Missouri Public Health Practice-based Research Network
Quick Strike Project, Part II

Quantifying changes in QI after accreditation in Missouri local health departments: Distinguishing between evidence and data gaps

Katie Stamatakis
Division of Public Health Sciences, and
Prevention Research Center in St. Louis
Washington University School of Medicine

Collaborators: Beverly Triana-Tremain, Janet Canavese, and Kathleen Wojciehowski

PREVENTION RESEARCH CENTER in St. Louis
Promoting Healthy Communities

Acknowledgements

- Leadership of Missouri Institute for Community Health
- Members of the MO PH PBRN
  - Ross Brownson, Prevention Research Center in St. Louis
  - Jo Anderson and Sheila Reed, Center for Local PH Services
  - Dalen Duitsman, Missouri State University
  - Lynelle Phillips, University of Missouri at Columbia

PRC PREVENTION RESEARCH CENTER in St. Louis
Promoting Healthy Communities

Purpose

The purpose of this portion of the project was to:

- Assemble available data on indicators of QI and infrastructure of Missouri LHDs from multiple sources,
- Examine characteristics of LHD structure and context related to accreditation status, and
- Assess whether QI indicators differed or changed over time (where longitudinal data were available) according to MICH accreditation status.

Distribution of Missouri LHDs by MICH Accreditation Status (n=115)

Status	Freq	%
1. Accredited	17	15.2
2. In progress	21	18.8
3. Initial interest, no contact >3 yrs	48	41.7
4. No interest	26	22.6
5. Drop-outs	3	2.7

Accreditation status and selected infrastructural indicators in Missouri LHDs, from NACCHO Profile Study (2008)

	Total %(freq)	Accredited	Non-Accredited	Test statistic*
Size of Population Served				
<50,000	81.6 (84)	65.2 (15)	87.2 (68)	
50,000 to < 500,000	17.5 (18)	30.4 (7)	12.8 (10)	
500,000+	1.0 (1)	4.4 (1)	0	<.05
Budget				
<$500,000	18.4 (18)	4.6 (1)	23.0 (17)	
$500K to < $3 mill	68.4 (67)	63.6 (14)	68.9 (51)	
$3mill. +	13.3 (13)	31.8 (7)	8.1 (6)	<.01
FTEs				
<10	35.6 (36)	18.2 (4)	40.3 (31)	
10-49	55.4 (56)	59.1 (13)	54.6 (42)	
50+	8.9 (9)	22.7 (5)	5.2 (4)	<.05
Type of Jurisdiction				
City	2.9 (3)	4.4 (1)	1.3 (1)	
County	84.5 (87)	82.6 (19)	87.2 (68)	
City/County	10.7 (11)	13.0 (3)	10.3 (8)	
Multi/District/Region	1.9 (2)	0	1.3 (1)	.77

* p-value from chi-square test, but with small cell sizes(<5) is likely an invalid statistic

PRC PREVENTION RESEARCH CENTER in St. Louis
Promoting Healthy Communities

Accreditation Status and Community Health and Improvement Planning in Missouri LHDs, from NACCHO Profile Study (2008)

	Total %(freq)	Accredited	Non-Accredited	Test statistic*
CHA <3 yrs				
Yes, LHD primary	67.6 (69)	69.6 (16)	66.2 (51)	
Yes, LHD led coalition	17.6 (18)	21.7 (5)	16.9 (13)	
Yes, LHD equal in coalition	5.9 (6)	4.4 (1)	6.5 (5)	
Yes, coalition took lead	2.0 (2)	0	2.6 (2)	
Yes, LHD non involved	1.0 (1)	0	1.3 (1)	
None	5.9 (6)	4.4 (1)	6.5 (5)	.92
CHA in next 3 yrs				
Yes	92.0 (92)	95.6 (22)	90.7 (68)	
No	8.0 (8)	4.4 (1)	9.3 (7)	.44
CHIP < 3 yrs				
Yes	86.0 (86)	90.9 (20)	85.5 (65)	
No	14.0 (14)	9.1 (2)	14.5 (11)	.51
If CHIP yes:				
CHIP used CHA	97.7 (84)	95.0 (19)	98.5 (64)	
Did not use CHA	2.3 (2)	5.0 (1)	1.5 (1)	.37
CHIP linked to state plan	63.9 (53)	70.6 (12)	63.1 (41)	
Not linked to state plan	36.1 (30)	29.4 (5)	36.9 (24)	.56

Accreditation Status and MO LHD Infrastructure Survey Indicators of QI from 2002-2008

