
Using the Model for Improvement to Achieve Results in Children's Healthcare

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After this session, participants will be able to:

- Apply rapid cycle improvement techniques to organization/practice efforts to improve clinical care
- Identify the characteristics of successful improvement teams and projects

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?**

The PDCA Cycle: 4 Steps: Plan, Do, Study, Act

Also known as:

- Shewhart Cycle
- Deming Cycle
- Learning and Improvement Cycle
- Continuous Scientific Method



Use the PDSA Cycle for

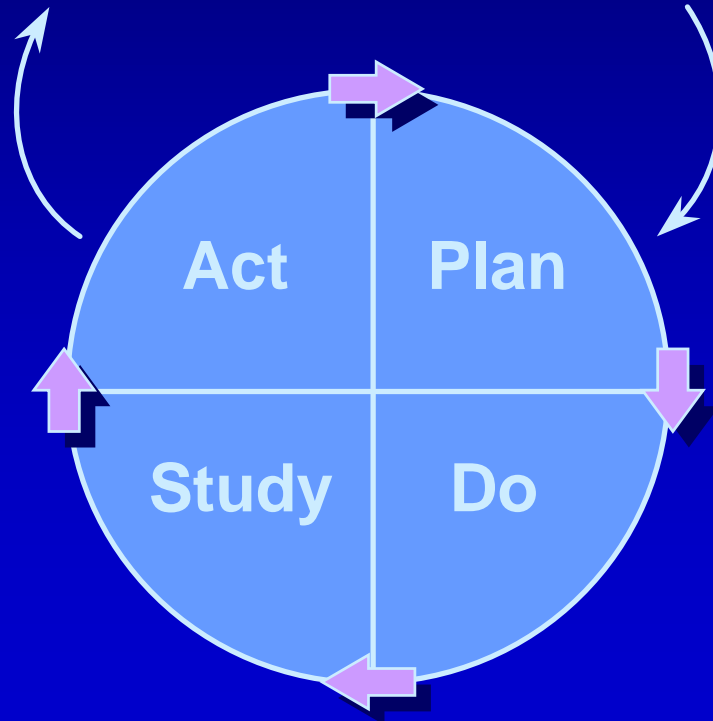
- **Helping to answer the first two questions of the Model**
- **Developing changes**
- **Testing changes**
- **Implementing changes**
- **Spreading changes**

