Quality Improvement (QI) 101

August 13, 2015
Webinar
10:30 AM - Noon

IPHI Performance Improvement Webinar Series

- Performance Management Overview
  - August 6, 2015
  - Recording Available
- Quality Improvement 101
  - August 13, 2015
  - 10:30 AM - Noon
- Building a Culture of Quality and Performance Improvement
  - August 27, 2015
  - 10:30 AM - Noon

Webinars are being recorded and will be available for future viewing.

Partners

- GREAT LAKES PUBLIC HEALTH TRAINING COLLABORATIVE
- ILLINOIS PUBLIC HEALTH INSTITUTE
- UIC MidAmerica Center for Public Health Practice
- HEALTHY CHICAGO
Webinar Presenter

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Webinar Objectives

1. Describe how QI is part of a performance management system.
2. Define the Model for Improvement and Plan-Do-Study-Act (PDSA).
3. Describe basic QI tools to support each phase of the PDSA.
4. List QI resources to learn more.

Public Health Accreditation Board (PHAB) Domain 9

Standard 9.1
- Use a Performance Management System to Monitor Achievement of Organizational Objectives

Standard 9.2
- Develop and Implement Quality Improvement Processes Integrated Into Organizational Practice, Programs, Processes, and Interventions

Source: PHAB Standards and Measures, Version 1.5, December 2013

9.2 Develop and Implement Quality Improvement Processes Integrated Into Organizational Practice, Programs, Processes, and Interventions

- QI is an important component of the performance management system.
- Integration of a quality improvement component into staff training, organizational structures, processes, services, and activities.
- Application of an improvement model and the ongoing use of QI tools and techniques to improve the public's health.
- QI is the result of leadership support.
- Requires staff commitment at all levels within an organization to infuse QI into public health practice and operations.
- Involves regular use of QI approaches, methods, tools, and techniques, as well as application of lessons learned from evaluation.

Source: PHAB Standards and Measures, Version 1.5, December 2013

PHAB Standard 9.2

- [9.2.1] A - Established quality improvement program based on organizational policies and direction
  - A written quality improvement plan
- [9.2.2] A - Implemented quality improvement activities
  - Quality improvement activities based on the QI plan
  - Staff participation in quality improvement activities based on the QI plan

Source: PHAB Standards and Measures, Version 1.5, December 2013
Poll Question 1: Have you participated in a formal QI project?

1. Yes
2. No
3. Unsure

Poll Question 2: Have you led a QI project team through a formal QI process?

1. Yes
2. No
3. Unsure

What is Quality Improvement (QI)?

- Deliberate and defined improvement process
- Responsive to customer needs and improving population health
- Continuous and ongoing effort


Measurable Improvements in Efficiency
Effectiveness
Performance
Accountability
Outcomes

Increased Equity
Improved Community Health
“Systems are perfectly designed to get the results they achieve.”

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

W. Edwards Deming

Poll Question 3: What percentage of the changes made at your agency are improvements that can be proven with data?

1. Less than 10%
2. Greater than 10% and less than 25%
3. Greater than 25% and less than 50%
4. Greater than 50% and less than 75%
5. Between 75% and 100%

Why is QI important now?

- Reduced Budgets
- Increased Stakeholder Demand for Accountability
- Increased Community Needs
- Aging Government Workforce
- Accreditation

Public Health needs increased efficiency, effectiveness, customer satisfaction and documented best practices.
The Quality Trilogy:
Differentiating Between QI, QP and QA

When to use Quality Planning...

- Service/process has never existed before
- Customer requirements are not known
- Existing service/process performance is not capable of meeting customer requirements
- Service/process is ad hoc; extremely variable; never been well defined or worked on before as a whole
- No performance data exists or would take excessive time/expense to collect data
They Are Not the Same

Quality Assurance
- Reactive
- Works on problems after they occur
- Regulatory usually by State or Federal Law
- Led by management
- Periodic look-back
- Responds to a mandate or crisis or fixed schedule
- Meets a standard (Pass/Fail)

Quality Improvement
- Proactively selects a process to improve
- Works on processes
- Seeks to improve (culture shift)
- Led by staff
- Continuous
- Exceeds expectations

Poll Question 4: Where does your agency or program area spend most of your time?

