HANDOUT for AMCHP Conference  
February 14th 2012

Early MIECHV Successes and Challenges: Tennessee’s Experience with Continuous Quality Improvement and Engaging Military Families

Sharing One Example of How Tennessee is Training Public Health Workforce for Quality Improvement Initiatives

Quality Improvement Training Curriculum Overview  
“Quality Improvement: You Are Part of the Team”

Objectives

- Introduce quality improvement (QI) concepts and terminology
- Identify customers/stakeholders and their needs
- Incorporate data into decision making
- Introduce and practice using the Plan-Do-Study-Act continuous quality improvement cycle
- Provide hands-on training in leading/utilizing tools and techniques employed in QI
- Incorporate a sustainable rapid, continuous QI system in a local health department by creating a structure (i.e. short periods of protected time of staff) and culture (i.e. QI is part of everyone’s job responsibilities) to engage in continuous QI

Structure

Part 1. In-Person: At the beginning of the curriculum, key team leaders (i.e. local health directors and supervisory staff) and Regional QI directors will be assembled for a one-day, in-person session to introduce basic QI concepts and terminology. QI concepts to be covered in-person are with regard to identifying stakeholders, understanding what is meant by data and measurement, and reviewing the Plan-Do-Study-Act continuous improvement cycle (Table I – QI Training Syllabus; Sections 1, 2, and 3). One goal of the in-person meeting is to standardize the QI language across the state for future remote conferences. The second goal is to quickly expand the state’s core group of “QI champions” in public health beyond the thirteen Regional QI Directors.

The key concepts are short (20 minute or less discussions) punctuated with real hands-on examples of QI and effective team management tools that are useful in identifying problems/root causes and moving a team toward developing data driven changes. The presentations are structured as a “train-the-trainer” model and allow QI champions to use the slides and workseets with their own LHD QI teams to walk through the first use of the tools/techniques. Step by step, the slides and worksheets walk through how such tools and techniques might be used in the LHD on a daily basis.
The tools that are planned for the in-person sessions are from the seven most used tools that work with ideas and concepts:\textsuperscript{1,2}:

- Brain-writing exercises/idea expansion tools (i.e. 5 Ideas on 5 Post-It Notes; 5 Why’s; Nominal Group Technique)
- Grouping/Affinity Diagram exercise
- Multi-Voting
- Root Cause Analysis $\rightarrow$ Checklist and Fishbone Diagram
- Flowchart
- Plan-Do-Study-act (PDSA) Worksheet for Testing Changes (CITE IHI)
- Gantt Chart

Additional tools useful in data collection and data analyses will be introduced briefly as well.

**Part 2. Web conferencing:** The bulk of the curriculum is designed to be conducted remotely via web-conferencing with each session occurring every few weeks and lasting one hour. The first half of the hour is recapping the prior sections topic and then discussing the appropriate topic/section; the second half is to foster the community of learning exchanges as they work on identifying a problem, determining the root causes of a selected problem, and making a change through a data-drive PDSA cycle. Prior to the web conference each QI team is to submit a one-page review of the group’s work since the last web conference which will be shared with the group electronically and over the internet during the web conference. Example of a one-page worksheet is provided (Figure 1)$^{3}$:
Training Syllabus
The syllabus is designed to complement the following guidebook: *Embracing Quality in Local Public Health: Michigan’s Quality Improvement Guidebook* (2008)\(^4\).

Length = Each section topic is about 20 minutes of a 60 minute program. Anticipated time frame to complete all sections is approximately 7 to 8 months.

**Table I. QI Training Syllabus**

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
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<tbody>
<tr>
<td>Section 1</td>
<td>Overview of QI Curriculum Define Local Health’s Role and State Agency’s Role</td>
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<tr>
<td>Section 2</td>
<td>Introduction to QI and PDSA Cycle</td>
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<td>Section 3</td>
<td>Clients and Stakeholders</td>
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<tr>
<td>Section 4</td>
<td>Data... Part 1</td>
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<tr>
<td>Section 5</td>
<td>PDSA Cycle Review/PDSA Cycle Worksheet</td>
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<tr>
<td>Section 6</td>
<td>Data... Part 2</td>
</tr>
<tr>
<td>Section 7</td>
<td>Review current projects and data collections and data use efforts</td>
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<tr>
<td>Section 8</td>
<td>PDSA Cycle and Worksheet Trial of a Rapid Continuous PDSA Cycle</td>
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<tr>
<td>Section 9</td>
<td>PDSA Cycle Trouble Shooting</td>
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<tr>
<td>Section 10</td>
<td>PDSA Cycle → Early results shared</td>
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<tr>
<td>Section 11</td>
<td>Measuring Improvement</td>
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<tr>
<td>Section 12</td>
<td>Additional Quality Improvement Tools</td>
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<tr>
<td>Section 13</td>
<td>PDSA Cycle Trouble Shooting Early results shared</td>
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<tr>
<td>Section 14</td>
<td>PDSA Cycle Trouble Shooting Early results shared</td>
</tr>
<tr>
<td>Section 15</td>
<td>How QI fits into Public Health Accreditation</td>
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Sample of a Curriculum Section for Web Conferencing

*Section 4. “Data, Part 1.”* For example, after a problem is identified, an early web-conferencing session (Section 4) will tackle the concept of data: (1) What is data?; (2) What is “good” data that helps us track what we are trying to improve; and (3) How do we use the data? The hands-on portion of the session focuses on group exercises to determine: (1) What should we measure?; (2) How should we collect the data?; and (3) How should we display the data?

Sample Tools will be primarily tools that work with numbers and are part of the seven most commonly used tools\(^1,2\):

- Check Sheet
- Histogram
- Run Chart

Sample of Curriculum Slides: *Section 4. “Data, Part 1.”*

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**Section 4:** Data - Variation

A key to improving quality is being able to tell the difference between causes of variation that come and go and those that are always present.

**Section 4:** Data - Variation

Common Cause Variation:
Stable or predictable variation in a process.

Public Health Example: Patient registration at the front desk varies in length of time based on number of papers to fill out, level of understanding, pen availability, whether the patient feels a sense of urgency.

**Section 4:** Data - Variation

Special Cause Variation:
Unstable or unpredictable variation in a process.

Public Health Example: Patient registration at the front desk is interrupted by the fire alarm.

**Section 4:** Data - Variation

When making an effort for improvement, be sure you are improving a stable, predictable process.

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**Section 4:** What are we trying to improve?

If you do not know how to ask the right question, you will discover nothing.

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**Section 4:** Momentum

- Once data begins to illuminate the process, work on some of the obvious things: “Low Hanging Fruit”
- Keep focused on your data and what is really causing the problem
- This will help you make data-driven decisions, build momentum, and be ready to tackle more difficult improvements in later cycles.

**Section 4: Let's Start Collecting Data**

**Check Sheet Example**

<table>
<thead>
<tr>
<th>Category</th>
<th>Mon</th>
<th>Tues</th>
<th>Wed</th>
<th>Thurs</th>
<th>Fri</th>
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<td>2</td>
<td>3</td>
<td>15</td>
<td>35</td>
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<td>15</td>
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<td>5</td>
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<tr>
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<td>100</td>
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<td>170</td>
<td>150</td>
<td>160</td>
<td>500</td>
<td>800</td>
</tr>
</tbody>
</table>

**Histogram**

**Run Chart**

Thinking of your QA team's "problem"…

- What should you measure?
- How should you collect the data?
- How do you use and display the data?
- Does your data reveal new questions?
References