Model for Improvement

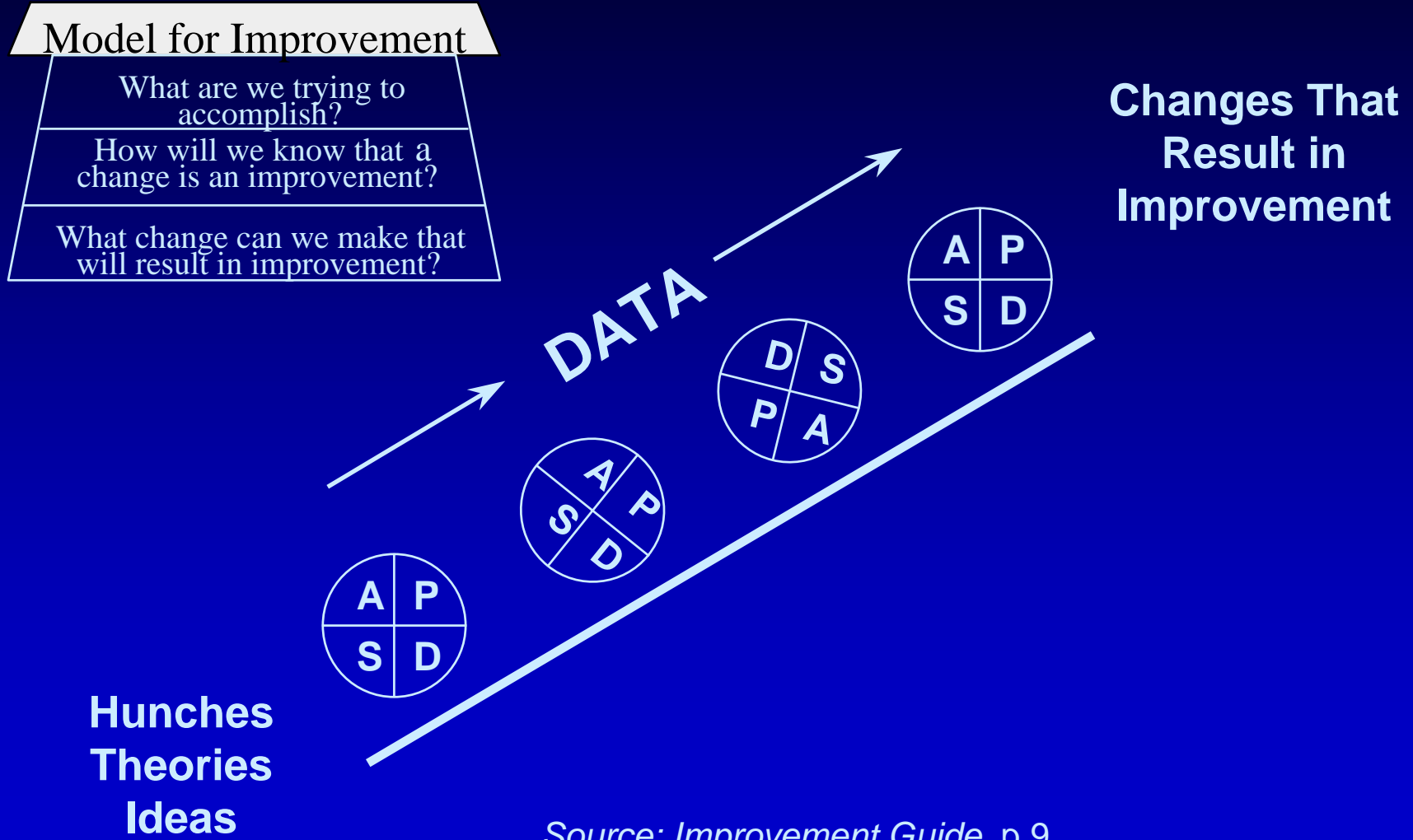
What are we trying to accomplish?

How will we know that a change is an improvement?

What change can we make that will result in improvement?



Repeated Use of the PDSA Cycle



Source: *Improvement Guide*, p 9

What Are We Trying to Accomplish?

Aim (also called Charter)

A written statement of the accomplishments expected from each pilot team's improvement effort.

Different formats are useful.

What Are We Trying to Accomplish?

An aim statement should include:

- **What is expected to happen**
- **The system to be improved**
- **The setting or sub-population of patients**
- **Goals**
- **Guidance for the activities such as strategies for the effort and limitations**

Example of Organization Aim Statement

The ABC Healthcare system will implement the Child Health Care Model for the care for its children diagnosed with ADHD. We will develop a registry of current patients and work closely with the ABC school district to manage our ADHD population. This work will result in:

- Greater than 95% of patients being treated for ADHD will have a structured diagnostic assessment documented in the medical record
- Greater than 90% of children being treated for ADHD will have a written treatment plan in their medical record
- Greater than 80% of children will have personal goals identified in their individual treatment plan
- Greater than 80% of the population will achieve improvement in targeted functional behaviors in school
- Greater than 70% of families will rate their provider and school care as very good or excellent

Model for Improvement

What are we trying to accomplish?

How will we know that a change is an improvement?

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How do we know that a Change is an Improvement?

Improvement efforts should focus on developing and making changes, not measurement. But measurement plays an important role:

- Key measures are required to assess progress on an improvement team's aim
- Specific measures are required for learning during PDSA cycles
- Balancing measures are needed to assess whether the system as a whole is being improved
- Data from the system (including from patients and staff) can be used to focus improvement and refine changes

Global Project Measures vs. PDSA Cycle Measures

Achieving
Aim

Global Project Measures:
Overall **results** related to the project aim
(outcome, process, and balancing measures)

Adapting
Changes
During
PDSA Cycles

PDSA Measures

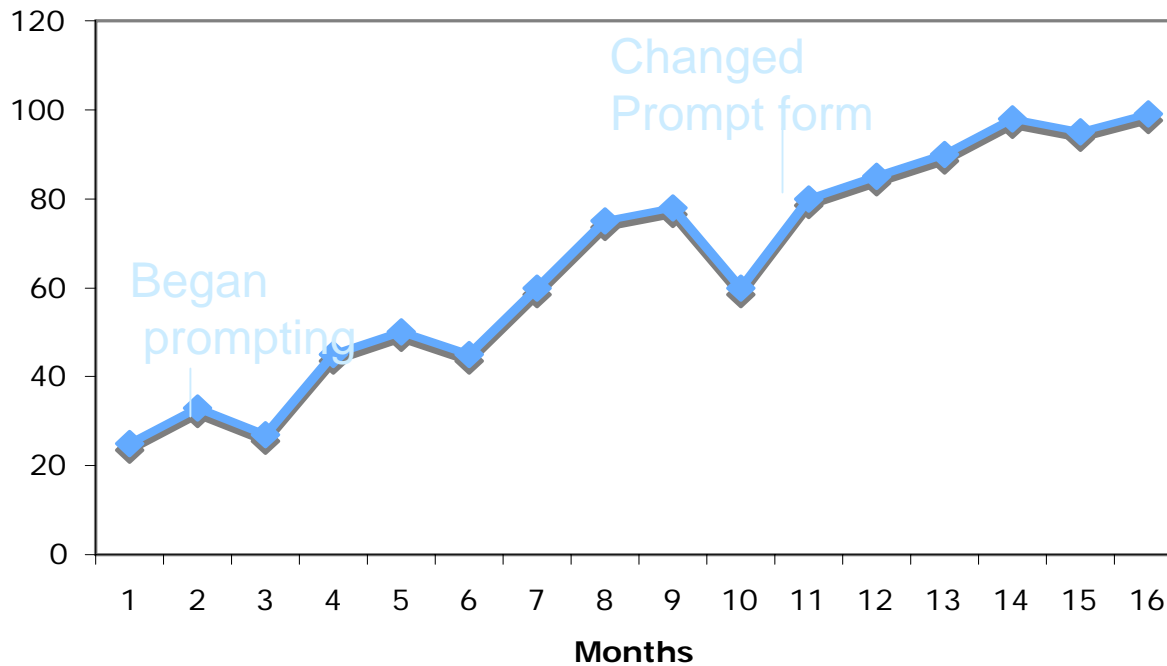
- Quantitative data on the impact of a particular change
- Qualitative data to help refine the change
- Subsets or stratification of project measures for particular patients or providers

Examples of Measures Appropriate for ADHD Improvement Projects

- Percent of children who maintain or improve functioning
- Percent of children who maintain or improve mean symptoms score
- Percent of patients being treated for ADHD with structured diagnostic assessment documented
- Percent of patients who have the risks and benefits of treatment options explained, and who select best choice appropriate for family needs and resources
- Percent of patients being treated for ADHD with written treatment plan in medical record
- Percent of children who have identified current goals on their individual treatment plan

