- When making improvements, how do I
 - test and learn?
 - adapt and implement changes?





Fundamental Questions for Improvement

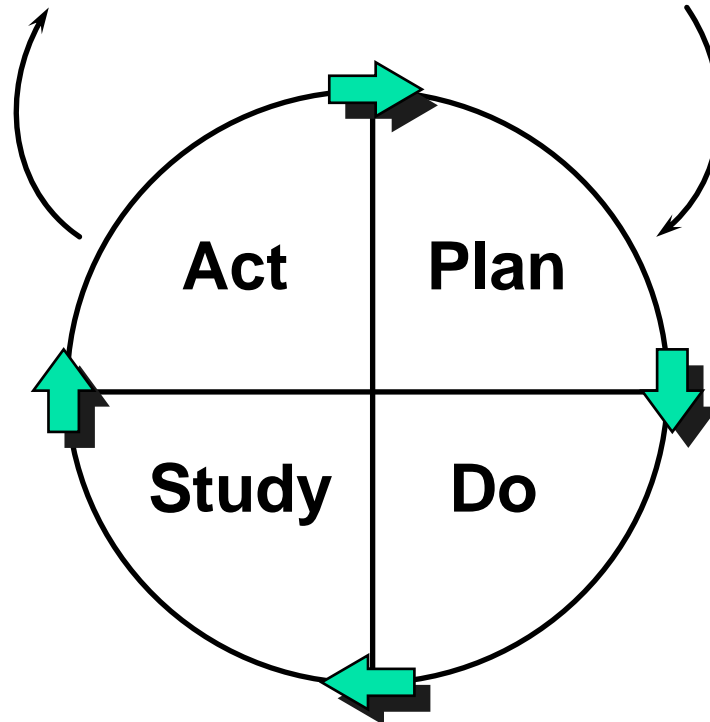
- What are we trying to accomplish?
- How will we know that a change is an improvement?
- What changes can we make that will result in an improvement?

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?





Sample Aim Statements

By December 2010, our team will improve medication management for our patients over age 65 with multiple medications so that:

- 95% of patients have medication adherence assessed at Start of Care and at least one other time
- 85% of patients with a sign/symptom of a potential medication-related complication have their physician notified



What Are We Trying to Accomplish?

- What are your team's aims
- An Aim Statement is a clear and concise statement of what the team intends to do
- They include an unambiguous target for improvement – using numerical goals



Aim statement components

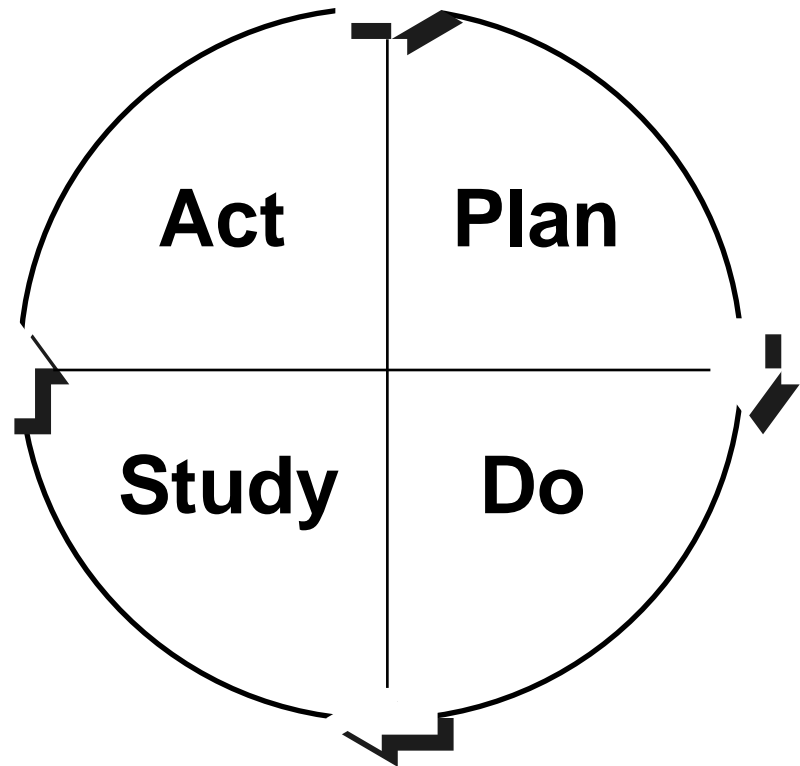
- By when?
- What?
- For whom (pt pop)?
- How much (goals)