1. Quality Assurance
2. Quality Improvement
3. Quality Planning
4. About Equal Time Spent in All 3

Overview of The Model for Improvement: PDSA and Rapid Cycle Improvement
Institute for Healthcare Improvement
Model for Improvement

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

The PDSA Cycle for Learning and Improvement

Plan
- Define objective
- Identify questions and predictions (why)
- Plan to carry out the cycle (who, what, where, when)
- 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

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

Reference:

1. Identify and Prioritize Opportunities

- Brainstorm possible QI project topics, there may be many options
- Select just one problem to address
- Develop a “problem statement”

Potential Tools: Prioritization matrix

Examples:
- Long customer wait times
- No shows for appts
- Inaccurate data
- Lengthy process time
- Budget over or underspent
- Low testing scores
- Failed inspections or compliance tests
- Failure to meet targets

2. Develop AIM Statement

- Express the one change you are seeking to accomplish as a SMART Objective
- What improvement are you seeking?
  (Measure of change) + (in what?) + (by whom) + (by when)

SMART
Specific
Measurable
Achievable
Relevant
Time-bound

Aim Statement Worksheet

Step 1
- What Are We Trying to Accomplish? (A brief measurable statement of the AIM.)

Step 2
- How Will We Know That a Change is an Improvement? (Potential measures of success, including implications for future improvements that build on the improvements made in this project.)

Step 3
- What baseline data do you have or do you need? (How did you identify this opportunity, with what data, from what source(s)? Brief description of the problem with any baseline data currently available.)

Step 4
- What Changes Can We Make That Will Result in an Improvement? (Initial hypotheses, any benchmark data or best practices related to the issue, potential impact/overlay with other programs and activities and list of the stakeholders (internal and external) and their concerns.)
Sample AIM Statements (SMART Format)

- By November 2014, CDPH will increase the % of youth ages 18 and younger who will receive preventive dental exams and referrals from 14% to 30%. (CDPH)
- To raise 1 or more doses of HPV vaccine coverage levels among 13-17 year olds in Vaccines for Children clinics (26) from 38% to 50% by January, 2014. (CDPH)
- By December 2014, 100% of staff timesheets will be submitted on-time and error-free. (from baseline of 60%)
- By January 2016, reduce by 25% temperature violations during temporary food inspections.
- Decrease the number of days for the contract approval cycle from 25 days to 10 days by January 2016.

(Measure of change) + (in what) + (by whom) + (by when)

3. Describe the Current Process

- Understand the “process” and identify potential areas for improvement
- How does the process work now?

Potential Tools: Workflow diagram (e.g., flow chart, value stream mapping)

Plan

1. Identify and Prioritize Opportunities
2. Develop AIM Statement
3. Describe the Current Process
What is a Process Map?

• A pictorial representation of the sequence of actions that comprise a process.

Basic Flowchart Symbols

- **Inputs or Outputs**: An oval indicates materials, information or action (inputs) to start process or show results at end (output).
- **Task/Activity**: A box or rectangle is used to show a task or activity performed in the process. Although multiple arrows may come into each box, usually only one output or arrow leaves each activity box.
- **Decision**: A diamond shows those points in the process where a yes/no question is being asked of a decision is required.
- **Break**: A circle with either a letter or number identifies a break in the flowchart and its continued elsewhere on same page or another page.
- **Arrows**: Arrows show the direction or flow of the process.

Why is Process Mapping Important?

“**You cannot begin to improve a process until you understand it!**”

W. Edwards Deming

“**You don’t learn to Process Map, You Process Map to learn.**”

Dr. Myron Tribus
4. Collect Data on Current Process

- Collect/analyze data that aligns with the measure(s) in the AIM Statement
- What data do you already collect or can you collect to understand the problem or may serve as baseline data?

**Potential Tools:** Pareto charts, histogram, run charts, scatter plots, control charts, etc.

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**Pareto Principle:**
20% of sources cause 80% of any problem

**Pareto Chart:**
Why do fewer clients in clinic B receive HIV tests?

Look for the vital few!

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5. Identify All Possible Causes

- Identify all possible causes of the problem and determine the one root cause you will focus on.

**Potential Tools:** Affinity diagram, cause and effect/fishbone diagram, the 5 whys, interrelationship digraph, prioritization matrix, control and influence chart
Affinity Diagram

• Phrase the issue under discussion in a full sentence.
• Participants identify one idea (answer) per post it-note in a phrase. Usually 3-5 ideas from each person.
• Without talking, participants sort ideas into “like” groupings.
• Name the groupings – create headers using consensus of group.

