OVERVIEW OF QI FOR PUBLIC HEALTH LEADERSHIP JOINT CONFERENCE ON HEALTH

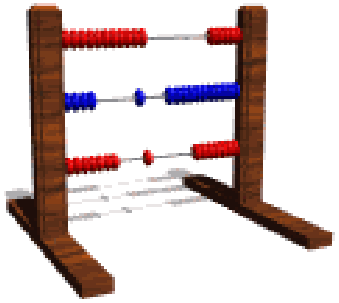
OCTOBER 11, 2010

MCPP Healthcare Consulting

QI for Leadership Series

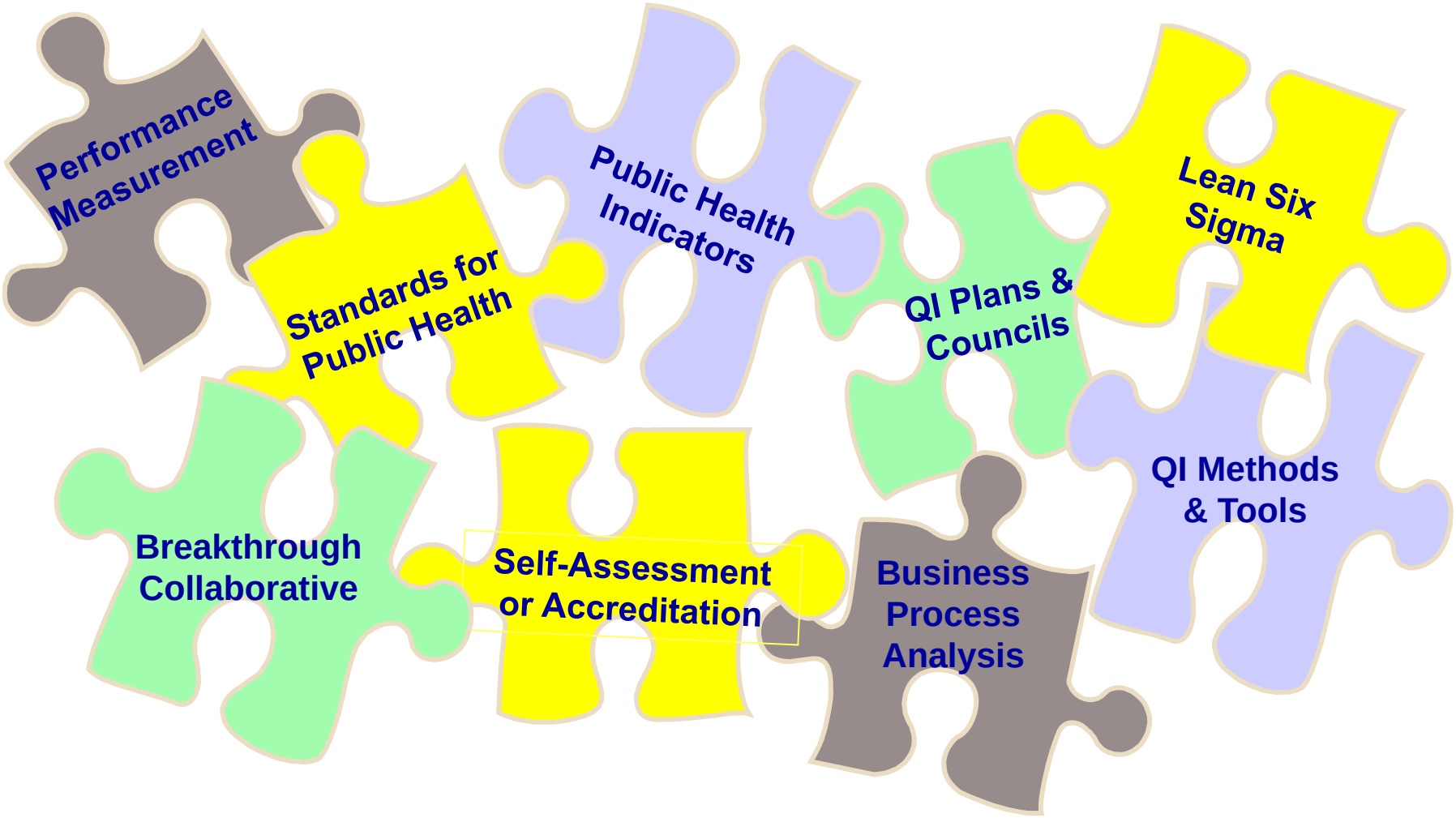
- **Session # 1: Overview of Quality Improvement for PH Leadership**
  - Quality improvement principles and methods that support performance management in a public health agency (in-person 10/11 & iLinc 10/14)
- **Session # 2: The Importance of Creating a Culture of QI**
  - Three PH leaders (DOH, TPCHD and SRHD) will share their experience and strategies for building a QI culture in their agency (iLinc 11/1; 2-3:30 pm)
- **Session # 3: Quality Improvement Hands-on Workshop**
  - This session will provide tools & strategies to select QI efforts and process and tools for building QI into an agency's culture (iLinc 12/2; 1:30-3:00 pm)