The PDSA Cycle

Four Steps: Plan, Do, Study, Act

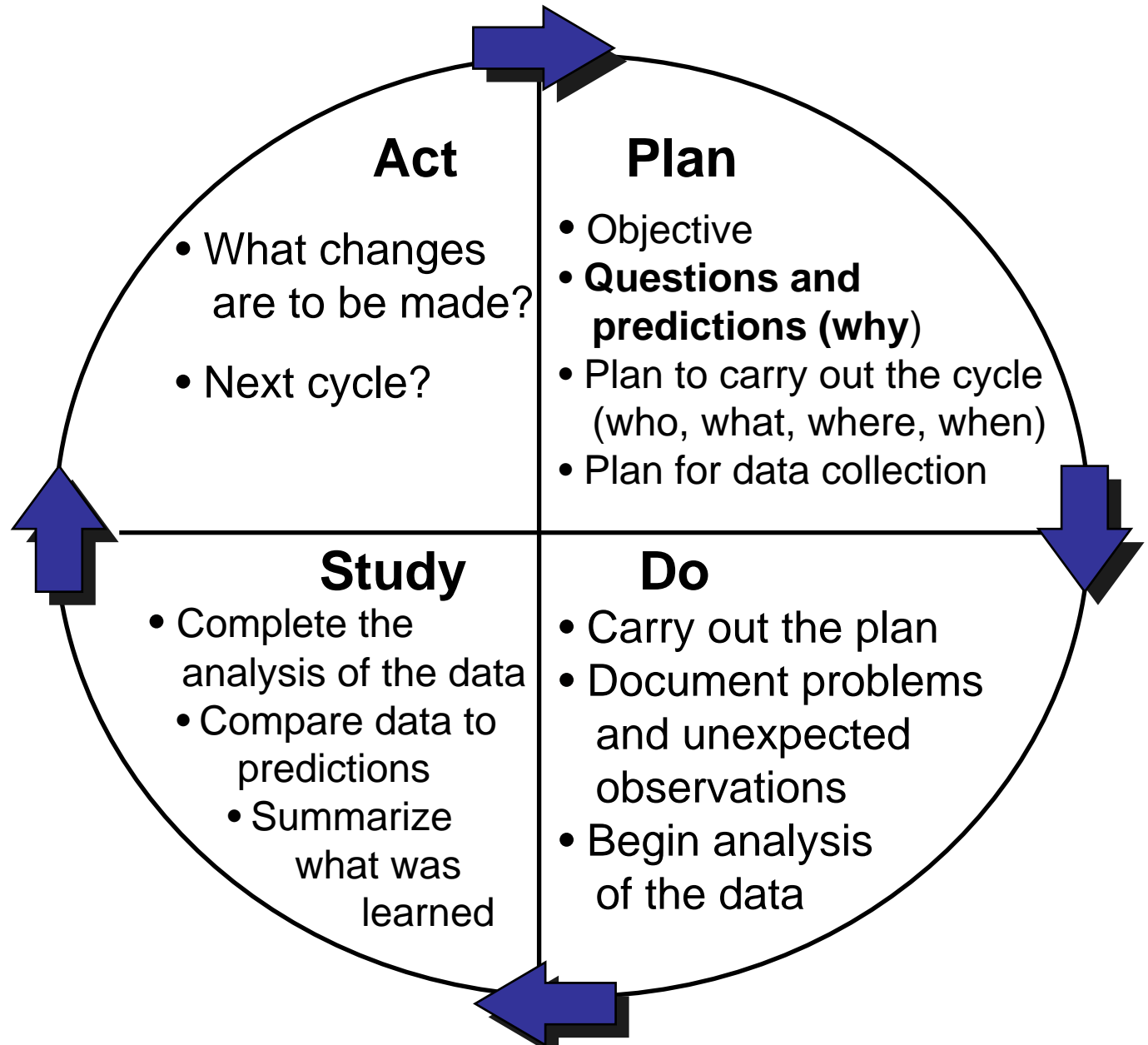
Also known as:

- Shewhart Cycle
- Deming Cycle
- Rapid Cycle Improvement





The PDSA Cycle for Learning and Improvement



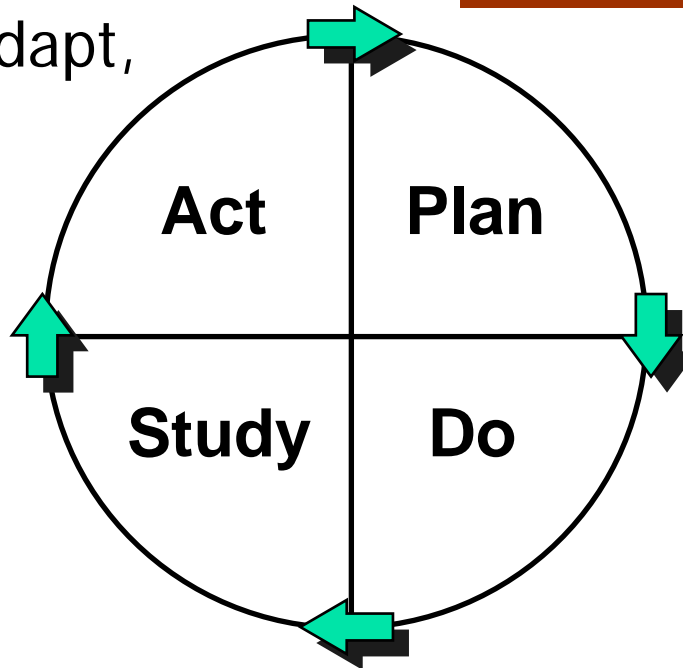
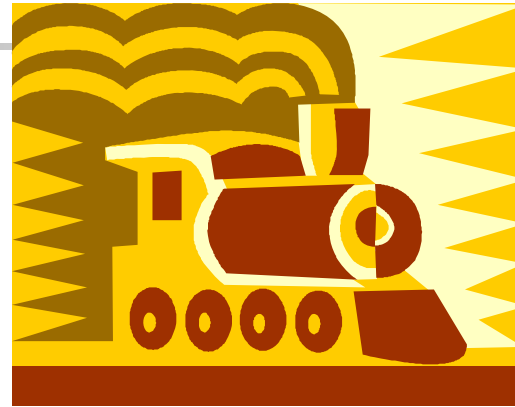


