CT QI LHD Learning Collaborative QI Team Kick-Off

March 22, 2012

Marlene Mason, MarMason Consulting
Marlene (Marni) Mason

- More than 30 years in private healthcare and public health as clinician, manager and national consultant
  - Consultant PH performance standards and improvement since 2000 and for all 3 Multistate Learning Collaboratives (2005-2011), including more than 50 QI teams
  - National trainer and presenter for QI and Accreditation in more than 20 states and for ASTHO, NACCHO, NIHB, NNPHI, and RWJF
  - Contributed to the Michigan QI Handbook, the 2009 ASQ Public Health QI Handbook, and authored numerous JPHMP articles including Jan/Feb 2012 “Understanding and Controlling Variation in Public Health”.
  - Consultant for PHAB Standards Development and training of site reviewers (2008-2010)
  - Surveyor for National Committee for Quality Assurance-NCQA (14 years) and Senior Examiner for WA state Quality Award (Baldrige Performance Criteria)
  - Owner and Managing Consultant of MarMason Consulting, LLC based in Seattle, WA
Today’s Learning Objectives

- In today’s session the participants will:
  - Develop a better understanding of the Principles of Quality Improvement
  - Review the Plan-Do-Study-Act Cycle for Improvement
  - Practice development of a Root Cause Analysis tool
  - Draft their initial Team Charters and AIM Statements
  - Review the QI Team project steps and Rapid Cycle Improvement Method
  - Develop Next Steps for QI project
Definition of Quality Improvement

“A management process and set of disciplines that are coordinated to ensure that the organization consistently meets and exceeds customer requirements.”

- **QI** Top management philosophy resulting in complete organizational involvement
- **qi** Conduct of improving a process at the micro system level
The Quality Environment

• Agency-wide commitment to assessing and continuously improving quality over time?
  • Decisions based on data?
  • Agency achieving goals?
• Use data to decide on improvement initiatives and to know if the improvements are successful?
• Measurement of results and progress are outcome based?

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Principles of Quality Improvement

1. Know your stakeholders and what they need
2. Focus on processes
3. Use data for making decisions
4. Use teamwork to improve work
5. Make quality improvement continuous
6. Demonstrate leadership commitment

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1 Know Your Stakeholders

Identify stakeholders and their needs

• Sector mapping (public, private, community, academic/research)
• Community assessment
• Advisory council input (BOH, Tobacco Coalition, Wellness Collaborative, Food Safety Council)
• Survey data and focus groups

Set goals based on stakeholder needs
Focus on Work Process

- Improve overall process, not just one part
  - 85% of poor quality is a result of poor work processes, not of staff doing a bad job
  - Processes often “go wrong” at the point of the “handoff”
  - Some of the most complex processes are the result of creating a “work around”
Tools to Link Work and Outcomes

Logic models and work flow charts

• Customer-supplier relationships
• Client flow, information flow

Note: See PH Memory Joggers at GOAL/QPC or QI tools at ASQ
Logic Model: Any Public Health Program

- **Inputs**
  - Resources
    - Money
  - Activities
    - Program Development
    - Program Planning
    - Materials Development, Distribution

- **Outputs**
  - Informed, Targeted Program
  - Appropriate, Targeted Materials

- **Short Term Outcomes**
  - Improved knowledge, beliefs, attitudes

- **Intermediate Outcomes**
  - Improved Behaviors

- **Long Term Outcomes**
  - Reduced Morbidity
  - Reduced Mortality
  - Improved Quality of Life

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3 Use Data to Make Decisions

• Use performance assessment data to target improvement
• Use data analysis tools to develop information
• Analyze data to identify root cause
• Use data to monitor performance outcomes
Data Sources and Resources

- Census
- Vital Records (births and deaths)
- Behavioral Risk Factor Surveillance System (BRFSS)
- Student Health and Risk Prevention (SHARP) Surveillance System – Youth Risk Behavior, Youth Tobacco Survey, Nebraska Risk and Protective Factor Student Survey
- Hospital Discharge Data
- Cancer Registry
- County Health Rankings (University of Wisconsin & RWJ)
- Resources: Data Workbook, Data Dashboard and State data reports and tools
## Use Data to Make Decisions