Today's Learning Objectives



- In today's session the participants will develop a better understanding of:
  - Performance Management and Integration of QI into the Agency
  - Principles of Quality Improvement
  - Plan-Do-Study-Act Cycle for Improvement
  - Root Cause Analysis

Performance Management

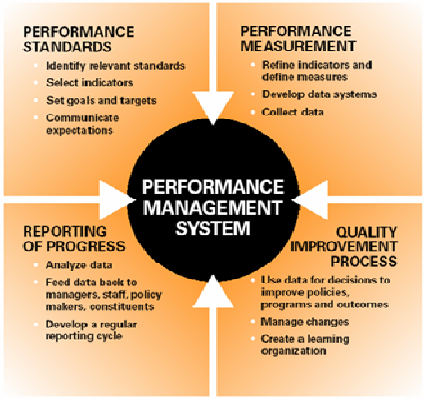


Performance Management

Source: Turning Point Performance Management Collaborative, 2003.

Performance Standards

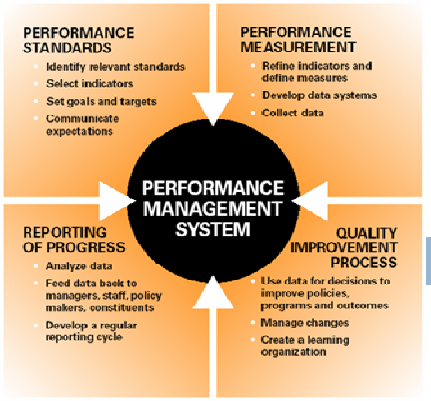
1st Quadrant



- Establish Performance Standards
  - Public Health Accreditation Board (PHAB) Standards
    - Local, State and Tribal Health Departments
  - NACCHO – Operational Definition and Standards
  - National Public Health Performance Standards (CDC)
- Establish and Define Outcomes and Indicators
  - Process and Intermediate Outcomes
  - Health Status Indicators

Performance Measurement

2nd Quadrant



Monitoring of Performance

- Results of review of performance (Accreditation/Self-Assessment) against local and state Standards
- Program evaluation results

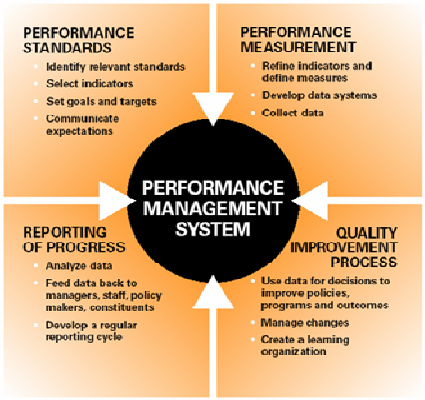
Monitoring of Indicators and Outcomes

- Process and intermediate outcomes
- Health status indicators

Quality Improvement Process

3rd Quadrant

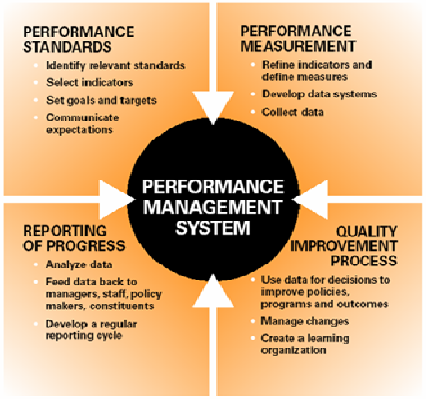
- Establish QI structure and capacity in agency (Big QI)
  - Use data to identify opportunities for improvement and to make decisions
  - Establishing QI Councils, Plans, and Teams
- Quality Improvement Methods and Tools (little qi)
  - Improvement Collaboratives
  - Lean Six Sigma
  - Adapting or Adopting Model Practices
  - Logic Models, RCI, Business Process Analysis
  - QI Tools; Data Analysis and Root Cause



Reporting Progress

4th Quadrant

- Reporting of Performance (Local and State Standards and Program Evaluation)
- Reporting of Indicators and Outcomes
  - Health Indicators
  - Program Evaluation Data



- Requires regular tracking, analysis and review to tell you if you are achieving your agency goals
- Provides the basis for deciding on QI efforts and the baseline information for measuring the impact of quality improvement activities

