Rapid Cycle Quality Improvement (RCQI): What Do HRSA Project Officers and Staff Need to Know?

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Key Elements of **Quality**

- **Will** to do what it takes to change to a new/improved system
- **Ideas** on which to base the design of the new/improved system
- **Execution** of the ideas (know-how)
Have You Heard of...

- Total Quality Management
- Continuous Quality Improvement
- Six Sigma DMAIC
- Lean
- The Model for Improvement
- Others?
A Horse of A Different Color
System of Profound Knowledge

• Appreciation for a System
  – view its organization in terms of many internal and external interrelated connections and interactions,
  – Not discrete and independent departments or processes governed by various chains of command.

When all the connections and interactions are working together to accomplish a shared aim, a business can achieve tremendous.

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System of Profound Knowledge

- Psychology
- Theory of Knowledge
- Theory of Variation
- Appreciation for a system
SETTING THE CONTEXT

RCQI APPLIED BY GRANTEES
OVERSEEN BY PROJECT OFFICERS
Quality Improvement vs. Quality Assurance

- Systems focused
- Fallibility Recognized
- Teamwork
- Errors seen as opportunities for learning

- Individual Focused
- Perfection Myth
- Solo practitioner
- Errors punished
“Every system is perfectly designed to get the results it gets”

~Paul Bataldin
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?

Aim

Measures/Need

Changes/Strategies

Act

Plan

Study

Do
What are we trying to accomplish?

- Aim statement:
  - What?
  - For whom?
  - By when?
  - How much?
Aim Statement

- What will you do
- How much will you improve
- For Who
- By When

Smart Goal

Create S.M.A.R.T. Goals

- Specific
- Measureable
- Achievable
- Realistic
- Timely
Establish Clear Definitions

• Define the **Who**
  o Exactly who will this work impact

• Define the **What**
  o What do these terms mean specifically for your work

• Ask “**How** might somebody be confused by this statement?”
Example – Advanced Nursing Edu.

By June 2016, XYZ University will ensure that 100% of clinical preceptors are prepared to facilitate a positive clinical experience for students. All preceptors will undergo an annual clinical competency evaluation and will score at least 90% competency in four domains:

- Student evaluation
- Goal setting
- Teaching strategies
- Demonstration of organized knowledge
Example – Geriatric Workforce

By June 2017. Improve primary care engagement in the early identification of Alzheimer’s disease and related dementias (ADRD) so that:

– At least 90% of patients 75 years of age or older are assessed for ADRD at least once per year
– 90% or more of those identified with ADRD have education provided directly to the primary caregiver
The Aim – A Simple and Powerful Tool
Questions?
How Will we Know if a Change is an Improvement?
How Do We Know That a Change is an Improvement?

• Quality Improvement is about changing and improving care provided

• It is not about measurement.

• However ......
Measurement Assumptions

• The purpose of measurement in QI is for **learning** not judgment

• All measures have limitations, but the limitations do not negate their value

• Measures are **one** voice of the system. Hearing the voice of the system gives us information on how to act within the system

• Measures tell a story; goals give a reference point
## Performance Measurement in 3 Worlds

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Improvement</th>
<th>Accountability</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aim</strong></td>
<td>Improve care</td>
<td>Compare, reassure, spur change</td>
<td>New knowledge</td>
</tr>
<tr>
<td><strong>Methods</strong></td>
<td><strong>Test Observable</strong></td>
<td>N/A. Evaluate current performance</td>
<td>Test blind or controlled</td>
</tr>
<tr>
<td><strong>Bias</strong></td>
<td>Accept stable bias</td>
<td>Adjust data to reduce bias</td>
<td>Design to eliminate</td>
</tr>
<tr>
<td><strong>Sample Size</strong></td>
<td>Just enough data, small sequential samples</td>
<td>N/A. Report 100%</td>
<td>Just in case data</td>
</tr>
<tr>
<td><strong>Hypothesis Flexible</strong></td>
<td>Yes. Revised as learn and test</td>
<td>No hypothesis</td>
<td>Fixed hypothesis</td>
</tr>
<tr>
<td><strong>How to determine improvement</strong></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><strong>Testing Strategy</strong></td>
<td>Small sequential tests</td>
<td>No tests</td>
<td>1 large test</td>
</tr>
<tr>
<td><strong>Data confidential</strong></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>
Types of Measures