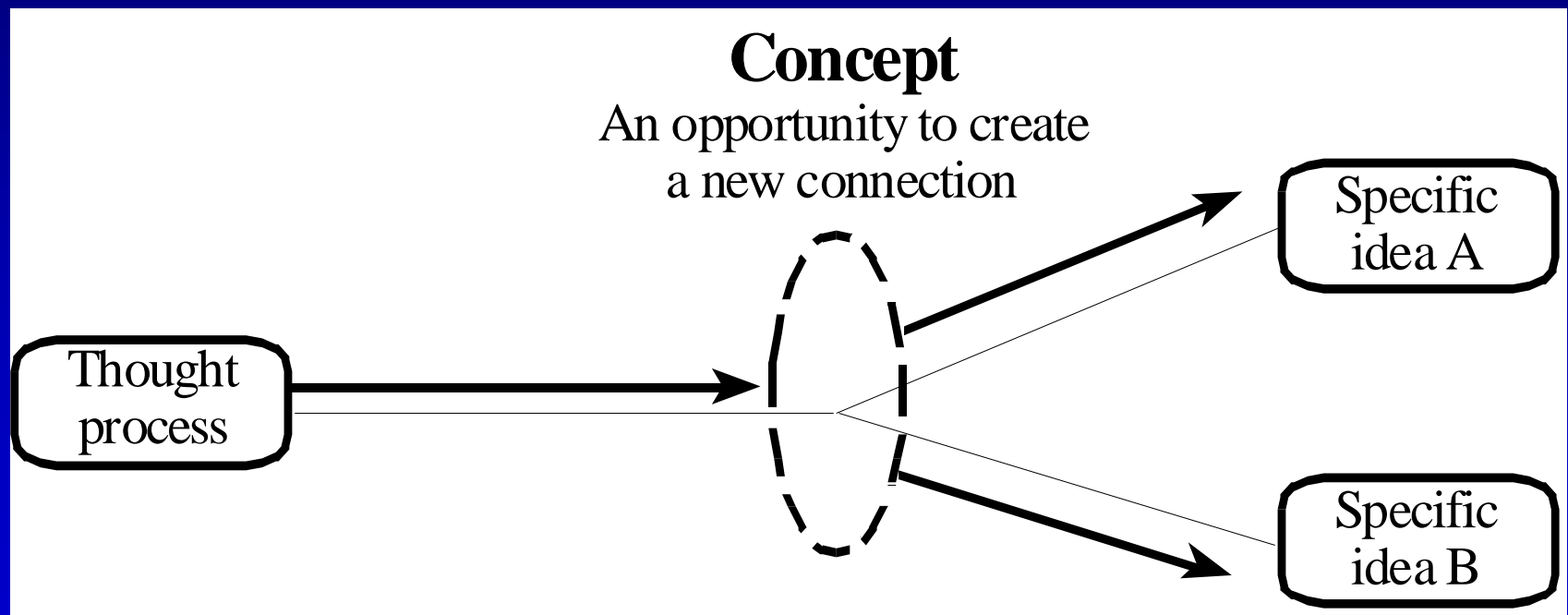
Sample Run Chart

Percentage children with BMI who are classified



What Change(s) Can We Make That Will Lead to Improvement?