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<tr>
<th>To Show</th>
<th>Use</th>
<th>Data Needed</th>
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<tr>
<td>Simple percentage or magnitude comparisons</td>
<td>Bar charts, pie charts or summary statistics</td>
<td>Simple tallies by category (At least 30 cases)</td>
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<td>Trend</td>
<td>Line graphs</td>
<td>Time-ordered measurements (At least 12 sets of data points)</td>
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<td>Histograms</td>
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<td>Correlations</td>
<td>Scatter diagrams</td>
<td>Forty or more paired measurements</td>
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From *Methods and Tools of Quality Improvement*  
Institute for Healthcare Improvement  

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The Power of Root Cause Analysis

W. Edwards Deming transformed quality control processes by applying his beliefs

- Measuring outputs/outcomes at the end ignores root cause and ensuing poor results.
- Addressing root causes through ongoing evaluation and quality improvement avoids problems and improves quality.
- Ongoing measurement with feedback loops helps processes.
Why are our teens not more active?

Competing interests
- School sports
- Extracurricular activities
- Technology (i.e. TV, cell, computer)

Parent/Family Priorities
- No parental supervision
- School work
- Poor family dynamic

Peer to Peer
- Afraid to fail
- Lack of parental involvement
- Not cool (social norm)

No networking or buddy system in place
No efforts to engage youth in community

Inactive Teens

Physical Education
- Require more options for non-competitive physical activity
- Do not see immediate health consequences of actions

Physical Activity Resources
- Lack of facilities
- Lack of free, low-cost opportunities

Marketing & Communications
- Restricted use of Navy Youth Center
- Lack of knowledge
- Resources not publicized

Need to target teens differently from adults
- Not using different marketing channels for teens (i.e. My Space)
Aim statement: Optimize and consistently maintain Service Coordinators caseload to maximize the HMG contract ($348,086).
Root Cause Analysis - Purpose

• To find the real cause of a problem or issue
• Understand the impact to the organization
• Resolve it with a permanent fix
• Encourages divergent thinking
• Demonstrates the complexity of the problem
• Encourages scientific analysis (rule-out)
• We need to determine:
  • what happened?
  • why it happened?
  • where it happened?
  • how to eliminate it?
Fishbone Diagram*

• Why use it?
  • To allow a QI team to identify, explore and display possible causes related to a problem to discover its root cause
  • Generate causes for a specific problem through brainstorming (without preparation) or results of data collection before building the fishbone diagram

• What does it do??
  • Focuses on the content of the problem rather than the history or the differing personal interests of team members
  • Creates a snapshot of the collective knowledge and consensus of a team around a problem
  • Builds support for the resulting solutions
  • Focuses the team on causes, not symptoms or solutions

*PH Memory Jogger page 23, Goal/QPC
Testing Potential Root Causes

• Once the Fishbone Diagram has been constructed, the team should interpret or test for root cause(s) by one or more of the following:
  • Look for causes that appear more than once within or across categories
  • Choose most likely root causes through an unstructured consensus or a more formal process like Multivoting or Nominal Group Process
  • Collect data on selected causes to determine relative frequencies
  • Use an analysis tool, like a Pareto Chart, to identify root cause
Use Teamwork

- QI efforts need buy-in from all stakeholders
- Creative ideas are needed
- Division of labor is needed
- Process often crosses functions
- Solution generally affects many
5 Make QI Continuous

- Use conclusions from data analysis to identify areas for improvement
- Charge QI team and support
  - Provide QI training
  - Develop AIM statement
- Use tools to understand root causes
- Use data for baseline and analysis
- Design process improvement to address root causes
- Train QI team in Plan-Do-Study-Act cycle

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PDCA/PDSA Cycle definition

- The Plan Do Check/Study Act Cycle is a trial-and-learning method to discover what is an effective and efficient way to design or change a process.