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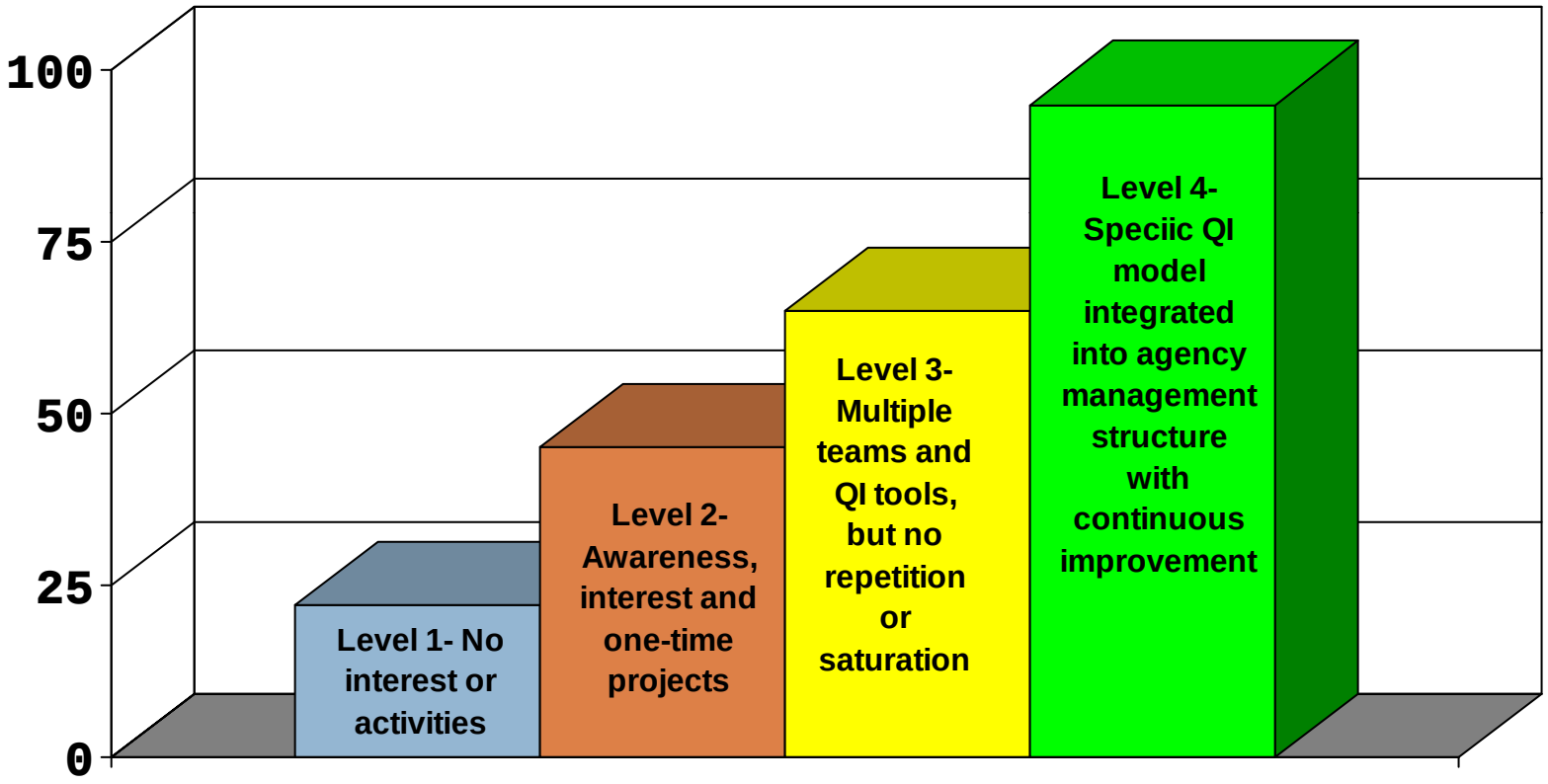
Integration of QI into Agency Culture

Multilevel Model of Integration*

- Spread can be defined as moving from common practices to best practices
- Diffusion is the rate at which innovation is adopted within an organization or industry

*Bill Riley and Russell Brewer, Review and Analysis of QI Techniques in Police Departments, JPHMP Mar/April 2009

Levels of QI Integration



JPHMP Article Recommendations

- Implement QI as a comprehensive management philosophy rather than a project-by-project approach
- Top officials must set a vision for the agency and exhibit constant leadership, focus continuously on mission
- Use the lessons/proven methods from others [general healthcare, police, etc.] to overcome barriers
- Find creative ways to secure resources for QI
- Build on existing PH tools and capabilities
- Conduct a self-assessment for QI readiness in your agency

Bill Riley and Russell Brewer

Let's Discuss!

What is your experience with the four components of performance management and integration of QI?

QI Principles and Strategies

The Quality Environment

- Do you have an agency-wide commitment to assessing and continuously improving quality over time?
  - Are your decisions based on data?
  - Do you know if your agency is achieving its goals?