QI Indicator	Total		Accredited* (n=24)		Non-accredited (n=88)	
	2002	2008	2002	2008	2002	2008
Capacity for QI						
Very good/cutting edge	21.6 (24)	22.5 (25)	33.3 (8)	37.5 (8)	18.4 (16)	18.4 (16)
Strategic Plan						
Yes	95.5 (106)	79.5 (89)	100.0 (24)	87.5 (21)	94.2 (82)	77.0 (67)
Participated in strategic plan**:						
Staff	98.1 (104)	98.9 (88)	100.0 (24)	100.0 (21)	97.6 (80)	98.5 (66)
Governing Body	79.2 (84)	74.2 (66)	83.3 (20)	80.9 (17)	78.0 (64)	71.6 (48)
Community	48.1 (51)	40.4 (36)	45.8 (11)	33.3 (7)	48.8 (40)	43.3 (29)
Used strategic plan for**:						
Budgeting	65.1 (69)	71.9 (64)	66.7 (16)	66.7 (14)	64.6 (53)	73.1 (49)
Performance measure	63.2 (67)	70.8 (63)	66.7 (16)	80.9 (17)	62.2 (51)	67.2 (45)
Marketing	47.2 (50)	37.1 (33)	54.2 (13)	47.6 (10)	45.1 (37)	32.8 (22)

*Accredited group includes those who eventually dropped out of program (n=3) and those in progress by 2008 (n=4)

**Limited to those who answered "yes" to having a strategic plan in 2002 and 2008, respectively

Accreditation status and change in QI-related indicators from 2002-2008

	Total	Accredited	Non-accredited	Odds Ratio (95% CI)
Change in QI capacity				
Improved/stayed high	32.4 (36)	41.7 (10)	29.9 (26)	1.68 (0.66, 4.26)
Worsened/stayed low	67.6 (75)	58.3 (14)	70.1 (61)	reference
Strategic Planning*				
More comprehensive	33.9 (38)	29.2 (7)	35.2 (31)	0.76 (0.28, 2.02)
Dropped or less comprehensive	66.1 (74)	70.8 (17)	64.8 (57)	Reference

*based on an index derived from summarizing across types of participants in strategic planning process (staff, governing body, community) and how the plan was used (budgeting, measuring performance, marketing)

Conclusions

- Some consistency in accordance with hypothesis, but statistical results were weak
- Data gaps
  - Missing data
  - Inconsistencies over time
- Measurement gaps
  - Measurement error

Future Directions

- Mapping to examine regional patterns
- Measures testing: assessing reliability and validity
  - Psychometric evaluation
  - Comparison across sources (MO Infrastructure and MLC)
- New measures development in future studies

MICH
Missouri Institute for Community Health
Partners for Better Health

Development of a Quality Improvement Philosophy (QIP) in Rural Local Health Departments

Beverly Triana-Tremain, PhD
Kathleen Stamatakis, PhD
Kathleen Wojciehowski, JD
Janet Canavese, BS
Emily Martin, MPH
Farah Naz,MPH

MICH

The Missouri Institute for Community Health is based on collaboration. Its purpose is to convene and facilitate conversations about the future of the public's health in a community-based health system, provide standards of practice for local public health agencies, address workforce issues, and identify learning opportunities to support community health activities now and into the future.

Purpose of this Research

- Completed first research project of the Missouri Public Health Practice Based Network (MOPBRN).
- Designed interview protocol using the 9 Elements of Quality Improvement*
- Conducted key informant interviews in a subsample of 8 accredited (since 2003) and 8 non-accredited LHDs to address with whom and how QI is approached.

* *Conference Adapting Quality Improvement to Public Health led by Dr. Glen Mays.*

Quality Improvement Philosophy Defined

…an environment of critical examination that a Local Health Department (LHD) applies to its programs, policies, and practices, which permeates throughout the organization and programs through time.

Research Questions

- What populations are targeted with QI (e.g., personal change, coworkers, stakeholders, community members, capacity building in other organizations or organizational effectiveness?
- What public health problems are targeted with QI (e.g., communications, building skills, decision mapping, human resources, improving knowledge in an organization, improving leadership, marketing, project improvement, improving a process)?

9 Elements for Quality Improvement Philosophy

1. clear shared vision
2. strong and supportive leadership
3. specific measurable goals
4. proven and effective interventions
5. external influences
6. rich data resources
7. experience using data
8. motivation and incentives
9. transparency

With the emergence of a national accreditation program, we have used this research as a catalyst to

1. take on a new charge, that is, to become a partner with LHDs,.

2. understand their day-to-day training and technical needs for systematic change in the public health infrastructure,

3. propose the pursuit of accreditation as a driver and sustainer of quality

Study Process

- Reviewed the literature for descriptions of the nine elements and used feedback from advisory panel. For example, what measures each of the 9 elements (i.e., transparency might be measured by the number of documents the LHD shares with the public, placing LHD information on a website, distributing an annual report, or presenting results to community members).