- The “check” or "study" part of the cycle may require some clarification; after all, we are used to planning, doing/acting. It compels the team to learn from the data collected, its effects on other parts of the system, and under different conditions, such as different communities.
Learning and Improvement Cycle

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

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

**Study**
- Complete the data analysis
- Compare data to predictions
- Summarize lessons

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

**Documentation of Change - Minutes**

**Revise Logic Model**

**Work Plan**

**Data Report**
6 Demonstrate Leadership Commitment

• Build QI culture
• Connect strategic plan to performance improvement
• Know and use quality principles
• Initiate and support QI teams
• Reward improvements
• Assure adequate QI infrastructure for quality assessment and improvement activities
• Establish performance measurement system
Let’s Discuss

What other examples of the use of QI methods or tools are you aware of?

What questions do you have about the examples I’ve shown?
Lunch Break

Return in 45 minutes, please!
Why do we need a systematic model for improvement?

• “All improvements require change but not all change will result in improvement. A primary aim of the science of improvement is to increase the chance that a change will actually result in sustained improvement from the viewpoint of those affected by the change.”

The Improvement Guide, 1996
Adapted from *The ABC’s of PDCA*, Gorenflo and Moran

1. Identify and Prioritize Opportunities
2. Develop AIM Statement
3. Describe the Current Process
4. Collect Data on Current Process
5. Identify All Possible Causes
6. Identify Potential Improvements
7. Develop Improvement Theory
8. Develop Action Plan

Plan

Check/Study

Act

Do

1. Review analysis and make conclusions

Adopt

Adapt

Abandon

Plan

Standardize/Hold the Gains

DO - Modify/Try Again
PLAN Steps for Implementing QI Project*

* The ABCs of PDCA & MI Guidebook

- Identify QI opportunities
  - Performance measurement data or data related to health indicators
  - Community health assessment, health status report, or behavioral risk factor survey results
  - Data related to births, deaths, and diseases in your community
  - Survey data related to customer/client satisfaction
  - Data related to the internal operations of your LHD, such as, time studies, response rates, employee morale, or workforce development
- Prioritize issues to address for improvement
Criteria for Selecting Opportunities

- Importance and Relevance
- Control and Influence
- High-risk
  - Health Alerts, Drinking Water, CD Investigations
- High-volume
  - WIC, Food Safety, OSS, Immunizations
- Problem-prone
  - Emergency Preparedness
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- **IMPROVEMENT AREA**
  - **Immunization**
  - **Engage Community**
  - **CHIP**
  - **Food Safety**
  - **Family Planning**
PLAN Steps for Implementing QI Project*

- Assemble The Team
- Develop an AIM Statement
  - AIM Statement Template
- Describe the current process
  - Work Flow or Logic Model
- Collect data on the current process
  - Run Charts, Histograms, Pie Charts
- Identify all possible causes
  - Fishbone Diagram, The Five Whys

* The ABCs of PDCA & MI Guidebook

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Team Membership

• QI project team membership based largely on (high level) steps of existing process

• QP project team membership may include some representatives of existing process but not necessarily all. May also include:
  • “Fresh Perspective” – someone outside of existing process known for creative ideas
  • Potential suppliers
  • Customers
Team Selection Criteria

• Balance team/input “horizontally” (across process) and “vertically” (mgrs & staff)
  • Anticipate resistance – seek input from all stakeholders*
  • Remember: “People support what they help to build …”
• 5-7 is ideal team size

*Not all stakeholders need to be team members – but you need to find a way to get their input and keep them updated
Clarify Key QI Team Roles

- **Project Sponsor**
  - Person primarily responsible for resourcing the project
  - Usually has a large stake in the success of the project AND the on-going success of the process

- **Team Leader**
  - Responsible for success of the project
  - May have stake in on-going success of the process

- **Process Owner**
  - Person with largest stake in the on-going performance of the process
  - May correspond with team leader or team sponsor

- **Team Facilitator**
  - Provides knowledge re: Quality methods and tools
  - Supports effective group process
Components of a Team Charter

- **Goal**
  - Why the team exists, who it serves, the benefits it should produce, the conditions under which it operates, and the criteria that define its success

- **Responsibilities**
  - Identifies the major duties of each team member
    - Identify and remove barriers, Identify and utilize opportunities, Monitor progress, Monitor performance as a team
Components of a Team Charter

- Purpose
  - Describes the specific functions and activities of the team
- Membership and roles
- Reporting Relationship
- Procedures
  - Meeting
    - When will the team meet? Where? For how long?
  - Ground Rules
    - What ground rules will be used to facilitate effective meetings?
  - Measure
    - How will the team check its progress and performance as a team?
Construct a Team Charter for Your Project Team
Four Stages - Team Development