- Do you use data to decide on improvement initiatives and to know if the improvements are successful?

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."
- Uppercase QI = top management philosophy resulting in complete organizational involvement
- Lowercase qi = conduct of improving a process at the microsystem level

* Bill Riley and Russell Brewer, Review and Analysis of QI Techniques in Police Departments, JPHMP Mar/April 2009

Principles of Quality Management

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

- Identify stakeholders and their needs
  - Sector Mapping
  - Community Assessment
  - Advisory Council Input
  - Survey Data & Focus Groups
  - Force Field Analysis
- Set goals based on stakeholder needs

Public Sector Map

Department of Defense
- Tri-Care
- Prime

National Institute of Health

Governor / Legislature

Office of the Insurance Commissioner

Department of Health
- Chronic Disease & Risk Reduction
- Diabetes Prevention & Control
- Community & Rural Health
- Community & Family Health
- Maternal Support Srvcs
- Women, Infants & Children
- Licensing Boards

Employment Security Department
- Worksource

Office of the Superintendent of Public Instruction

Dept. of Corrections
- Prisons

Dept. of Social & Human Services
- Aging & Adult Services
- Med. Asst. Admin
- Division of Developmental Disabilities.
- Mental Health Division

Department of Veterans Affairs

School Boards
- Public schools
- BIA schools
- Charter schools
- Private faith based schools

Department of Labor & Industries

Health Care Authority
- Public Employees Benefit Board
- Basic Health Plan

State Board of Health

Local Governments

Local Health Jurisdictions

Public Hospital Districts

Head Start Programs

Public Library System

These are examples of partners in the public health system: **Bold**= Large agency or organization, *Italics*= Type of organization, not a specific entity, Regular= Specific organization or entity
Bullets refer to examples of organizations and are not a comprehensive listing.

