The Model for Improvement and PDSA in Action

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Learning Objectives

• Familiarize participants with the Model for Improvement (MFI)
• Discuss application of MFI in Public Health
• Practice use of the PDSA Cycle
• Strengthen the participants’ ability to problem solve using the PDSA Cycle
Who is Here?

How many of you looove Improvement?

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Who started the modern improvement movement?
In 1601, James Lancaster successfully conducted an experiment to illustrate the effectiveness of lemon juice to prevent scurvy. When did the British Navy adopt this treatment?

1. 1602
2. 1689
3. 1757
4. 1796

How long did the NIH take to recommend the treatment of ulcer as suggested by Marshall in his 1984 Lancet Article?

1. 2 years
2. 5 years
3. 10 years
4. 20 years
In an article in the Journal of Quality Improvement, 92 QI projects were compared. What was the timeframe from problem identification to completion of first pilot?

1. 23 days
2. 60 days
3. 397 days
4. 504 days

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National Quality Center TOT

How can we accelerate change that lead toward real improvements in Healthcare?
Many Improvement Methods!

- Six Sigma (DMAIC)
- Lean
- TJC - 10 Step
- TJC - PDMAI
- Turning Point
- ADDIE Model
- FOCUS PDCA
- Model For Improvement (MFI)

The PDSA Cycle

Act
- Adapt?
- Adopt?
- Abandon?
- Next cycle?

Plan
- Objective, questions & predictions (why)
- Plan to carry out the cycle (who, what, where, when)
- Next Cycle?

Study
- Complete the analysis of the data
- Compare data to predictions
- Summarize what was learned

Do
- Carry out the plan (on a small scale)
- Document problems and unexpected observations
- Begin analysis

W.E. Deming referred to this as the Shewhart Cycle
“Negative results on the fish… Let’s try rubbing two sticks together.”

The PDSA Cycle

Plan

Do

Study

Act

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Change Method

The Model for Improvement (MFI) is a method to help accelerate change … and increase the odds that the changes we make are an improvement.

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Model for Improvement* (MFI)

*Developed by the Associates in Process Improvement. Building on the work of W.E. Deming and Walter Shewhart.

Model For Improvement

3 Approaches
– Standardization
– Incremental Improvement
– Innovation

– W.E. Deming (attributed)

Robust in Scale
• Small QI
• Large QI
• And anywhere in between!

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?

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Model for Improvement

What are we trying to accomplish?

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What change can we make that will result in improvement?

Theory of Change Concept Map

Support
Working BF Mothers

Measurement

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Theory of Change Concept Map

- Support Working BF Mothers
- Percent of Organizations that have BF Support Policy Goal 50%
- Percent attend Training (goal?)
- Percent create structure to support BF (Goal 75%)

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?
Change

Improvement usually requires change.....

however not all change is an Improvement!

Where do we find Change Ideas?

- Team
- Change Packages
- Creativity Tools
- Literature
- QI Tools
- Other people

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Theory of Change Concept Map

Processes
Structure
Methods
Measurement Strategy

AIM

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Percent of Organizations that have BF Support Policy Goal 50%
Percent attend Training (goal?)
Percent create structure to support BF (Goal 75%)

Support Working BF Mothers

Policy Development Process
Education and Training
Building Will for BF
Structure: Pumping Room...

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and then ........

The PDSA Cycle for Learning and Improvement

Act
Adapt?
Adopt?
Abandon?
Next cycle?

Plan
Objective, 3 questions and predictions (why)
Plan to carry out the cycle (who, what, where, when)
Next cycle?

Study
Complete the analysis of the data
Compare data to predictions
Summarize what was learned

Do
Carry out the plan (on a small scale)
Document problems and unexpected observations
Begin analysis
Learning with the PDSA cycle

Hunches  Theories  Ideas

PDSA Measures

Changes That Result in Improvement

Process and Balancing Measures

Outcome Measures

Why Test?

• Increase your confidence that the change will result in improvement in your organization
• Learn to adapt the change to conditions in the local environment
• Minimize resistance when you move to implementation
This is different!
The Cycles Build on Each Other…

Changes That Result in Improvement

Implementation of change
Wide-scale tests of change
Follow-up tests
Very small scale test

Data

Hunches Theories Ideas

Hunches Theories Ideas

Changes That Result in Improvement

Very small scale test
Follow-up tests
Wide-scale tests of change
Implementation of change

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Side Bar

Test or Task

• Test:
  – Change in a process from way it has been done. (Hand washing process)
  – Change in a structure from way it has been done (sink for washing and hand sanitizer available)
• Task:
  – Getting sample Hand Sanitizer
  – Teaching how to use Sanitizer
• Test or Task:
  – Teaching?
• Different but not mutually exclusive
  – How are we teaching? And how might we teach more effectively?

Applying PDSA

• What is your work? What are your processes, structures, methods?
• Those are what you have control over (in large part) to change (by testing) to facilitate change in others environment.

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Our Work

My thoughts....

- Partnership
- Policy Development
- Building Will
- Education and Training
- Communication

You add...

This is different!
The Cycles Build on Each Other…

Hunches
Theories
Ideas

Changes That Result in Improvement

Implementation of change

Wide-scale tests of change

Follow-up tests

Very small scale test

Start Here
Given our work what processes, structures, methods might we change that will lead to improvement? (testing first)

- Partnership
- Policy development
- Building Will
  - Do walk around with Leader / Manager / Director and have them set up and wash up a breast pump in bathroom
- Communication
- Policy Development Meetings
  - Use QI tools in meetings to brainstorm with one leadership team ...how might we question? Or develop a process map of a mom pumping and barriers to pumping. Or identify policy barriers to Pumping using NGT.
Theory of Change Concept Map

- Policy Development Process
- Education and Training
- Building Will for BF
- Structure: Pumping Room

Support Working BF Mothers

Percent of Organizations that have BF Support Policy Goal 50%
Percent attend Training (goal?)
Percent create structure to support BF (Goal 75%)

PDSA Exercise

- Partnership
- Policy Development
- Building Will
  - Do walk around with Leader / Manager / Director and have them set up and wash up a breast pump in bathroom
- Communication
- Policy Development Meetings
  - Use QI tools in meetings to brainstorm with one leadership team ...how might we question? Or develop a process map of a mom pumping and barriers to pumping. Or identify policy barriers to Pumping using NGT.