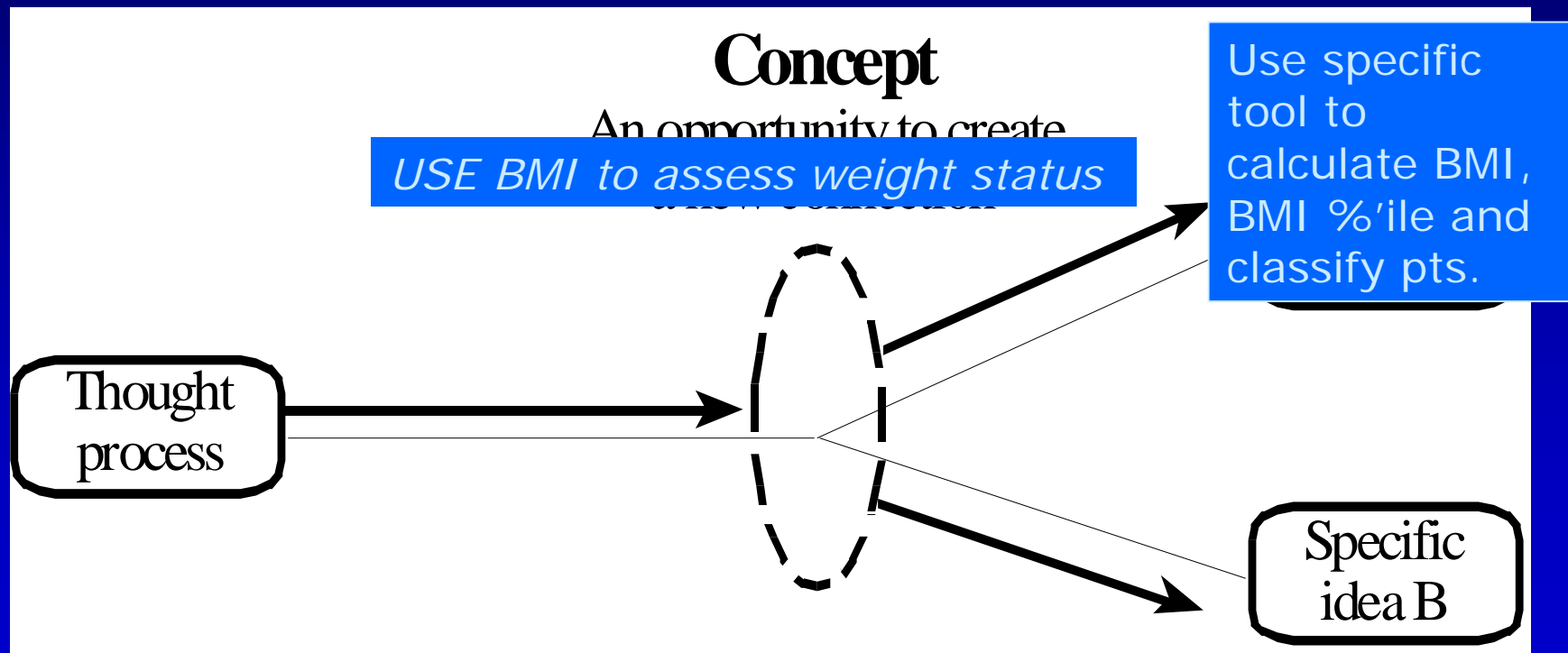
Change Concept: a general notion or approach to change that has been found to be useful in developing specific ideas for changes that lead to improvement.



Ideas: *What Changes Can We Make That Will Lead to*

Improvement?

Change Concept: A general notion or approach to change that has been found to be useful in developing specific ideas for changes that lead to improvement.

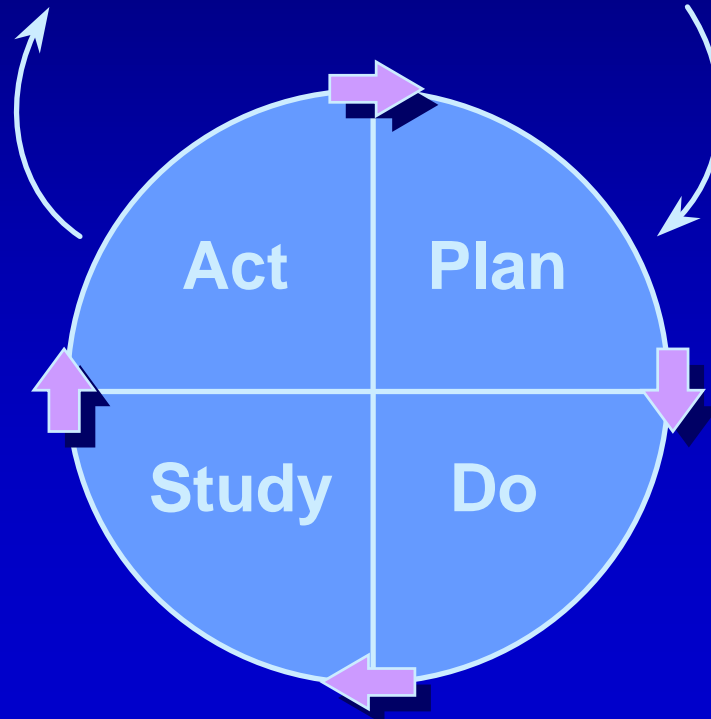


Model for Improvement

What are we trying to accomplish?