- Outcome Measures
- Process Measures
- Balancing Measures
- Activity Measures
A Closer Look

**Process Measures**
- Data collection may be time limited
- Are within our control
- Are linked to your ideas (changes)
- Are a means to the ends – not the ends

**Outcome Measures**
- Are patient/family focused
- Reflect how care is experienced differently by a patient/family
- Sometimes take time to “move the marker”
- Are in your aim!
Measurement Guidelines

• Need a balanced set of measures to assure that the system is improved.

• These measures should reflect your aim statement & make it specific

• Measures are used to guide improvement and test changes

• Integrate measurement into daily routine
“You can’t fatten a cow by weighing it”
Palestinian Proverb
Example Measures

**Process**
- # students trained
- # who graduate during each reporting period
- # of clinical sites
- # training programs

**Outcome**
- # of graduates who pursue careers in general, pediatric, or public health dentistry or dental hygiene
- Quality of care provided by graduates
- Cost of care provided by trainees & faculty
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.
How we display our data influences how we use our data.
Aggregate vs. Time Ordered Statistics

Decreased mortality was not due to the new protocol, which may have had a negative effect.

2013 Avg. = 5%

Intervention begins in January

2014 Avg. = 4%

Median = 4.5
Was the improvement due to the intervention?

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Display of Data in a Run Chart

- Graphical display of data
- Simple to make, use and interpret
- Data is plotted in some order
  - often time order
- Lets you
  - Communicate and understand variation
  - Displays key measures over time to make progress visible
  - Determine if changes made are an improvement
  - Illustrates if gains held
Determine if you are improving
Determine if you are holding the gains
Identify when your losing the gains
Key Elements of Data Collection

• If you aren’t using it don’t collect it
• The more frequent the data is collected the better
• Look at your data often – be excited
• Have a measurement “package” – keep it balanced
• Make data collection reasonable/practical
• Give data back to those who give it to you
Questions?
WHAT CHANGES CAN WE MAKE THAT WILL RESULT IN IMPROVEMENT?
Ideas

Bad News, everyone. Production is down.

We need to figure out how to get it going again.

Sir, I've got an idea.

That's perfect.
Why we PDSA

• Fast – We have a short attention span
• Low risk – no harm option
• Try everything
• Create confidence
• Learn how to adapt
• Evaluate side-effects
• Build momentum
• Decrease resistance
• Make REAL improvement
The PDSA Cycle

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

**Plan**
- Questions and predictions (why)
- Plan to carry out the cycle (who, what, where, when)

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

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

Change Idea
Learning with the PDSA cycle: Plan

**PLAN**
Prediction If ____ Then____
Plan to carry out the test (who, what, when?)
Plan for data collection
Learning with the PDSA cycle: Do

**DO**
- Carry out the plan
- Document observations – successes/unexpected issues
- Begin analysis of data
Learning with the PDSA cycle: Study

**STUDY**
- Compare to prediction
- What did you learn
- What was unexpected
- What about the data
Learning with the PDSA cycle: Act

**ACT**
Select an action based on the results of the test:
- Adopt
- Adapt
- Abandon

If appropriate, plan next test
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Assess Preceptor Competency
Testing Accomplishes

Belief that the idea is a good idea – people are better off because of it

Improved process to make sure everyone experiences the new idea (once we know it works)
Use of the PDSA Cycle

Proposals, Theories, Ideas

Learning from Data

PDSA’s will grow each time

Changes That Result in Improvement
Simple yet balanced

Improved Outcomes

What are we trying to accomplish

What changes will lead to improvement

How will we know a change is an improvement
Next Steps

Strategies for applying RCQI

½ day Workshop to Project Officers

June 23rd
ANY questions?
Please go to...

https://lms.learning.hhs.gov/Saba/Web/Main/goto/GuestCourseDetailURL?otId=cours00000000478334&callerPage=/learning/offeringTemplateDetails.xml

to answer a few survey questions and receive credit for this course!