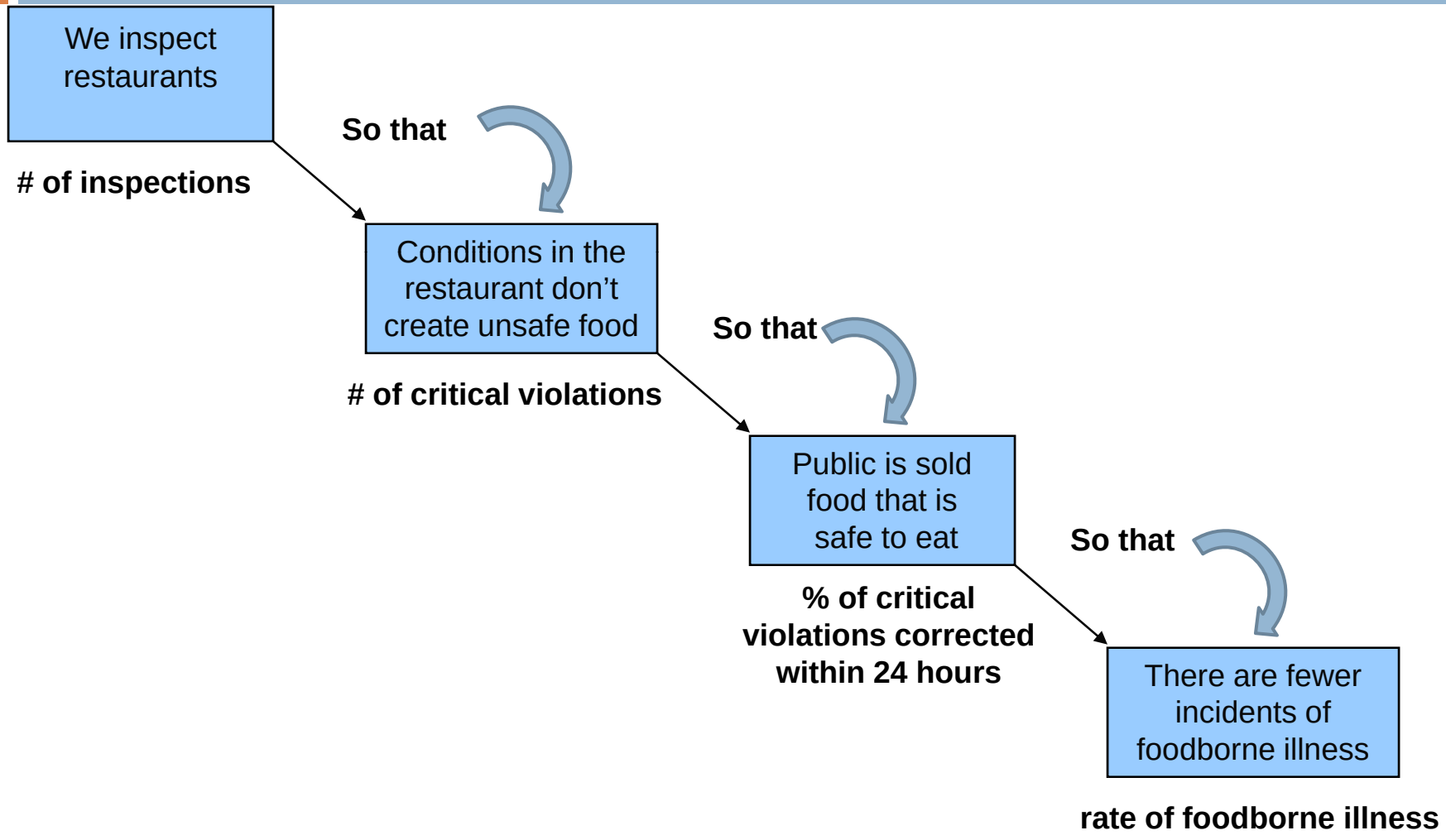
2. Focus on Work Process

- 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"
- Attend to improving the overall process, not just one part—some of the most complex processes are the result of creating a "work around"

Tools to Describe Work Processes

- Logic Models
- High level flow charts [6-12 steps] initially
  - Identify customer-supplier relationships
- More detailed flow charts as project unfolds
  - Client flow, information flow, materials flow, decision making flow
- Use for process redesign
- Use for adapting or adopting best practices

The Logic of Public Health



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

Use Data to Make Decisions

Conceptual Tools

- Affinity Diagram
- Brainstorming
- Process Flow Chart
- Cause and Effect Diagram (Fishbone)
- Five Why's
- Matrix Diagram

Numerical Tools

- Check Sheet
- Bar Chart
- Histogram
- Pareto Chart
- Control Chart
- Run Chart

[See Goal/QPC PH Memory Joggers]

The Power of Root Cause Analysis

- William Edwards Deming transformed quality control processes by applying his beliefs*
  - Just measuring outputs/outcomes at end of process ignores the root cause of problems and the resulting poor result
  - Problems can be avoided and quality improved indefinitely if these root causes are discovered and addressed through ongoing evaluation and quality improvement
  - All of an organization's processes should be part of an ongoing measurement process with feedback loops

* The Public Health Quality Improvement Handbook, page 22

Root Cause Analysis

- Goal:
  - To find the real cause of a problem or issue
  - Understand the impact to the organization
  - Resolve it with a permanent fix

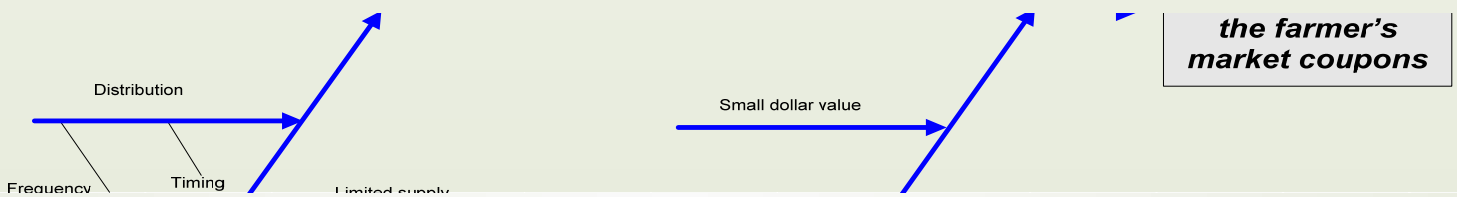
- We need to determine:
  - what happened?
  - why it happened?
  - where it happened?
  - how to eliminate it?

Cause-effect or Fishbone Diagram

- Exercise: Constructing a Fishbone Diagram
- Organizes and displays theories
- Encourages divergent thinking
- Demonstrates the complexity of the problem
- Encourages scientific analysis (rule-out)

- Turn to page 23 in the PH Memory Jogger.