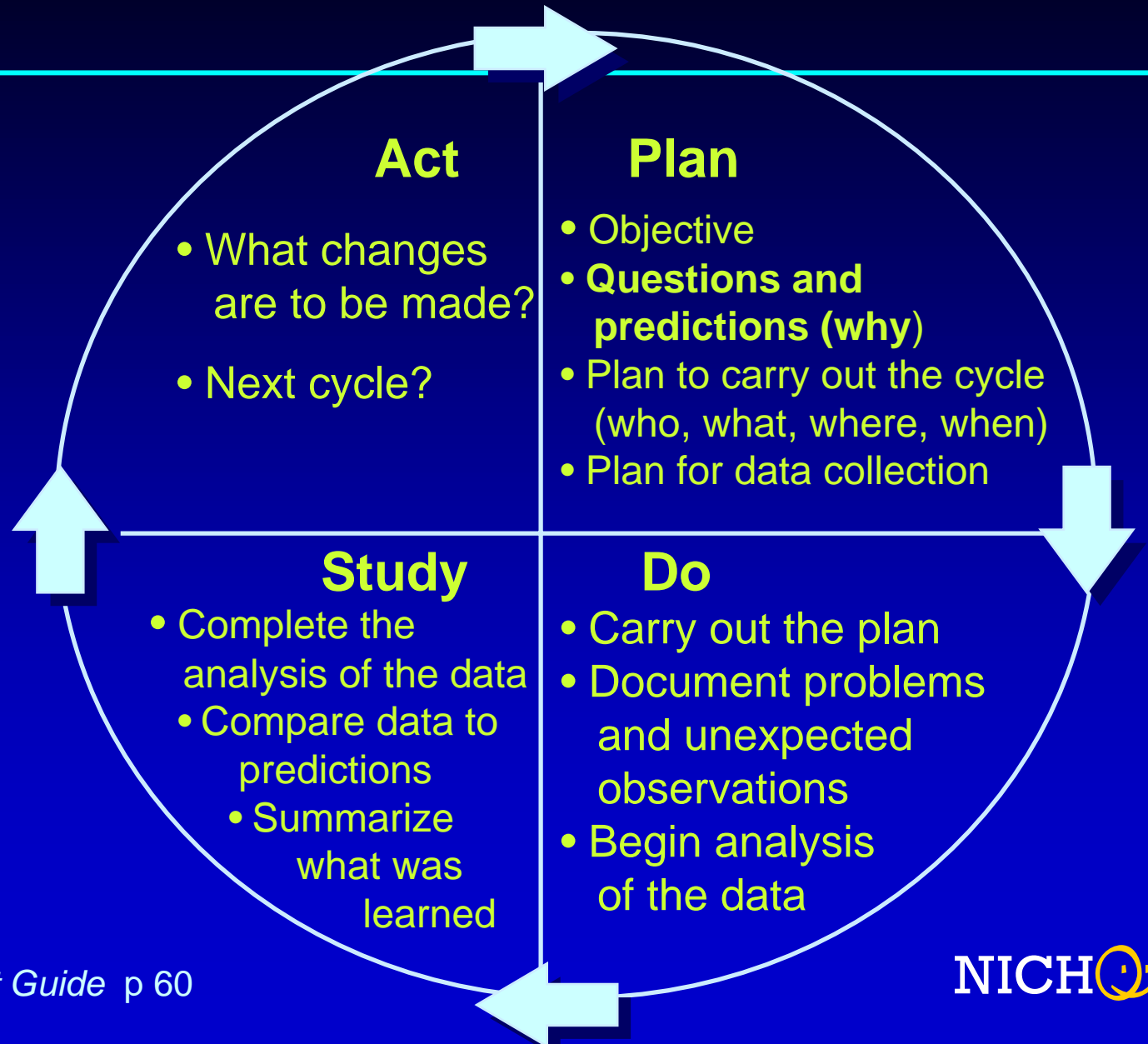
How will we know that a change is an improvement?

What change can we make that will result in improvement?