- Forming
- Storming
- Norming
- Performing

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Guidelines for Team Effectiveness

1. Establish goals and objectives all team members accept
2. Allow members to disagree in a constructive way to resolve problems
3. Review past actions when making plans for the future
4. Make decisions by consensus or modified consensus
5. Remain cohesive and maintain a sense of unity
6. Develop a comfortable working atmosphere
7. Use physical space that is conducive to the team process

Source: Growing Teams” by G. Fetteroll, G. Hoffherr, and J. Moran, Goal/QPC, 1993
Short Break!

- Be Back in 15 minutes, please!
Adapted from *The ABC’s of PDCA*, Gorenflo and Moran

1. Identify and Prioritize Opportunities

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3. Describe the Current Process

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5. Identify All Possible Causes

6. Identify Potential Improvements

7. Develop Improvement Theory

8. Develop Action Plan

Plan

Check/Study

Act

Adopt

Adapt

Abandon

1. Review analysis and make conclusions

2. Collect and Analyze the data

3. Document Problems, Observations, and Lessons Learned

4. Collect Data on Current Process

5. Identify All Possible Causes

6. Identify Potential Improvements

7. Develop Improvement Theory

8. Develop Action Plan
The idea behind rapid cycle improvement is to first try a change idea on a small scale to see how it works, and then modify it and try it again until it works very well for staff and customers. Then, and only then, does a change become a permanent improvement.
What Are We Trying to Accomplish?

- The first question is meant to establish an aim for improvement that focuses group effort.
- Aims should be as concise as possible – sometimes it takes a few trials of testing an aim before it becomes truly focused
  - Focus on what matters to the organization, staff and patients
  - Use numerical goals wherever possible
  - Guidance and resources (e.g. tools to be used, methods and systems to be changed)
How Will We Know That a Change is an Improvement?

- Measures and definitions are necessary to answer this question.
- Data is needed to evaluate and understand the impact of changes designed to meet an aim.
- When shared aims and data are used, learning is further enhanced because it can be shared. In this way, superior performance and best practices are more quickly identified and disseminated through benchmarking.
What Change Can We Make that Will Result in an Improvement?

- This step is also known as “How will we get there?”
- Formulate change concepts that may improve the process outcomes
- This is the who, what, when, and how of doing the actual test
- It compels the team to learn from the data collected, its effects on other parts of the system, and under different conditions
AIM Statement

Step 1: What Are We Trying to Accomplish?

- Increase by 10% the number of mothers in the WIC program who initiate breastfeeding, and increase by 5% the number of moms in the WIC program who breastfeed for at least one year.

- We do this because it helps mothers return to their pre-pregnancy weight and lowers the rate of obesity and overweight in children.
AIM Statement

Step 2: How Will We Know That a Change is an Improvement?

• Long term
  • 5 years – decrease % of adult females of childbearing age that are obese

• Medium term
  • 12 months – Increase the number of women still breastfeeding at 12 months by 5%.

• Short term
  • 6 months – Increase the number of women still breastfeeding at 6 months by 10%.
Develop Project AIM statement

Teams use AIM Statement Template to draft AIM statement for their QI project
PLAN Steps for Implementing QI Project*

☐ Identify potential improvements

- Steps: Conduct Root Cause Analysis, Review model or best practices to identify potential improvements and pick the best solution to test
- Tools: Fishbone Diagram, Pareto Chart, Affinity Diagram

☐ Develop an improvement theory

- Definition: a statement that articulates the effect that you expect the improvement to have on the problem
- Steps: Make Conclusions, Promising Practices search

☐ Develop an action plan

- Tools: Gantt Chart or workplan

* The ABCs of PDCA & MI Guidebook

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## Develop an Action Plan (Gantt Chat)

### Preparation of materials to support the process

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<td>Visit clinics and conduct reviews</td>
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### Planning and Improving Intervention

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DO Steps for Implementing QI Project*

* The ABCs of PDCA & MI Guidebook

- Test the improvement
  - Carry out the test on a small scale (Michigan Guidebook)
- Collect, chart, and display data to determine effectiveness of the test
- Document the problems, unexpected observations, lessons learned, and knowledge gained
Testing a Change: Why Test?