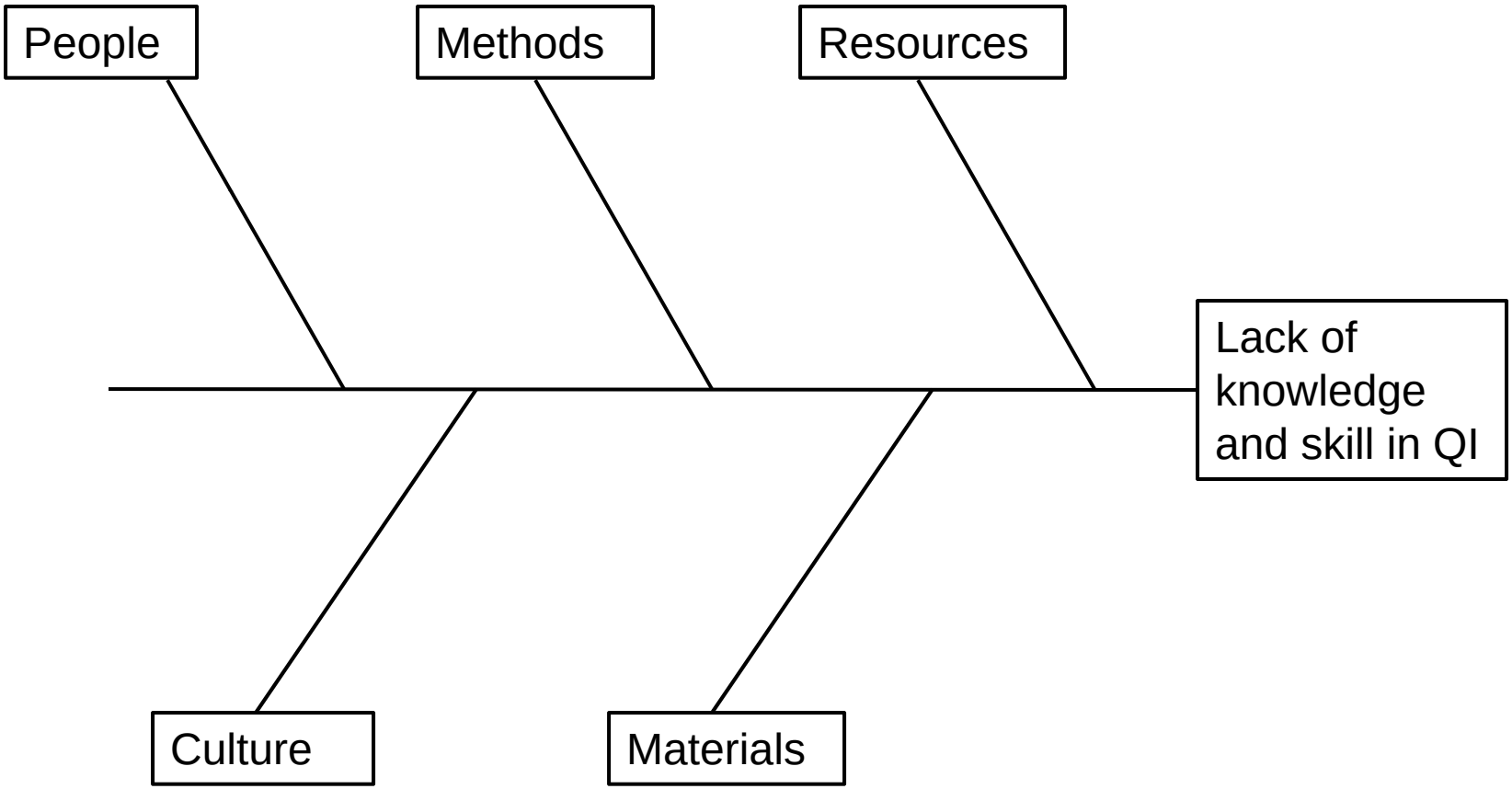
Example of Fishbone



Practice – Fishbone Diagram

- Problem statement: Lack of knowledge and skill in QI methods and tools

Exercise- Fishbone Diagram



4. 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

Tips for Effective QI Teams

- Teams should develop a clear charge and support resources
- Teams should adopt working agreements (cell phone etiquette to decision procedures)
- Teams should assign roles of facilitators and recorders
- Team process has predictable stages that are useful to keep in mind:
  - Forming, Storming, Norming, Performing

Affinity Diagram*

- Why use it?
  - To allow a QI team to creatively generate a large number of ideas/issues and organize in natural groupings to understand the problem and potential solutions.
- What does it do??
  - Encourages creativity by everyone on team
  - Breaks down communication barriers
  - Encourages non-traditional connections among ideas/issues
  - Allows breakthroughs to emerge naturally
  - Encourages ownership of results
  - Overcomes "team paralysis"

**PH Memory Jogger page 12*

How to Build an Affinity Diagram

- Phrase the issue under discussion in a full sentence and write at the top of full size flip chart paper
- Distribute 3 x 5 post-it notes to each participant
- Follow the rules for brainstorming
- Have each participant write their ideas on the Post-Its, one idea per sheet in large letters, 4-7 words each
- Have participants place their Post-Its on Flip Chart
- Facilitator assists group to sort Post-Its into 5 – 10 related categories
- For each category create a title or heading
- Review categories and ideas to rearrange, if necessary

Uptake of Vaccines Example (Kittitas, WA)

Physicians reasons

Vaccine efficacy is low

Severity of infection is

Barriers

Insurance status

Lack of routine healthcare in adolescents

omfortable with your

Patient-relat

Parent knowledge about illnesses is insufficient

Parent perception of vaccinations

Overestimated risk of side effects – parent fear

Parent perception that children are at low risk of contracting illness

Adolescent/parent refusal

Ob

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tha

Other questions

Would you support vaccinations in other settings? (school clinics, teen clinics, health department clinics)

What do you think your coverage rate is?

