Basics of the Model for Improvement

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Our first question

What is your level of experience/knowledge with the Model for Improvement—three core questions and the PDSA cycle? (see next slide for guidance on the levels)

1. No Knowledge
2. Knowledge
3. Basic Application
4. Analysis & Application
5. Highly Experienced
6. Expert
# Self-assessment Scale

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
<th>Details</th>
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<tbody>
<tr>
<td>1 – No Knowledge</td>
<td>“I cannot tell you what this skill, tool or method is.”</td>
<td></td>
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<tr>
<td>2 – Knowledge</td>
<td>“I can tell you what this skill, tool or method is and give you facts about it.”</td>
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<tr>
<td>3 – Basic Application</td>
<td>“I can tell you what this skill, tool or method is and give a defined situation; I can apply it with assistance.”</td>
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<td>4 – Analysis &amp; Application</td>
<td>“I have knowledge of the skill, tool or method and I can analyze a situation and determine if it is needed and then independently and accurately apply it.”</td>
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<td>5 – Highly Experienced</td>
<td>“I have knowledge of this skill, tool or method and I have a high degree of experience correctly applying and adapting it in various situations and I can explain my decisions for doing so.”</td>
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<tr>
<td>6 – Expert</td>
<td>“I have knowledge of this skill, tool or method and I have a high degree of experience correctly applying and adapting it and I can teach others the theory behind it and coach them in its use.”</td>
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Preparation

- Self score: 1 or 2, read the slides that follow.
- Self score: 3 or more, dig out your favorite PDSA template and bring to the seminar.
- Self score: 5 or 6, we may ask your help to work with colleagues during the seminar session.
Model for Improvement in 10 minutes
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?

Three questions and a test cycle: The Model for Improvement is a general method to help you to improve through iterative learning.
Basic components of each test step

**Act**
- What changes are to be made?
- Next cycle?

**Plan**
- Set Objective (why)
- State Questions and predictions
- Plan to carry out the cycle (who, what, where, when, how)
- Plan for data collection

**Do**
- Carry out the plan
- Document problems and unexpected observations
- Begin analysis of the data

**Study**
- Complete the analysis of the data
- Compare data to predictions
  - Summarize what was learned
To Be Considered a PDSA Cycle…

- The test or observation was planned—包括一个计划收集数据的计划和一个预测结果的预测。
- 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.
Why Test?

• Increase your belief that change(s) will work
• Predict expected improvement
• Learn how to adapt to the local environment
• Evaluate costs and side effects
• Minimize resistance upon implementation
Why Predict?

• Prediction enhances learning*
• Prediction forces the use of test cycle measures
• Prediction adds fun to your improvement work

*Discrete Coding of Reward Probability and Uncertainty by Dopamine Neurons
Three Principles for Testing a Change

1. Test initially on a small scale
2. Collect data over time
3. Build knowledge sequentially
What’s small?

- **In terms of your work:**
  - Test your change on **ONE UNIT** (one graphical display, one instance of one report. Clinical applications: one patient interaction, one care round, one shift hand-off, one leadership round, ….)

- **In terms of time:**
  - What can you learn in one day, one morning, one hour, five minutes? (shorter the better)
Two Paths Branch at Act Step

Does your prediction of improvement match the results?

a) If YES, expand your test:
   - **scale**: keep the same conditions, just do more units
   - **scope**: change the conditions
   - **scale and scope**: increase units, change the conditions

b) If NO, what data do you have to distinguish two cases:
   1. did your **method** of testing the change fail?
   2. is the **change** itself, as designed, not effective?
Prediction of Improvement Matches Actual Results

- **Scale up: rule of 5**
  - EXAMPLE
    - ✓ If you start with 1 measure or 1 report instance, go to 5

- **Scope change: change the conditions**
  - EXAMPLE
    - ✓ If you start testing with clinical data, go to financial data
    - ✓ If you work with one administrative area, choose another
Repeated Use of the PDSA Cycle

Changes That Result in Improvement:
After cycles have demonstrated that the change CAN work, use more cycles to help you figure out how the change WILL work, every day.

Investigation → Demonstration → Implementation
Repeated Use of the Cycle

To hold the gain, you need a process management system that defines standard work, reviews performance and acts to enable staff to use the standard work.

Changes That Result in Improvement:

After cycles have demonstrated that the change CAN work, use more cycles to help you figure out how the change WILL work, every day.

Incorporate changes into standardized work

Hunches Theories Ideas

Investigation → Demonstration → Implementation
Prep for PDSA planning during the seminar Session

- Track ideas that can improve the way measures and reports are used in your system
- PDSA planning time built in to our agenda after lunch
To learn more

- 4.5 minute Video talk featuring sperm/egg analog to Model for Improvement, http://www.showme.com/sh/?h=0g13wky
- IHI On Demand Course: An Introduction to the Model for Improvement (57 minute slide talk) http://www.ihi.org/education/webtraining/ondemand/improvementmodelintro/Pages/default.aspx
- IHI Q102 Open School Module: "Model for Improvement" detail and exercises (3 hours) www.IHI.org/QualitySkills
More Reading if you are interested

- Using Lean? Take a look at our 2014 white paper comparing Lean and the IHI-QI approach: [www.ihi.org/resources/Pages/IHIWhitePapers/ComparingLeanandQualityImprovement.aspx](http://www.ihi.org/resources/Pages/IHIWhitePapers/ComparingLeanandQualityImprovement.aspx)