- Smaller Scale Tests
- More of them prior to implementation

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Modified from Jane Taylor PhD
Testing a Change: Why Test?

- Minimize risks of potential failure and of potential adverse or unanticipated side effects
- Predict how much improvement can be expected from the change
- Learn how to adapt the change to conditions in the local environment
- Evaluate costs and side-effects of the change
- Minimize resistance to implementation
Test the Theory

• Carry out the test on a small scale
• Collect, chart, and display data to determine effectiveness of the test
• Document problems, unexpected observations, and unintended side effects
What Can We Do Now…

... by Next Week,
... by Tuesday,
... by Tomorrow

... that we can learn from without harming clients or burdening staff?

Modified from Jane Taylor PhD
Adapted from *The ABC’s of PDCA*, Gorenflo and Moran

**Plan**

1. Identify and Prioritize Opportunities
2. Develop AIM Statement
3. Describe the Current Process
4. Collect Data on Current Process
5. Identify All Possible Causes
6. Identify Potential Improvements

**Do**

1. Test the Improvement
2. Collect and Analyze the data
3. Document Problems, Observations, and Lessons Learned

**Act**

1. Review analysis and make conclusions
2. Adopt
3. Adapt
4. Abandon

**Check/Study**

1. Develop Improvement Theory
2. Develop Action Plan
3. Review analysis and make conclusions
4. Adopt
5. Adapt
6. Abandon

**Plan**
CHECK/STUDY Steps for Implementing QI Project*

- Analyze the results: was an improvement achieved?
  - Compare results against baseline data and the measures of success stated in the Aim Statement
  - Did the results match the theory/prediction?
  - Did you have unintended side effects?
  - Is there an improvement?
  - Do you need to test the improvement under other conditions?
- Document lessons learned, knowledge gained, and any surprising results that emerged.

* The ABCs of PDCA & MI Guidebook
ACT Steps for QI Project*

• Take action:
  • Adopt - standardize
  • Adapt – change and repeat
  • Abandon – start over

• If your change was not an improvement, develop a new theory and test it; often several cycles are needed to produce the desired improvement

• Once you’ve adopted – monitor and hold the gains!

* The ABCs of PDCA & MI Guidebook

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Implementing a Change

• Implementation – Making this change a part of the day-to-day operation of the system

• Implement a change ONLY if it will lead to improvement

• Involves more people and conditions: you will run into more resistance and factors which require “design tweaks”
Key Lessons from RCI

- The rapid improvement work must be seen as The Work and not a separate project
- Implementation and holding the gains requires integration into daily work and meetings
- Start work with those interested in change
- Communicate what is happening persistently
- Provide support to providers and staff who take on this new work
Tying It all Together

Problem to Consider — AIM

Modify Intervention or Implement if Improvement

• Flow Charts
• Analysis Reports

Identify Stakeholders Needs & Prioritize Issues

Sector Maps
Force Field Analysis
Affinity Diagram
Prioritization Tools

Describe current process

Logic Model
Flow Chart

Identify Potential Root Cause

Fishbone Diagram

Data Collection to Identify Root Causes

Pareto Charts
Meeting Effectiveness

Plan & Test Potential Solution

Gantt Chart
Data Collection

Analyze Information & Develop Solutions

PDSA Cycle

Translate Data Into Information

Run Charts, Pie Charts
Adopt or Adapt Model Practices

• Use data to identify need for improvement
• Identify exemplary practices
  • Local and state health departments
  • CDC, national organizations*
  • Industries
• Describe process (logic model or flow chart)
• Study exemplary practice process
• Adopt or adapt as needed

* www.naccho.org/topics/modelpractices

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Next Steps

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“Of all changes I’ve observed, about 5% were improvements, the rest, at best, were illusions of progress.”

W. Edwards Deming

- We must become masters of improvement
- We must learn how to improve rapidly
- We must learn to discern the difference between improvement and illusions of progress
Some QI References

- Breakthrough Method and Rapid Cycle Improvement [www.ihi.org](http://www.ihi.org)
What Questions Do You Have?