An Introduction to Quality Improvement

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Objectives

1. Describe the components included in the Model for Improvement
2. Describe how to apply the Plan, Do, Study, Act (PDSA) cycle to test, implement, and spread change

Quality Improvement vs. Quality Assurance

<table>
<thead>
<tr>
<th>Quality Improvement</th>
<th>Quality Assurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systems focused</td>
<td>Relies on Inspection</td>
</tr>
<tr>
<td>Uses proactive approach</td>
<td>Uses retrospective approach</td>
</tr>
<tr>
<td>Fallibility Recognized</td>
<td>Perfection Myth</td>
</tr>
<tr>
<td>Teamwork</td>
<td>Solo practitioner</td>
</tr>
<tr>
<td>Errors seen as opportunities for learning</td>
<td>Errors punished</td>
</tr>
</tbody>
</table>

"How can we provide better services?"  "Do we provide good services?"

Ward, D (2014) QA vs QI NMPI Roundtable discussion
Central Law of Improvement

"Every system is perfectly designed to get the results it gets."
Paul Batalden, MD

Approaches

The Typical Approach:
- Design
- Design
- Design
- Design
- Approved
- Implement

Applied Science Approach:
- Design
- Test & Modify
- Test & Modify
- Test & Modify
- Approved
- Implement
“This model is not magic, but it is probably the most useful single framework I have encountered in twenty years of my own work on quality improvement.”

Dr Donald M. Berwick
Former Administrator of the Centers for Medicare & Medicaid Services | Professor of Pediatrics and Health Care Policy at the Harvard Medical School

The Model for Improvement

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

What are we trying to accomplish?

SMART Goal

<table>
<thead>
<tr>
<th>S</th>
<th>M</th>
<th>A</th>
<th>R</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific</td>
<td>Measurable</td>
<td>Achievable</td>
<td>Relevant</td>
<td>Time-Based</td>
</tr>
</tbody>
</table>

What exactly is it you want to achieve?

How can you measure and track the progress of the goal?

Is it actually achievable in the given time frame?

Is it something that you really want to do? If it's not, why?

When do you want to achieve this goal by?
Aim Statement Review

• June 2018 through July 2019, teams participating in the NYS AQIC will utilize the “National Asthma Education and Prevention Program Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma” (2007) to improve the diagnosis, management and outcomes for children with asthma. Teams will:
  • Reduce the average number of hospitalizations for asthma patients in the previous 6 months by 20%
  • Improve the percent of asthma patients classified as “well controlled” by 40%
A Model for Learning and Change

What are we trying to accomplish?

How will we know a change is an improvement?

What changes can we make that will result in improvement?

Model for Improvement

Plan

Act

Study

Do

The Improvement Guide, API, 2009

How Do We Know That a Change is an Improvement?

- Quality Improvement is about changing and improving care provided to patients
  - It is not about measurement.
  - However …..

Measurement Assumptions

- LEARNING not judgement
- LIMITATIONS do not negate value
- FREQUENCY matters
- VOICE of the systems
- STORY of your work
<table>
<thead>
<tr>
<th>Aspect</th>
<th>Improvement</th>
<th>Accountability</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aim</td>
<td>Improve care</td>
<td>Compare, measure, spur change</td>
<td>New knowledge</td>
</tr>
<tr>
<td>Methods</td>
<td>Test Observable</td>
<td>N/A. Evaluate current performance</td>
<td>Yes. blind or controlled</td>
</tr>
<tr>
<td>Data</td>
<td>Accept stable bias</td>
<td>Adjust data to reduce bias</td>
<td>Design to eliminate</td>
</tr>
<tr>
<td>Sample Size</td>
<td>Just enough data, small sequential samples</td>
<td>N/A. Report 100%</td>
<td>Just in case data</td>
</tr>
<tr>
<td>Hypothesis Flex</td>
<td>Yes. Revised as learn and test</td>
<td>No hypothesis</td>
<td>Fixed hypothesis</td>
</tr>
<tr>
<td>How to determine improvement</td>
<td>Run or Shewhart charts</td>
<td>No focus on change</td>
<td>Hypothesis, Statistical tests: F-test, t-test, chi square, p value</td>
</tr>
<tr>
<td>Testing Strategy</td>
<td>Small sequential tests</td>
<td>No tests</td>
<td>1 large test</td>
</tr>
<tr>
<td>Data confidential</td>
<td>Data used only by those involved in improvement</td>
<td>No subjects. Data is for public</td>
<td>Subjects protected</td>
</tr>
</tbody>
</table>

Measures
- Outcome
- Process
- Balancing

A Closer Look
**PROCESS MEASURES**
- Data collection may be time limited
- Are within your control
- Are linked to your ideas (changes)
- Are a means to the ends – not the ends

**OUTCOME MEASURES**
- Are patient focused
- Reflect how care is experienced differently by a family
- Sometimes take time to "move the marker"
- Are in your aim!
Using your Data

• Once you have collected data it is important to show it off!
• How you graph your data has a major impact on what you can do with it.

Run Charts

Run charts are graphs of data over time and are one of the single most important tools in performance improvement.
Key Elements of Data Collection

• Research and Quality Improvement data are different
• If you aren’t using it don’t collect it
• Look at your data often – use it to make decisions
• Give data back to those who give it to you

“You can’t fatten a cow by weighing it”
Palestinian Proverb

What changes can we make?
A Model for Learning and Change

Model for Improvement
- What are we trying to accomplish?
- How will we know a change is an improvement?
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PDSA CYCLES

But there is more than one way to...
- Bake a cake
- Make a bed
- Drive to work
Planning for change: PDSA cycles

• SMALL (VERY SMALL) tests of change
• 1 provider, 1 nurse, 1 patient, 1 intervention
• Over and over (and over) again – same scenarios, different scenarios
• Reflect on each one – adapt / adopt, real time change

Use of the PDSA Cycle

Changes That Result in Improvement

Propose, Test, Learn

PDSA's will grow each time
Common Hang Ups

- Starting too big
- Decision by committee
- Implementing too quickly
- Decisions without data
- Spreading too quickly
- Tasking not testing
- Talking not doing

Resources

- IHI - http://www.ihi.org/education/IHIOpenSchool/resources/_layouts/ihi/pages/videos/ViewAl.aspx?tc=14896aaa-7504-4ba1-88f6-647b6a096de9&tcOp=Or&ttl=Improvement+Capability&TargetWebPath=/education/ihiopenschool/resources&sort=ModifiedDate%7CDescending&xchildtags=1
- Books: