Applying Quality Improvement Techniques to Analyze Problems and Find Solutions

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Quality Improvement
- Strategic, integrated management system...
- For achieving customer satisfaction...
- Which involves all managers and employees...
- And uses quantitative methods...
  - To continuously improve an organization's processes...
  - To achieve defined objectives... (for health care, public health, etc.)

Definition: Quality improvement in public health...
- ...is the use of a deliberate and defined improvement process, such as Plan-Do-Check-Act, which is focused on activities that are responsive to community needs and improving population health.
- It refers to a continuous and ongoing effort to achieve measurable improvements in the efficiency, effectiveness, performance, accountability, outcomes, and other indicators of quality in services or processes which achieve equity and improve the health of the community.

Quality improvement continuum
Small qi
- Program or small unit
- Improving the efficiency and effectiveness of core programs and support processes in the public health department - that lead to improved community health status

Big qi
- Organization-wide with a system focus
- often tied to the strategic plan
- Responsiveness to community needs

PHAB - Voluntary Accreditation Self-Assessment Tool
- has QI Assessment measure for each Domain.
- “For the QI Assessment of Measure score, the health department will judge whether it believes that the documentation submitted either demonstrates that a QI process is present in the department or whether the documentation shows evidence that quality or performance improvement has occurred. If the agency does not feel that either attribute has been demonstrated, leave this score blank.

PHAB Self-Assessment Tool
- Domain 1: Conduct and disseminate assessment focused on population health status, environmental public health hazards and health issues facing the community

QI Assessment of Measure
QI Process Present Evidence of Improvement
Steps in Performance Improvement - NPHPS

1. Organize participation for performance improvement.
2. Prioritize areas for action.
4. Develop and implement improvement plans.
5. Regularly monitor and report progress.

Source: NPHPSP Users' Guide, 2006

NPHPS Self-Assessment Tool

Q1 looked at each Essential Service, for a total of 40 indicators in the State

Instrument:
1. Planning and Implementation – focuses on LPHS collaboration
2. Technical Assistance and Support
3. Evaluation and Quality Improvement – focuses on the state public health system’s predetermined, periodic review of its activities and how the results are used to improve the quality and outcome of its efforts.
4. Resources – how effectively utilized to accomplish delivery of the Essential Services.

To Carry Out a Quality Improvement Process, “Plan-Do-Check-Act”

Plan
- Plan changes aimed at improvement, matched to root causes

Do
- Carry out changes; try first on small scale

Check
- See if you get the desired results

Act
- Make changes based on what you learned; spread success

Two Jurisdictions: Same Score, Different Reasons
Low Score on Essential Service 10
(Research for New Insights and Solutions to Health Problems)

<table>
<thead>
<tr>
<th>Jurisdiction A</th>
<th>Jurisdiction B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reasons for Low Score</td>
<td>Reasons for Low Score</td>
</tr>
<tr>
<td>- No university or research institution nearby</td>
<td>- No leadership support for research with local universities</td>
</tr>
<tr>
<td>- Don’t know how to link with research institutions, despite leadership interest</td>
<td>- No incentives for organizations or staff to identify innovations</td>
</tr>
<tr>
<td>- Little or no funding in budgets for research</td>
<td>- No feedback from management to recognize staff research</td>
</tr>
</tbody>
</table>

Potential Improvement Actions
- Identify out-of-state research partners
- Access sample academic-practice linkage agreements
- Try building 5% research time into two large programs, plus seek in-kind student/ faculty assistance
- Meet with leaders to show benefits to local priorities
- Recognition and grant incentives for innovative solutions
- Prompt manager feedback on contributions via employee reviews

Common root causes of performance problems

- Methods & Procedures
- Motivation
- Materials & Equipment
- People
- Information & Feedback
- Environment
- Policy

Some QI Tools to Help Teams Analyze Performance

Source: Public Health Foundation accessed at www.phf.org

Brainstorming

- Technique to generate many ideas in a short period of time
- Ideas solicited without judgment from team members
- Set a high minimum number (e.g., 15-20) to push beyond the obvious

Brainstorming Example

Why doesn't the state public health system effectively assist local jurisdictions with epidemiologic investigations?

- State personnel shortages
- Limited state staff expertise
- Too many hurdles to request help
- Slow response to local requests
- No process to detect when help may be needed
- Local staff forget whom to contact
- People don't know what technical assistance is available

Affinity Diagramming: Steps to organize brainstorming result

- Sort the brainstormed list, moving ideas from the brainstorm into affinity sets, and creating groups of related ideas. As you sort ideas:
- Rapidly group ideas that seem to belong together.
- It isn't important to define why they belong together.
- Clarify any ideas in question.
- Copy an idea into in more than one affinity set if appropriate.
- Look for small sets. Should they belong in a larger group?
- Do large sets need to be broken down more precisely?
- When most of the ideas have been sorted, you can start to enter titles for each affinity set.
Affinity Diagram: Why doesn’t the state public health system effectively assist local jurisdictions with epidemiologic investigations?