The PDSA Cycle for Learning and Improvement

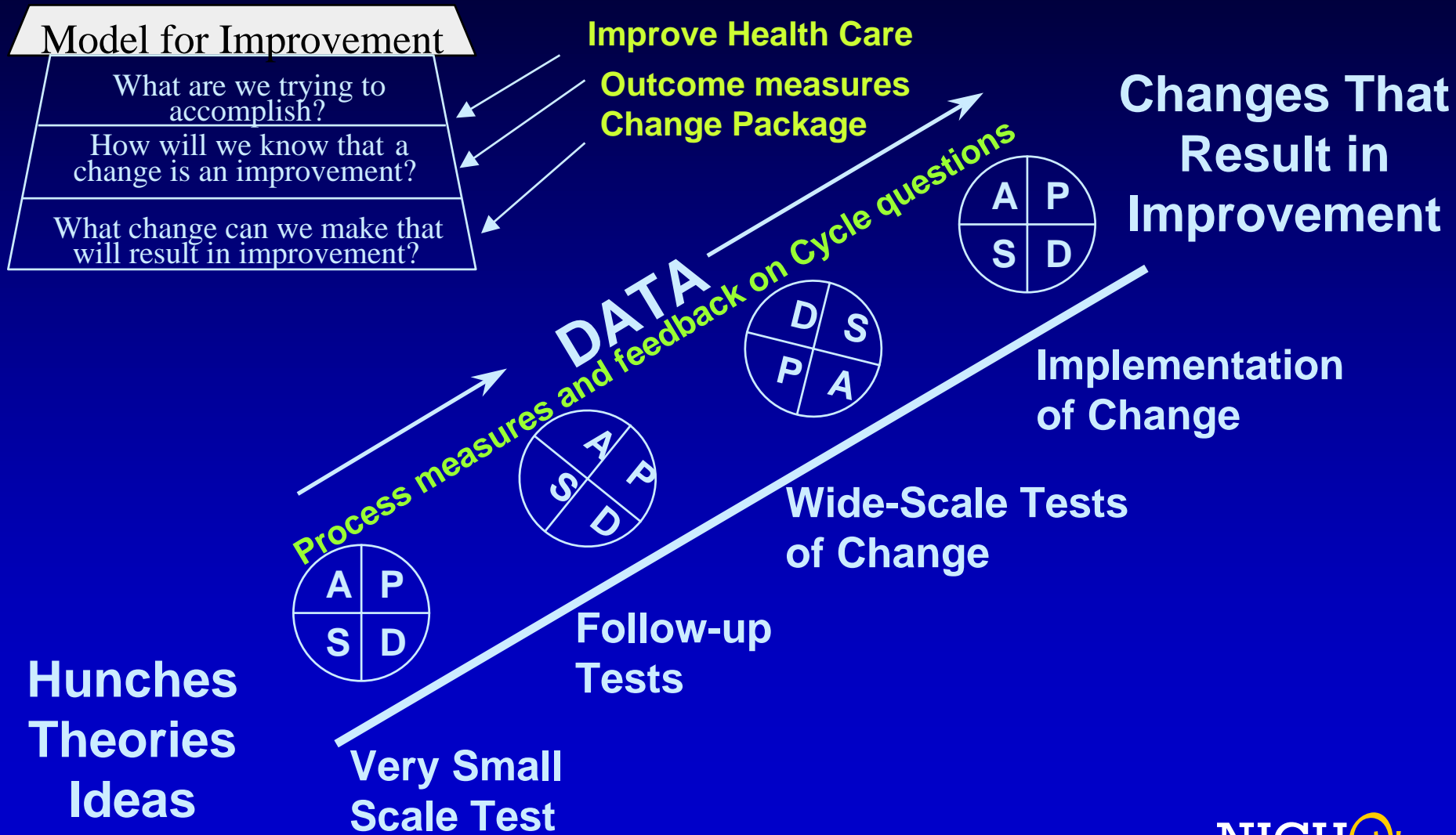
Small scale test
Series of tests
Wide-scale tests
Implementation
spread



To Be Considered 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.

