Quality Improvement at the Genesee County Health Department

Robert M. Pestronk
Health Officer
Genesee County, MI
November 15, 2007

pestronk@gchd.us

- **<u>Population of Genesee County:</u> 439,000***
- **<u>Staff size</u>: 160**
- **<u>Programs</u>: see www.gchd.us**
- **<u>Governing Entity:</u> nine-member elected Board of Commissioners with a a five-member advisory Board of Health operating under P.A 368 of 1978 (Public Health Code) and other rules, regulations and procedures adopted locally.**

*U.S. Census Bureau, 2004 American Community Survey)

A quick history

- Failure in 1995
- Traction in 2005

Quality equations

- Quality improvement = f(x + y + z) where x = culture or environment (system?), y= tools and training, z = persistence and patience
- Failure = success

» The Machine that Changed the World, Womack et al

Outline

- Tools and opportunities
- Intentional design
- Seeds
- Lessons to share

Tools and opportunities

- Tools
  - Strategic plans and annual reports
  - Accreditation
  - Logic models
  - Specific QI methodologies
- Opportunities
  - Problems
  - New Employee Orientation
  - Intentional Design
  - Seeds
  - “Volunteers”

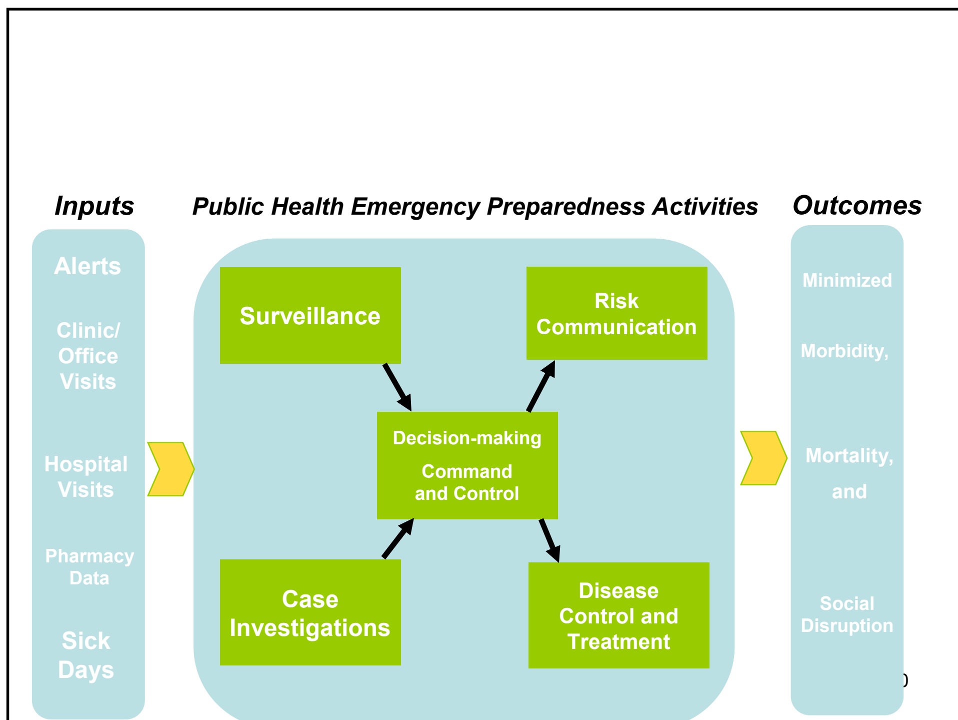
Intentional Design

1. Offer to be trained
2. Select an initial project team (fertile ground)
3. Allow them to select their own project
4. Provide encouragement and support
5. Add to the initial team a team member from another part of the department
6. Provide regular orientation on process and product to entire management team (meetings) and department (newsletters, emails)
7. Seek a second opportunity to be trained, if possible
8. Expand into the second area with a member of the first team
9. Look for “sprouts” elsewhere
10. Repeat steps 1 - 9

Seeds (in order of planting)

- RAND
- Common Ground
- RWJ: MLC2
- HRSA/Healthy Start

1. RAND



The initial project

- Goals
  - Provide quick and clear communication to our staff and to the public.
  - Cultivate readiness to receive information during an emergency.
- Outcomes desired
  - Reduce by half the time it takes to prepare risk communication messages.
  - Distribute audience-specific messages within 3 hours.
  - Communicate messages to each Genesee County household within 18 hours.
  - Reach all staff with message within 90 minutes of an identified event.
  - Assure access to and use of pre-prepared messages.