Question and Predict

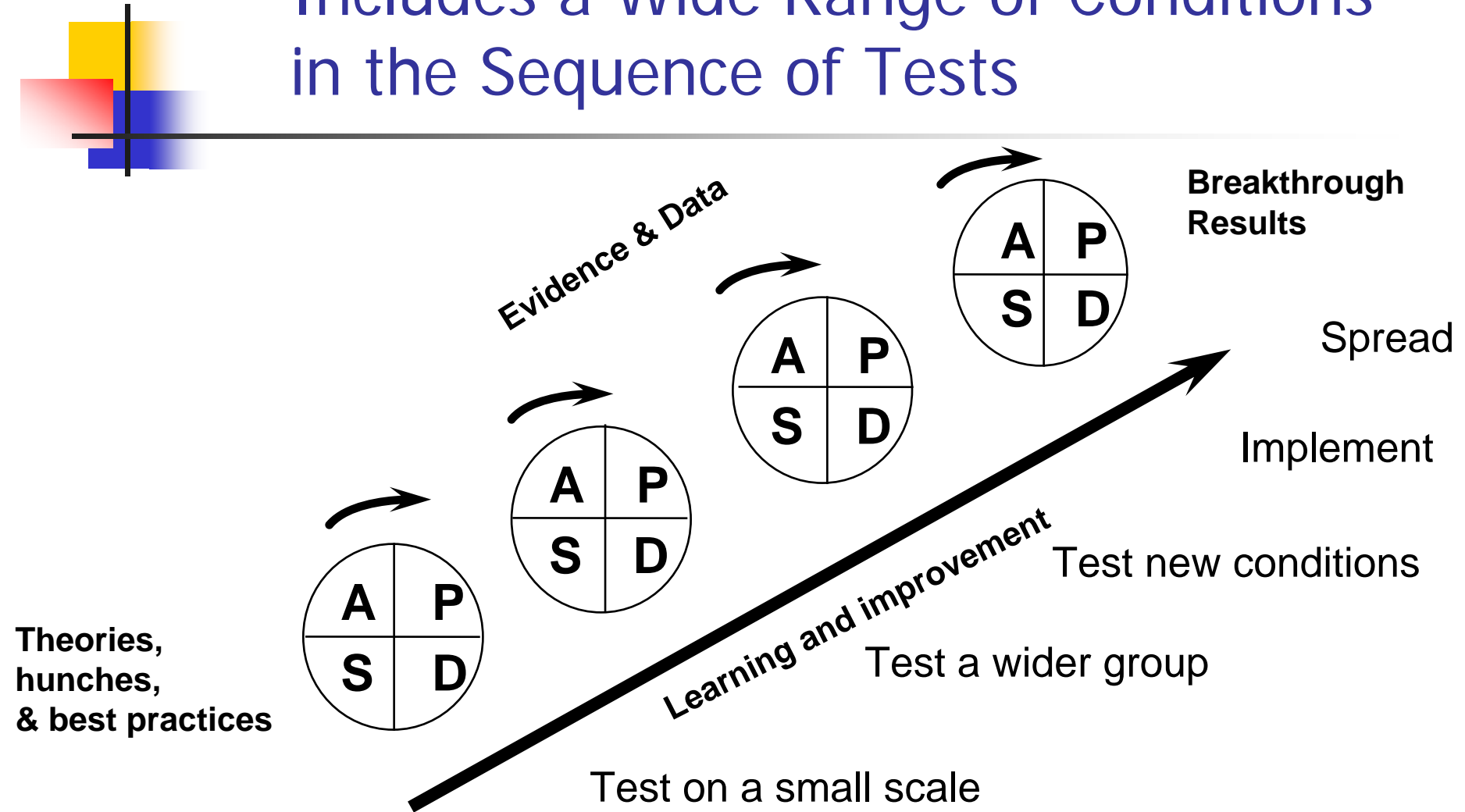
- A test of change answers a specific question
- A test of change requires a prediction

Shewhart Cycle: PDSA

- Plan** hunch, theory & predict
- Do** small scale
- Study** to learn
- Act** adopt, adapt, abandon



Sequential Building of Knowledge Includes a Wide Range of Conditions in the Sequence of Tests





What Can We Do Now!

By Next Week,
By Tuesday,
By Tomorrow



That won't harm a hair on the head of a patient?



Requirements for a PDSA Cycle:

- The test or observation was planned (including a plan for collecting data)
- The plan was attempted (do the plan)
- Time was set aside to analyze the data and study the results
- Action was rationally based on what was learned
- Results were compared to prediction



Why Test?