Figure 5

Why is service sub-standard?

<table>
<thead>
<tr>
<th>Human Resource Issues</th>
<th>Lack of standard systems and measurement</th>
<th>Workflow culture</th>
<th>Resources and costs</th>
</tr>
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<tbody>
<tr>
<td>Too much turnover</td>
<td>No standard systems</td>
<td>Not enough management support</td>
<td>Not enough phone lines</td>
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<tr>
<td>Untested staff</td>
<td>There’s no measurement for what is and what isn’t good service</td>
<td>Staff feel unappreciated</td>
<td></td>
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<tr>
<td>Staff are uncompensated enough</td>
<td></td>
<td>Staff morale is low</td>
<td></td>
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https://www.mindtools.com/pages/article/newTMC_86.htm

Parents
- Parents do not appreciate costs/benefits of vaccines
- Parents do not consider HPV vaccine a priority
- Parents do not know about HPV disease or vaccines

Policies
- Feedback messaging not HPV-focused
- Follow up limited to written communication
- All providers do not participate in feedback
- Insurance coverage inconsistent

Processes
- Providers uncomfortable making HPV recommendations
- Providers uncomfortable answering HPV questions
- Providers do not consider HPV a priority
- Providers with competing priorities
- Providers biases
- Providers misconceptions
- HPV vaccine not required for school entry
- Insurance coverage inconsistent

Resources
- CDPH Immunization Program QI Project, 2013
- CDPH staff with competing priorities
- Providers with limited time

Providers
- HPV vaccine coverage in VFC-clinics has not increased as much as Tdap and MCV vaccine coverage.

Public Health Memory Jogger
Image: http://www.baran-systems.com/Products/AffinityDiagramSoftware/index_concept.htm

HPV vaccine not required for school entry
Parents do not know about HPV disease or vaccines
3-9 HPV vaccine coverage in VFC-clinics has not increased as much as Tdap and MCV vaccine coverage.
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Fishbone Diagram

- Draw an arrow leading to a box that contains a statement of the problem
- Draw smaller arrows (bones) leading to the center line, and label these arrows with either major causal categories or process categories
- For each cause, identify deeper, root causes

6. Identify Potential Improvements

- Identify potential improvements to address the root cause
- Agree on one improvement (i.e., intervention) to test
- Revisit AIM Statement and revise measurable improvement objectives, as needed

Potential Tools: Prioritization matrix, Influence and Control chart

7. Develop Improvement Theory

- Articulate the effect you expect the improvement to have on the problem.

Potential Tools: “If... Then...” structure
8. Develop Action Plan

- Indicate what needs to be done, who is responsible, and when it should be completed

**Potential Tools:** PDCA Action Plan

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**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
7. Develop Improvement Theory
8. Develop Action Plan

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**Improve the Action Plan & collect data**

**Potential Tools:** Action Plan, spreadsheets

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**Check/Study**

1. Reflect on the Analysis
2. Document Problems, Observations, and Lessons Learned

**Do**

1. Implement the Improvement
2. Collect and Document The data
3. Document Problems, Observations, and Lessons Learned

**• Compare new data to baseline data**
**• Was AIM Statement measure met?**

**Potential Tools: Same as “Plan” stage**
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
7. Develop Improvement Theory
8. Develop Action Plan

Check/Study

1. Reflect on the Analysis
2. Document Problems, Observation, and Lessons Learned

Act

Adopt - Standardize
Adapt - Do
Abandon - Plan

Rapid Cycle PDSA

- Short cycles
- Iterative process
- Hold the gains from one cycle to the next
- Recurring cycles allows testing of multiple interventions


Questions and Observations

Ways to participate...
• Raise a hand and we will unmute your line.
• Type a comment or question in the chat log.

Share the following...
• Any questions or comments.
• An example of a QI project.
• A challenge or success with QI.

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
1. Know your stakeholders and what they need

Voice of the Customer – VOC

• Identify stakeholders and their needs
• Set goals based on stakeholder needs

2. Focus on processes

• 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.\(^1\)
  – Processes often “go wrong” at the point of the “handoff”
  – Some of the most complex processes are the result of creating a “work around”

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It’s Process, Not People

Public Health Emergency Response Program

• Problem: Decline in employee call-down response in Oct. 2010
• Theory: People are not responding
It’s Process, Not People

Public Health Emergency Response Program

• **Reality:** System not accurately recording responses, lack of understanding
• **Result:** Change in system = improved (and SUSTAINED) improvement

### Using Data Throughout the QI Process

**AIM:** The CDPH HIV Prevention Program will decrease missing data variables from 39% in 2012 to 10% by September 2013 and 5% by January 2014.