Do you refer elsewhere for immunizations?
All, or only certain?
List of reasons...

Do you have a system to track/recall immunization patients?

Do you ever perform routine audits of charts for immunization status?

How do you check imms status, EMR, paper chart, CHILD profile?

What are your clinics plans with the loss of universal vaccine status in WA?

Barriers to vaccinating adolescents

Insuranc

Incomplete record
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Do you have a pri
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Would you seek
settings? (schoo
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Residen

My child i

Reasons for not vaccinating

Unknown vaccine efficacy

Severity of infection is low

Safety of vaccination

Oppose vaccinations
personal or religious values

Inconvenient

Too many vaccines may "overwhelm" immune system

Medical contraindication of child or sibling

Signed exemption?

New vaccine with little safety track record

Can cause other health problems (allergies, autism)

Lack of knowledge about recommended vaccines

Need for multiple doses

Vaccines may cause the diseases meant to protect against

School entry requirements

Does your provider remind you of needed immunizations?

Forgetfulness

Promotes promiscuity

Children oppose vaccinations

Herd immunity

Diseases are very rare

Don't know current recommendations - they change frequently

Don't know what shots my child has had - no access to record

5. Make QI Continuous

- QI is a system-wide approach to assessing and continuously improving quality of the processes and services over time
  - See inter-relationships, not parts
  - Understand the flow of work, not the one-time snapshot
  - Detail the work processes
  - Determine cause and effect relationships
  - Identify points of highest leverage
  - Improve and innovate, not just change for change's sake

Improvement Model - PDSA Cycle

- 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

PDSA Improvement Cycle

Act

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

DOCUMENTATION OF CHANGE - MINUTES

Plan

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

REVISE LOGIC MODEL

Study

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

DATA REPORT

Do

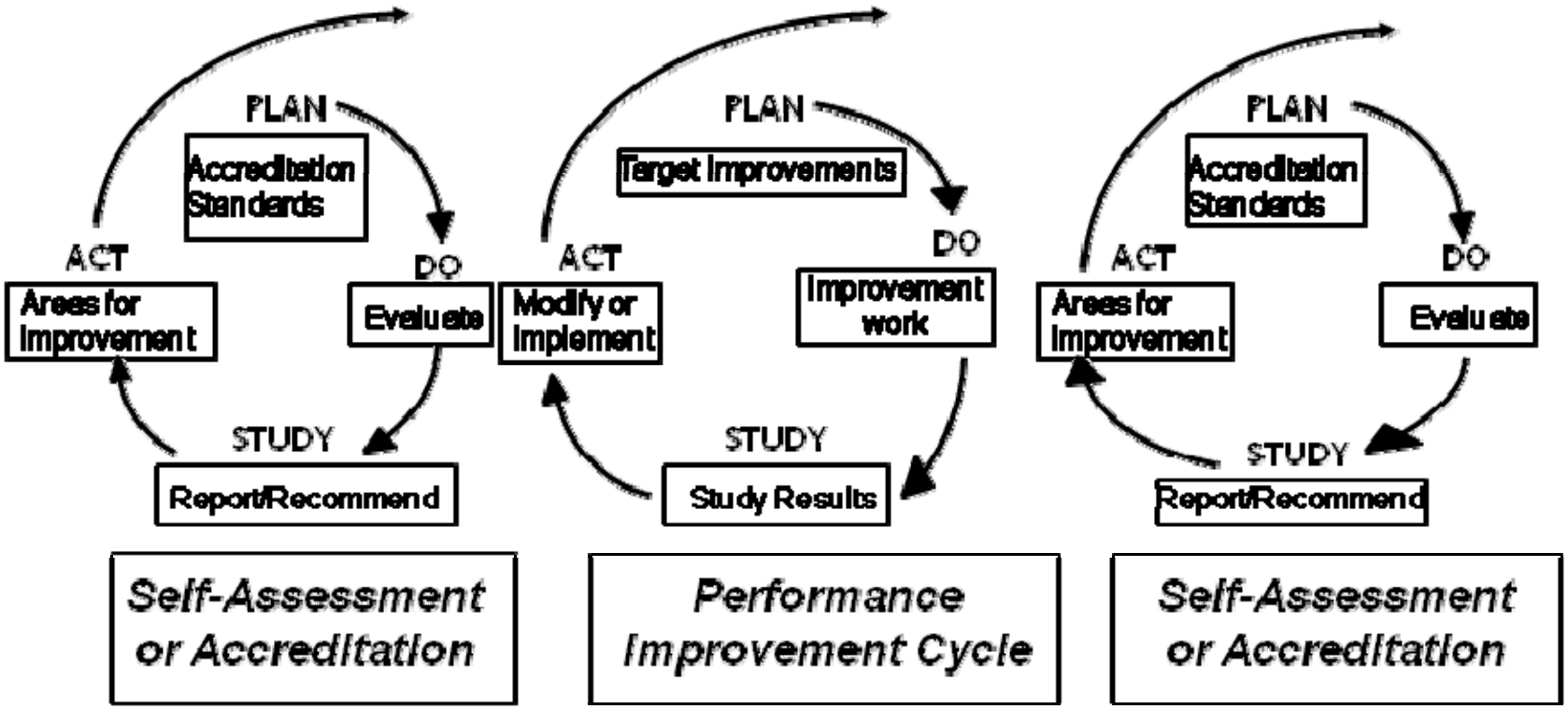
- Carry out the plan
- Document problems and unexpected observations
- Begin analysis of the data