Reasons for Reporting Lag

- Providers see no benefit to timeliness
- No penalties
- No follow-up from health department if late
- Too many steps to identify and correct missing data
- Reports sent to wrong health department
- No one assigned at doctor’s offices
- Faxes checked weekly
- Online form hard to use

Incentives/Consequences

- Providers see no benefit to timeliness
- No penalties
- Too many steps to identify and correct missing data
- Reports sent to wrong health department

Methods

- Faxes checked weekly
- No penalties
- Too many steps to identify and correct missing data
- Reports sent to wrong health department

Information

- No clear time standards
- Online form hard to use

Materials

- No clear time standards
- Online form hard to use

People

- No one assigned at doctor’s offices

Fishbone (Ishikawa) diagram

- Cause and effect diagram
- Identifies factors that may influence a situation
- Used to organize brainstorming result
- Effect is desired or undesired situation produced by a system of ‘causes’

Nominal Group Technique: Why doesn’t the state public health system effectively assist local jurisdictions with epidemiologic investigations?

- Helps to prioritize and create consensus from a list of potential causes or solutions
- Allows every team member to rank choices

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

Pareto Analysis: Find the important few

<table>
<thead>
<tr>
<th>Reasons</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>No one assigned</td>
<td>3</td>
</tr>
<tr>
<td>Local refuses help</td>
<td>1</td>
</tr>
<tr>
<td>Wait for approval</td>
<td>39</td>
</tr>
<tr>
<td>Incorrect local contact</td>
<td>5</td>
</tr>
<tr>
<td>Incomplete data</td>
<td>2</td>
</tr>
</tbody>
</table>

IDENTIFY WHICH CAUSES TO ADDRESS • GO FOR HIGHEST IMPACT
Flowchart

- Use to check and clarify how processes work
- Helps to identify breakdowns and bottlenecks
- Examines relationships among process steps in systems

Help Teams Look for Root Causes and Solutions in…

- NPHPSP Assessment Notes
- MAPP or Similar Community Initiatives or Assessments
- Reports
- Research Findings

What are the Sterling (FL)/ Baldridge (US) Criteria?

- A series of questions about HOW you lead and manage your organization for optimum results

1. Leadership
2. Strategic Planning
3. Customer and Market Focus
4. Measurement, Analysis, and Knowledge Management
5. Workforce Focus
6. Process Management
7. Organizational Performance Results

Role Model Leadership Practices

- Personal commitment to customers
- Highly visible, personally involved leaders
- Clear and consistent communication of and adherence to vision, mission, values, directions, and expectations
- Managers as coaches and role models
- Use of organizational review findings to set improvement focus and priorities
- Focus on learning at all levels
- Champion for company citizenship
- Open and honest response to issues

Role Model Practices for Strategic Planning

- Balance of short- and long-term horizon
- Aggressive leapfrog goals derived from the study of world class organizations
- Plans cover both services and processes
- Key measures derived from customer and employee requirements
- Top to bottom linkage
- Systematic approach to addressing risks
- Strategies, action plans, measures and targets deployed to employees at all levels
- Involvement of key suppliers, partners, and customers
Role Model Practices for Customer and Market Focus

- In-depth customer and market knowledge
- Use of numerous listening posts
- Effective and prompt resolution of complaints
- Empowerment to satisfy customers
- Focus on relationship management and loyalty
- Attention to hiring, training, attitude and morale of customer contact employees
- High levels of customer satisfaction
- Analysis of dissatisfaction
- Focus on needs of current and potential customers

Role Model Practices for Measurement, Analysis, and Knowledge Management

- Balance weighted toward quantitative with some qualitative
- Multiple interlinking measures that matter
- Data and information are widely deployed and accessible
- Strong analysis capability
- Fact-based decision making
- Comparison against best-in-class processes and results inside and outside the industry
- Reliable, secure, and user friendly systems
- Capturing and sharing organizational knowledge

Role Model Practices for Workforce Focus

- Recognition of employees as internal customers
- Relevant, effective, and comprehensive education, training, and development
- Work and job design encourages employee involvement and empowerment
- Learning linked to individual and organizational needs
- Team and individual compensation and recognition reinforce high performance
- Commitment by leaders to employee satisfaction, motivation, well-being, and morale

Role Model Practices for Process Management

- Customer requirements built into processes
- Focus on continuous improvement, cycle time reduction, and productivity
- Integration of prevention, correction, and improvement in daily operations
- Partnering with suppliers and customers
- Well-defined product, program, service, business, and support processes
- Focus on processes that create value for all stakeholders
- Regular assessment

Role Model Practices for Organizational Performance Results

- Broad array of segmented customer measures
- Broad base of improvement trends, particularly in cycle time and productivity
- Sustained positive performance levels
- Results benchmarked to leaders
- Results linked to approaches and analyses
- Actionable