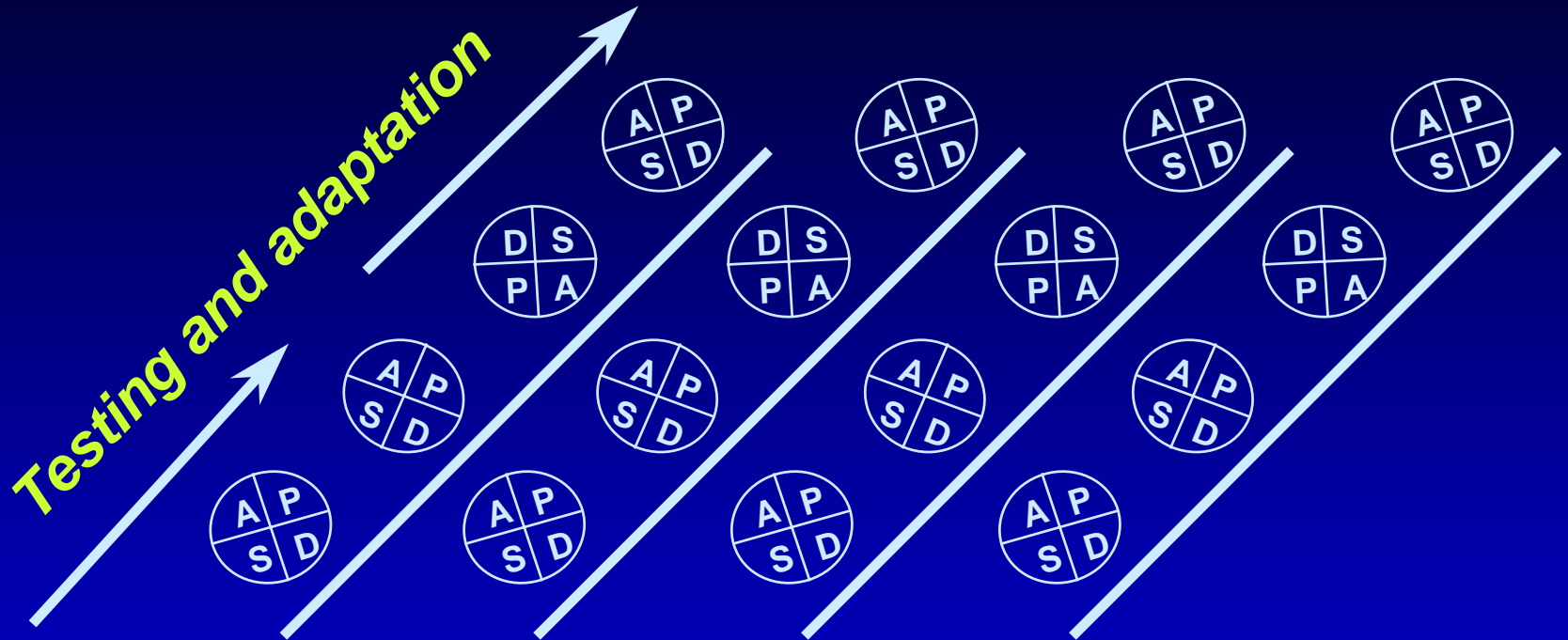
Repeated Use of the PDSA Cycle



Successful Cycles to Test Changes

- **Plan multiple cycles for a test of a change**
- **Think a couple of cycles ahead**
- **Initially, scale down size of test (# of patients, clinicians, locations)**
- **Test with volunteers**
- **Do not try to get buy-in or consensus for test cycles**
- **Be innovative to make test feasible**
- **Collect useful data during each test**
- **In latter cycles, test over a wide range of conditions**

Multiple PDSA Cycle Ramps



Delivery
Design

Self
Management

Decision
Support

Information
Management

Change Concepts

Strategies and Success Stories from Improvement Project Teams



National Initiative for Children's Healthcare Quality

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.
- **J Ovretveit, et al. *Quality collaboratives: lessons from research.*** Quality and Safety in Health Care, 2002.

Summary

Improvement Principles

Miss Frizzle (Magic School Bus):
"Take chances, make mistakes, get messy."



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