PREPARE domain(s):
- Clear Command Control and Communication (CCC)
- Accurate & Effective Risk Communication (RC)

Reaching staff in 90 minutes

- How long does it takes GCHD staff to confirm receipt of an emergency email?
- How long does it takes GCHD staff to confirm receipt of an emergency email that contains additional instructions for the reader to alert co-workers to read and respond?
- How long does it takes for GCHD incident command staff to confirm receipt of a state-generated alert?
- How long does it take for staff monitoring 14 GCHD internal fax machines to confirm receipt of an emergency fax?
- Would an email from the Health Officer requesting completion of a task, increase response rate?
- Would training a staff member “just in time” allow for proper participation in a region wide communications drill utilizing a 800 MHz. radio?

Hypotheses to test

- **If adequate instruction and rationale are given to staff, a better and timelier response can be expected**
- **If an email is sent out by the Health Officer, it will receive more attention and response**
- **If we know that staff receive messages, we will have a better idea of who will respond to them during an emergency**
- **If staff know how to properly respond to test communications, rather than expecting that someone else will "take care of it", timelier response will result**

Lessons learned

- **There will always competing interests - change must be made a priority**
- **Diligent planning & commitment is necessary to improve**
- **Buy-in from senior management is essential before approaching front-line staff with change strategies**
- **Staff need experience to learn that improvement is possible**
- **Cross divisional communication and collaboration helps**
- **Projects may take more time than initially planned**
- **Teams embarking on QI require training, tools, opportunities to fail, and continuing encouragement**

2. Common Ground: S.T.D. With I.T.!

The spinoff project: "S.T.D. With I.T.!" Goals

- Goals
  - Improve the accuracy and timeliness of reporting by clinicians
  - Decrease the number of paper reports coming into the Health Department STD program
- Methods
  - Public Health Informatics Institute's Business Process Methodology

"S.T.D. With I.T.!" Objectives

- Assure provider compliance with STD reporting requirements
- Modify and utilize current audit and monitoring system to maintain ≥ 90% reporting accuracy rate
- Increase by 50% the number of entities reporting into the web-based Michigan Disease Surveillance System (MDSS)
- Maintain at ≥ 50% the number of entities entering data into MDSS

Measurable Outcomes

- Timely & accurate STD reporting per state law as evidenced by:
  - 90% of STD reports submitted with in 2 weeks of diagnosis
  - 90% of STD reports submitted accurately
  - By 2010, entities using MDSS will maintain ≥ 90% accuracy
- By 2010, 90% of entities will be using MDSS

Project Status & Unexpected Benefits

- Draft plan of action completed including initial "Plan Do Study Act" (PDSA) cycle
- *Surprise*…Spontaneous use of methods to analyze and improve cash handling and billing processes!
- Derivative experiment in clinic setting to assess potential improvements in billing processes

3. RWJF:State-based initiatives

- Multi-state learning collaborative (MLC-1)
  - Improving Michigan's accreditation process
- Michigan Accreditation Continuous Quality Improvement Collaborative (MACQIC or MLC-2)
  - RAND as jumping off point for Genesee projects on surveillance

MLC-2 (Schools and “day cares”)

- Problems
  - Poor compliance with required communicable disease reporting
  - Local system paper-based and time consuming
  - Reporting consistently incomplete
  - Time lag between reporting and use for surveillance
- Goals
  - Enhance school building and childcare reporting system
  - Decrease staff time cleaning data and analyzing reports
  - Increase reporting rates

MLC-2

- Methods/tools
  - Pareto analysis
  - Process mapping
  - Run charts
  - Internal time study
  - Rapid PDSA cycles
  - Web site developer
- Results
  - Staff input time eliminated
  - Data fields completed
  - Reporting rates increased
    - » Abstract available

MLC-2 (Improving Departmental surveillance Health Foodborne Illness Reporting system)

- Goals
  - Improve collection, completeness, retention, and tracking of foodborne illness reporting
  - Improve communication among divisions
  - Increase user satisfaction
- Methods and results
  - Reporting completeness improving
  - Improved communication
  - Process mapped and improved

4. HRSA-Healthy Start

- Goals
  - Establish a clear set of measurable objectives
  - Use modified QI techniques to do so (process mapping, pareto analysis, measurement design, hypothesis formation and testing)
  - Better understand and improve processes
- Outcomes (conjoint with REACH activity)
  - Reduction in infant deaths

Volunteers

- Spontaneous use of QI methodology in other programs
  - private well water
  - septic system programs
  - WIC program

Has it "taken"?