- Increase belief that the change will result in improvement
- Predict how much improvement can be expected from the change
- Learn how to adapt the change to conditions in the local environment
- Evaluate costs and side-effects of the change
- Minimize resistance upon implementation



3 Principles for Testing a Change

- Test on a small scale
- Collect data over time
- Build knowledge sequentially with multiple PDSA cycles for each change idea, include a wide range of conditions in the sequence of tests



Test on a Small Scale

- Have others with knowledge comment on feasibility
- Test the change on team members who develop it before introducing the change to others
- Incorporate redundancy in the test by making the change side-by-side with the existing system
- Conduct the test over a short time period



Test on a Small Scale (Cont.)

- Conduct the test with one member of your team, or with one patient
- Test the change on a small group of volunteers
- Develop a plan to simulate the change in some way



Test or task?

- Inservice education
- Make form
- Determining whether email or phone call works best with physician notification of problem
- Posting data
- Newsletter to physicians about project
- Team meeting

Tip 1: Decrease Scope



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

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

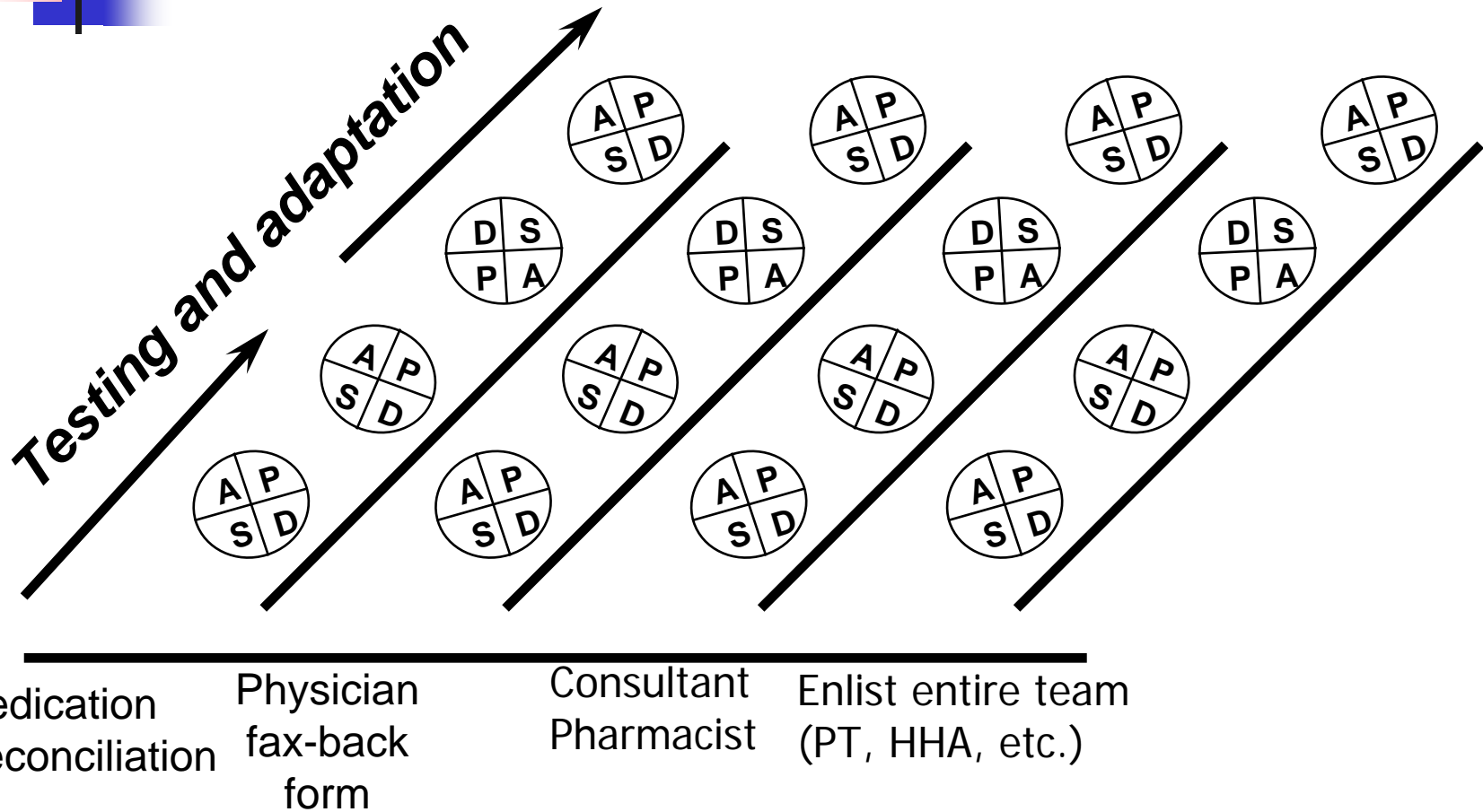




Tip 2: Test of Oneness

- 1 patient
- 1 day
- 1 admit
- 1 physician

Tip 3: Multiple PDSA Cycle Ramps





Plan One PDSA Cycle

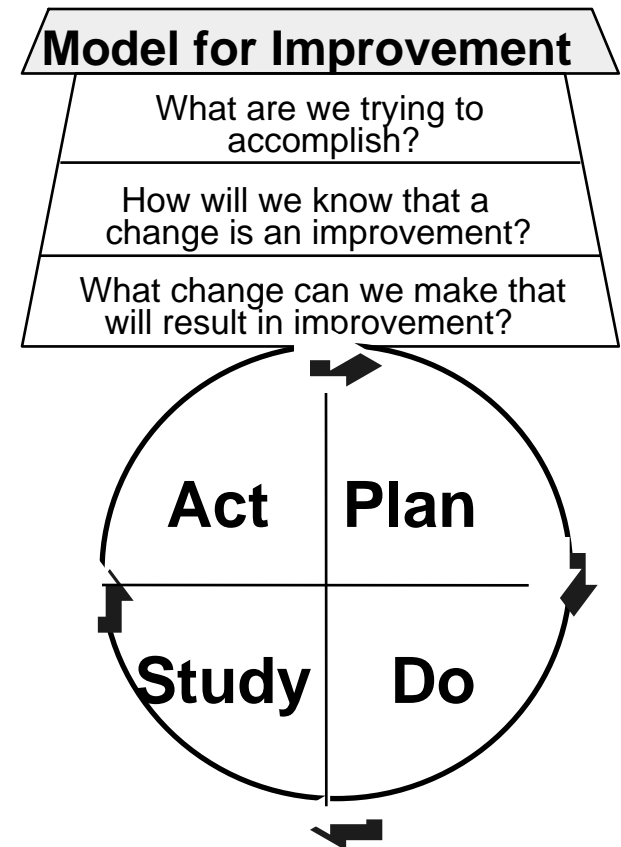
Select one change idea

Plan:

- What question are you trying to answer?
- What is your prediction?
- How will you carry out the test?
- How will you measure success?
- How will you analyze the data?

Fundamental Questions for Improvement

- What are we trying to accomplish?
 - *Team Aim Statement*
- How will we know that a change is an improvement?
 - *Measures*
- What changes can we make that will result in an improvement?
 - *Changes and change concepts*



References



- *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance.* G. Langley, K. Nolan, T. Nolan, C. Norman, L. Provost. Jossey-Bass Publishers., San Francisco, 1996.
- *Quality Improvement Through Planned Experimentation. 2nd edition.* R. Moen, T. Nolan, L. Provost, McGraw-Hill, NY, 1998.
- "Understanding Variation", *Quality Progress*, Vol. 13, No. 5, T. W. Nolan and L. P. Provost, May, 1990.
- "A Primer on Leading the Improvement of Systems," Don M. Berwick, *BMJ*, 312: pp 619-622, 1996.
- "Accelerating the Pace of Improvement - An Interview with Thomas Nolan," *Journal of Quality Improvement*, Volume 23, No. 4, The Joint Commission, April, 1997.