Data was used to:

• **Target improvement** - % of missing variables
• **Identify root causes** - customer survey; % clinics using excel reporting form and other reporting tools;
• **Monitor performance outcomes** – rate of uptake of new reporting form; % missing data associated with new reporting forms
4 Use teamwork to improve work

- 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

Team Charter

- Team Behavior Charter
  - Ground Rules
  - Decision-Making
  - Communication
  - Roles and Participation Agreements
  - Values
- Team Purpose Charter
  - Why Team Exists
  - Adequate Knowledge and Representation on Team
  - Understanding of Stakeholders
- Documentation and Measures of Team Progress
  - Indicators of Team Progress – Movement in right direction.
  - Types of Measures and Outcomes
  - Short, Intermediate and Long-term
  - Projected Dates

5 Make quality improvement continuous

- Use conclusions from data analysis to identify areas for improvement
- Charge, train and support QI teams
  - Plan-Do-Study-Act cycle
  - Develop AIM statement
  - Use tools to understand root causes
  - Use data for baseline and analysis
  - Design process improvement to address root causes
Demonstrate leadership commitment

- Reward improvements
- Connect strategic plan to performance improvement
- Know and use quality principles
- Initiate and support QI teams
- Encourage staff to use QI in daily work
- Assure adequate QI infrastructure for quality assessment and improvement activities

MARMASON Consulting: Quality Improvement in Public Health: It's Not Another Program

Poll Question 5: Are you interested in learning more about QI?

1. Yes
2. No
3. Unsure

Poll Question 6: As a result of this session, are you interested in participating in a QI project?

1. Yes
2. No
3. Unsure
Where do I get started?
Identifying a QI Project
Tools and Resources

What change will you make?

“When it is obvious that the goals cannot be reached, don’t adjust the goals, adjust the action steps.”

-Confucius

When to Use Quality Improvement...

- Has an existing process (if not, explore quality planning)
- Has existing data to indicate a problem exists (or data can be easily collected)
- Has potential for rapid turnover (at least monthly)
- Project is on a manageable scale ("bite" vs. "elephant")
- Resources are available to support project’s implementation
- We have ownership/control over the outcome of the issue
- Staff/leadership have demonstrated interest and engagement in the project

Source: Kane County Health Department, Quality Improvement PDSA Project Decision Matrix
Lean - “8 deadly wastes”

- Overproduction
- Transportation
- Motion
- Correction
- Inventory
- Waiting
- Unused Ideas/Talent
- Over Processing

Define Critical Processes

*What spells success or failure if not executed properly?*

1. Few in number, usually 5-10
2. Linked horizontally and vertically
3. Critical processes of an individual’s job should capture 75-80% of the factors that determine the success of the position
4. Can be mapped or diagrammed
5. Can be measured
6. Can be improved

Meet Customer Needs

*How do know what the customer needs and wants? Gather the Voice of Customer (VOC).*

- Measures used by customers?
- What improvement gives customer a competitive edge?
- Which process causes the most problems for them?
Why is customer feedback so important?

- Today the most progressive view of quality is that it is defined entirely by the **customer or end user** and is based upon that person's evaluation of his or her entire **customer experience**.

- The customer experience is the aggregate of all the **Touch Points** that customers have with the organization's product and services, and is by definition a combination of these.

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Practice Makes Perfect!

- Affinity Diagram
- Process Map
- Fishbone Diagram
- Force Field Analysis
- 5 Whys

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Resources to Get Started...

- Goal QPC and PHF
- Public Health Foundation (PHF)
- Public Health Foundation (PHF)
More QI Resources..

- Institute for Healthcare Improvement - http://www.ihi.org/resources/Pages/HowtoImprove/default.aspx
- Public Health Quality Improvement Exchange (PHQIX) – https://www.phqix.org/

THANK YOU!

Please complete the evaluation to provide feedback. Let us know if you have any specific content needs or questions for the upcoming webinars.

“This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number UB6HP27881 Region V Public Health Training Collaborative). This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.”