- Too soon to tell whether the ideas will spread department-wide to become a culture, a way of doing business, or an attitude

Lessons learned

- Yoda says, “Single methodology QI is not”
- Deming says, “Drive out fear and think long term”
- Textbooks say, “Demonstrate senior leadership commitment”
- We say, “Improve an existing program, pick initial staff strategically, allow staff to pick initial project, start small, train adequately and make it special, promote continuously and widely at every opportunity throughout the organization”

The Road to Public Health Performance Improvement (QI)

Outline

- Measures, measures, we have lots of measures!
- How many measures do I follow?
- When, oh when will the measure change?
- Is there any *evidence* to support the measure and to use for action?
- Should you insist that the measure be pragmatic?
- Some examples (case studies)
- Questions
- Lessons learned

Measuring and Choosing Measures

Measurement is critical to performance improvement and is the most difficult part of the process

Measurement

- If we want to improve, we have to measure
- But we do!
- We have lots and lots of measures!
- Vital Statistics, HP 2010, Communicable Disease rates, BRFSS, etc.
- Measures:
  - Represents something significant?
  - Easy to understand and use?
  - Can change in a reasonable time frame?
  - Are there confusing variables that can affect the measure?

Criteria for Selecting Measures (Indicators)

- Does the measure:
  - accurately determine Program Effectiveness
  - really reflect what we do?
  - accurately determine process effectiveness?
  - actually show progress over a reasonable time frame?
  - provide a sense of accomplishment in those responsible for the process
- Is the measure:
  - important?
  - related to the overall outcome we want to see?
  - easily understood and meaningful?

- Indicators rely on data that is already available or that is easily obtainable
- The data supporting a measure is objective (as much as possible)
- Indicators must be responsive to public health interventions

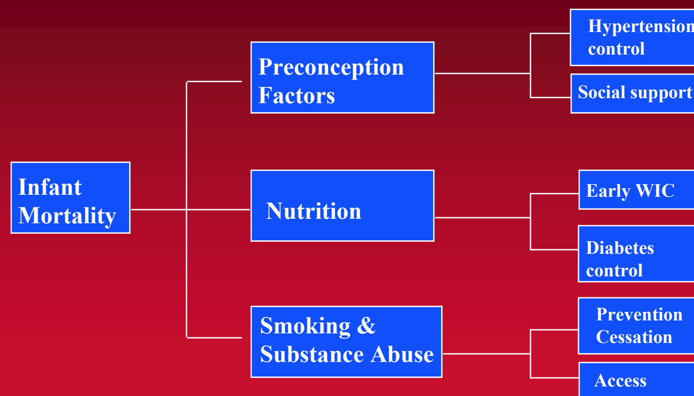
- Valid, objective, and reliable indicators of what we really want to measure
- Will be pragmatically useful over a reasonable period of time
- Examples – and a story or two

Indicators – The good the bad and the ugly!

A few examples of indicators we have struggled with at both state and local levels - Case studies

- Low Birth Weight
- Enteric Disease rates
- Employee productivity
- County Health Department customer satisfaction process

Relating Public Health Processes to Health Status Outcomes – Remember APEX?



Indicators – The good the bad and the ugly!

Sample indicators that work!

- "85 by 05" for Immunizations
- Disease reports – average or sample response times
  (good epidemiology and preparedness as well!) May use different measures such as random checks or specific dates and times for the response. For example, date of first investigative contact, dates when contacts are identified, time to complete investigation or to administration of prophylaxis.
- First trimester entry into prenatal care
- Early prenatal WIC participation
- Cases of congenital syphilis

Indicators – The good the bad and the ugly!

Sample indicators that can work!

- TB completion of therapy
- Medicaid billing success rates
- HIV regimen compliance
- Time to abatement of an outbreak
- Disaster drill staff contact times
- % of infants breastfed
- Tobacco use by middle and high school students
- Smoking cessation success
- Clinic waiting times
- Hgb A1c levels in treated patients with diabetes
- % of patients with hypertension who are controlled

I'm the fairest one of all

But what evidence have you?

Do you have any data?

Indicators provide evidence…of **where** you're going, **how** to get there, and **how well** you're doing

Components of QI

- Focus on process – and how it impacts the desired outcome
- Customer oriented - often the community is the customer
- *Pursuit* of a goal
- Desire to do better
- Employee led
- Leader supported
- Usually involves accurate statistical analysis
- Benchmarking

Quality Improvement Beliefs?

People tend to complicate QI unnecessarily

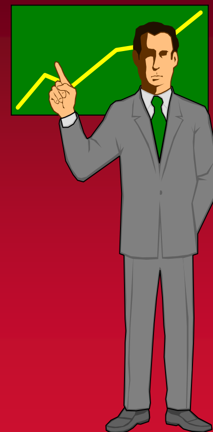
What it isn't

- Weekly or monthly committee meetings
- Audits or reviews by "outsiders"
- Accreditation

Real improvement only occurs as a result of action by an individual or team working toward a goal.