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How Do Tests Lead to Improvements?

• You learn something from each test
• That knowledge gets incorporated into the next test
• Over time, as you build knowledge and expertise, you design a change that will (more likely 😊 ) result in improvement in your environment

PDSA STORY
Model for Improvement* (MFI)

*Developed by the Associates in Process Improvement. Building on the work of W.E. Deming and Walter Shewhart
Both

Good changes and a robust model for improvement (one that incorporates learning and action) are both needed to help accelerate change and increase the odds that the changes we make are an improvement.

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What questions do you have?

• I have one for you …
  -- Do you have any ideas for a next cycle..?
Experiential learning

- **Work in groups of 8**
  - 7 people represent key steps in the process (development of a policy?)
  - Aim Measures: time and error free
  - 1 person is the quality officer and data collector
    - Need experience
Experiential Learning

- **Organization**
  - 7 form a circle representing the steps in the process
  - 1 stand aside and observes/records data
    - Quality Officer
- **Equipment**
  - Tennis ball (orange)
  - Stop watch or watch with second hand or digital seconds to measures time

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Process

- One person throws the ball to the person across from him/her in the circle.
- Remember to whom you threw it.
- The receiver throws it to another person, again remembering to whom it is thrown.
- The last person passes it to the start person.

- **Rules**
  - Start and stop with same person
  - Maintain the same sequence
  - Don’t drop the ball

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Process

The quality officer:
1. Records time from beginning to end
2. Enforces all rules
   • Start and stop wrong person
     – Start over
   • Sequence violated
     – start over
   • Ball dropped
     – start over
3. Judgment Call
   • Execution done incorrectly in any other manner
     – start over

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No where good enough!
Need to cut the time in half!

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St. Elsewhere does it better!

Debrief our experience
Teams and Goals

3 Approaches

• **Improvement**
  – Standardization
  – Incremental Improvement
  – Innovation
Repeated Use of the PDSA Cycle and PDSA Measures

Changes That Result in Improvement

Process and Balancing Measures

Repeated Use of the PDSA Cycle and PDSA Measures

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PDSA TIPS......
PDSA TIP....

START WITH THE WILLING!

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Volunteers at first; move to others

PDSA TIP....

RULE OF 1!

- 1 facility
- 1 office
- 1 provider
- 1 patient
PDSA TIP....

JUST START!

Appropriate Scope for next PDSA Cycle
(concept developed by Lloyd Provost)

<table>
<thead>
<tr>
<th>Staff Readiness to Make Change</th>
<th>Resistant</th>
<th>Indifferent</th>
<th>Ready</th>
</tr>
</thead>
</table>
| **Low Confidence**
that current change idea will lead to improvement |
| Cost of failure **large** | Very Small Scale Test | Very Small Scale Test | Very Small Scale Test |
| Cost of failure **small** | Very Small Scale Test | Very Small Scale Test | Small Scale Test |
| **High Confidence**
that current change idea will lead to improvement |
| Cost of failure **large** | Very Small Scale Test | Small Scale Test | Large Scale Test |
| Cost of failure **small** | Small Scale Test | Large Scale Test | Implement |
Useful, not perfect, data

**PDSA TIP....**

**MEASURE**

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Repeated Use of the PDSA Cycle and PDSA Measures: Often qualitative

Changes That Result in Improvement

Process and Balancing Measures

Hunches  
Theories  
Ideas

Outcome Measures

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Shepherd your PDSA's with Prediction and scope

PDSA TIP....

KEEP ON KEEPIN’ ON

Robust Testing

1. Early tests are simple and designed to learn then succeed

2. Then test over a variety of conditions to understand scalability and identify weaknesses

3. Later tests are designed to predict and prevent failures

4. Implementation testing
Team Work Session:

• Opportunity for you all to do some “real work” on your project.
• Ideas for Agenda
  – Concept Map
  – List of Tasks “To Do”
  – List of Change Ideas
  – PDSA development (plan) for one of the change ideas you listed
    • What can you do by next Tuesday?

• Forms to help:
  – Blank Concept Map
  – PDSA Form

• Advice and Direction:
  – Staff and Faculty will be circulating around the room. Raise your hand if questions or advice needed.
### MODEL FOR IMPROVEMENT
**PDSA Planning Worksheet**

<table>
<thead>
<tr>
<th>Plan Name</th>
<th>Cycle start date</th>
<th>Cycle end date</th>
</tr>
</thead>
</table>

**PLAN:**
Describe the change you are testing and state the question you want this test to answer:

What do you predict the result will be?

What measure will you use to learn if this test is successful or has promise?

Plan for change or test: who, what, when, where

Data collection plan: who, what, when, where

**DO:** Report what happened after you carried out the test. Describe observations, findings, problems encountered, special circumstances.

**STUDY:** Compare results from this completed test to your predictions. What did you learn? Any surprises?

**ACT:** Modifications or refinements for the next cycle; what will you do next?

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**PDSA TIPS:**

- Start with the Willing!
- Rule of 1!
- Just Start (Low Fat Mayo)
- Measure
- Keep on Keepin’ on!
- Use PDSA Form
How small is small?