WORK PLAN

Make QI Continuous

- Use conclusions from data analysis to identify areas for improvement
- Charge QI team and provide 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 staff on the process improvement

Application of P-D-S-A



Adopt or Adapt Model Practices

- Use data to identify need for improvement
- Identify exemplary practices in:
  - Other local and state health departments,
  - CDC and other national organizations, www.naccho.org/topics/modelpractices
  - Other industries
- Describe your process (Logic Model or Flow Chart)
- Study the exemplary practice process
- Adopt or adapt as appropriate

6. Demonstrate Leadership Commitment

- Build a QI culture in your agency
- Connect the organization's strategic plan to performance improvement
- Know and use quality principles
- Initiate and support QI teams
- Encourage all staff to use quality improvement in daily work
- Reward improvements
- Assure adequate QI infrastructure for quality assessment and improvement activities

QI Culture and QI Council

- Critical to make data/reporting meaningful to staff
- Performance measures:
  - More is not better
  - Resource level declines after the first data reporting period
  - Staff need lots of practice/training to develop good performance measures
- RCI/QI projects:
  - Quality planning is more appropriate than QI for some projects with long-term outcomes

Line of Sight

Developing a tracking process to understand reasons why eligible MSS women do not receive services.

Revised tracking system developed

Short term outcome

So that…

Increase % of **referrals** who are in their 1st trimester of pregnancy.

% of MSS first trimester *referrals*

Medium term Outcome

So that…

Pregnant women receive referral, education and support for healthy behaviors throughout pregnancy

% of MSS clients who receive 3 or more home visits

Medium term Outcome

So that…

We can assess pregnant women in the 1st trimester for risk factors such as smoking, PN and dental care needs, substance use and nutritional status.

% of first trimester MSS *home visits*

Long term outcome

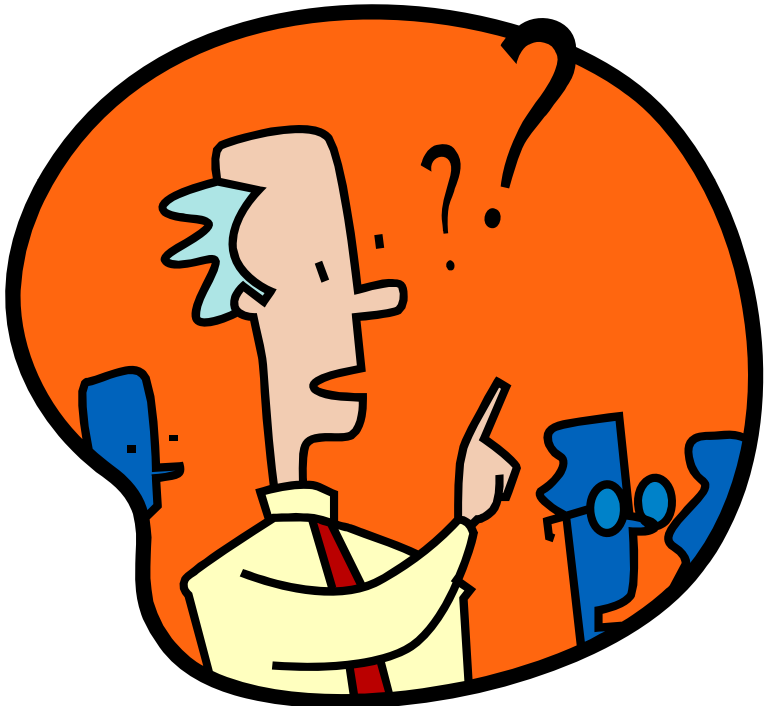
So that…

Known risk factors for LBW are ↓

Pregnancy outcomes are improved

TPCHD LBW QI Project

Change vs. Improvement

- W. Edwards Deming stated "Of all changes I've observed, about 5% were improvements, the rest, at best, were illusions of progress."
  - 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

What questions do you have?