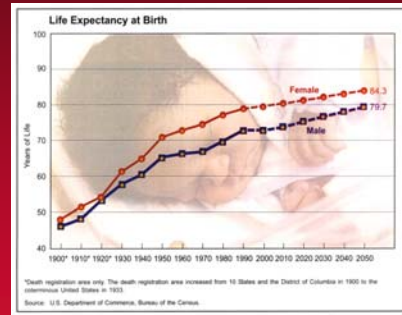
Findings

- Quantifiable?
- Can track success over time?
- Can compare with others? (Benchmarking)
- Connected to health or administrative outcomes?
- Change reflects work processes?



Criteria for Selecting Indicators

- Easily Understood
- Addresses Desired Outcomes
- Measurable and Accessible
- Represents Public Health Needs
- Accurately Measures Program Effectiveness



Lessons Learned

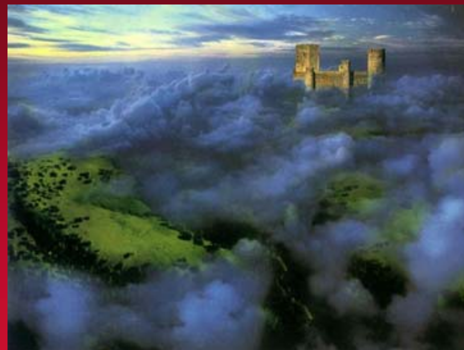
- Need committed leaders – but they may change!
- Continuous improvement is incremental and requires patience
- PARTNER more effective role than REVIEWER
- Evaluate how processes affect outcomes
- Assess health department’s impact in context of community (as with NPHPS)

Need help? Try Peer Advisors

- Nurses
- Business Managers
- EH Specialists
- Physicians
- Information Managers

Are we really getting any closer ?

- Is community health status improving?
- Is our organization more efficient and effective?



Building Public Health Cultures of Quality

"Vision is not enough, it must be combined with venture. It is not enough to stare up the steps, we must step up the stairs." Václav Havel

Building Public Health Capacity for Performance Improvement

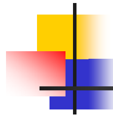
Public Health Leadership Society
2007 Leadership Series Conference Call
November 15, 2007
Deb Burns, Minnesota Department of Health

MN Public Health Collaborative for Quality Improvement

- Part of MN's MLC-2 Project
- Partnership between:
  - Minnesota Department of Health (MDH)
  - University of MN School of Public Health (SPH)
  - Local Public Health Association
- Guided by a Steering Committee

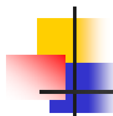
Goals

- Short term:
  - Build capacity to use performance improvement processes and tools
- Long term:
  - Prepare MN public health system for future national accreditation program



The Participants

- All LHDs and Tribal Governments invited to apply to participate
- 8 project teams encompass 38 counties and one tribe; every region of state represented
- Formed project teams of LHD staff, MDH staff, SPH faculty liaison, graduate student



Examples of Topics Addressed by Local Projects

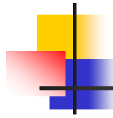
- Reducing WIC clinic no-show rates
- Reducing staff time on HAN Tests
- Increasing immunization rates within certain populations
- Streamlining TB program administration
- Improving timeliness of in-home personal care assessments

Support Offered to Project Teams

- Small amount of funding
- Training by SPH faculty
- Technical assistance
  - Graduate student
  - Consultation w/ SPH faculty

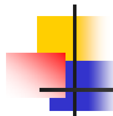
Support Continued

- Project sharing via storyboards
- Monthly conference calls
- Template for brief monthly reports
- “Showcase” at end of project



What Is Working Well

- Partnership between academia and practice community
- Learning Collaborative model
- Self-selected topics are relevant to other LHDs -- getting the attention of the practice community



What Has Been Challenging

- Complex coordination
- Less comfort with the quantitative tools (e.g. run charts);
- Tendency to jump to solutions before fully examining root causes
- Developing measures of success

What We Would Recommend to Others

- Create a structure that includes strong support/technical assistance
- Ensure topic is highly relevant to project team
- Try for short term successes that can be shared with others

What We Would Recommend to Others

- Start with willing volunteers (who tend to be opinion leaders as well)
- Graduate students can be a good resource, especially if there is a strong faculty connection to support them

What We Would Recommend to Others

- Keep things moving (e.g. ask for monthly reports)
- Develop mechanisms to share experiences and results
- Key message: This is not additional work; this is a different way to do your work

Contact Information

Deb Burns

Office of Public Health Practice

Minnesota Department of Health

Debra.burns@health.state.mn.us

(651)201-3873