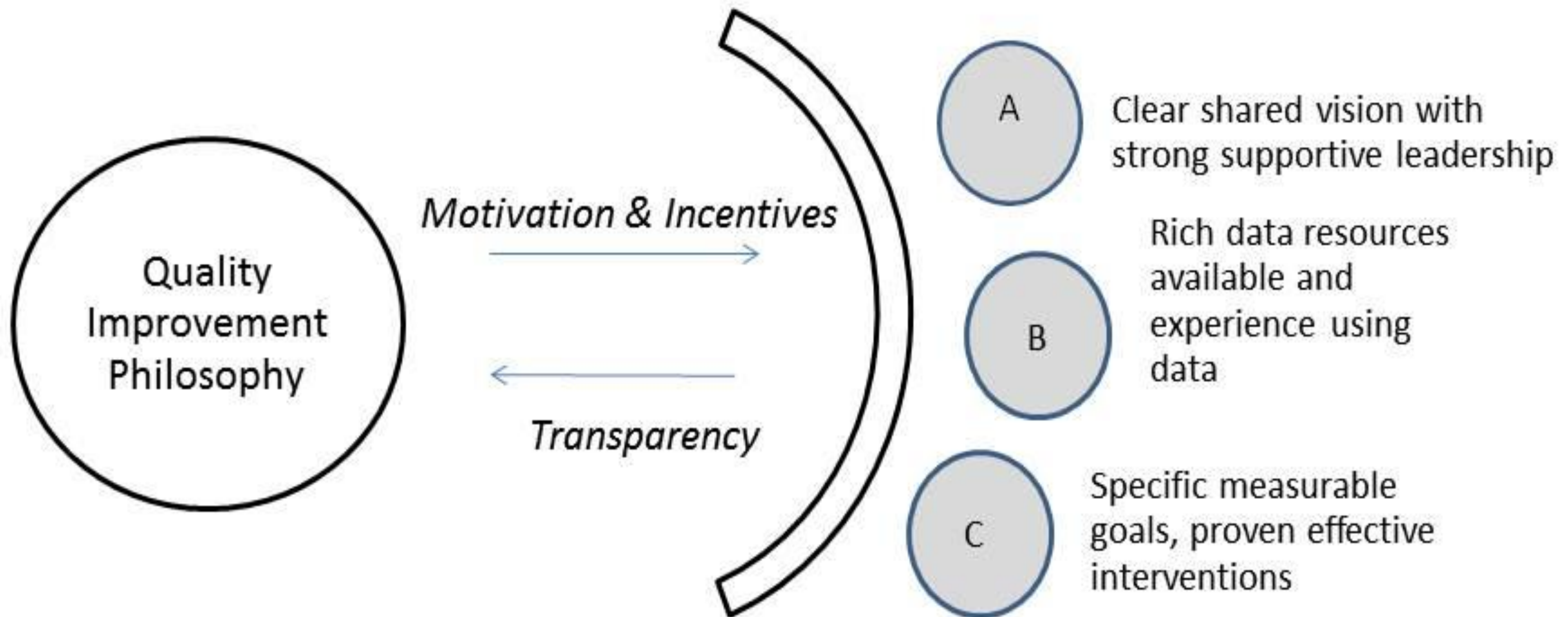
- Interview consisted of 110 questions, of which 14 were open-ended.

Model of the 9 Elements of a QIP

To understand the synergistic relationship between the 9 elements, the project team created a model QIP, which includes three value sets and mediating factors.

- Value set A is the foundational elements - clear shared vision and strong and supportive leadership.
- Value Set B is the practical elements – availability of rich data resources and experience using data in the field.
- Value Set C is the directional elements – creation of specific measurable goals for all programs that are defined as proven effective interventions or evidence-based practice (EBP).

Synergistic Relationship Between the Nine Elements of Quality Improvement



Mediating factors included are the motivation and incentives to seek a QIP, the external factors that promote or challenge the use of these elements, and belief in transparency to other stakeholders in support of the public's health, including the citizens served by LHDs.

Findings from Qualitative Data Comparing Accredited and Non-Accredited LHDs

- **Relationship between the agency and governance structure.** Although some non-accredited agencies showed higher level integration between board and department, the accredited agencies overwhelmingly reported this characteristic.

- **Problems solved with QI tools**. Accredited agencies used QI tools less as a personal-professional improvement tool and more in integrated approaches, compared with non-accredited agencies.

- **Specific and measurable goals.** All of the statement categories were overwhelmingly reported as provided by the accredited agencies, except written objectives.

- **Communication with Legislators**. More accredited agencies attended hearings and legislative receptions than non-accredited agencies.

Findings from Qualitative Data with Combined LHDs

- **QI Requirements in Job Descriptions**. Interestingly, QI requirements were included in job descriptions in half of the LHDs; they were included in performance appraisals in more than half. For other positions, most did not have QI in the job description or did not have QI in performance appraisal.

- **Types of training**. High frequencies in courses related to emergency preparedness, incident management, and environmental health. Very low frequencies in courses such as biostatistics, evidence-based decision-making, health systems organizations, budgeting and cost accounting, personnel management, and policy development.

- **Presence in the Media**: The most highly shared information was restaurant inspections, immunization rates, and financial reports. Supermarket inspections, water quality inspections, and air quality were the least shared. When asked how they hold public meetings and when, most of the responses were related to policy change notification to the public and when the public needs to be informed of something or if there was an emergency.

Some thoughts in closing…

Smarter Technical Assistance

- LHDs were judged on their ability to collect or use data from a variety of sources, such as LHD staff, users of health departments, community members, stakeholders, partners, county health rankings, and other groups and Do you analyze the data, prepare a formal report, and/or present the findings.

- Both groups collected and analyzed.

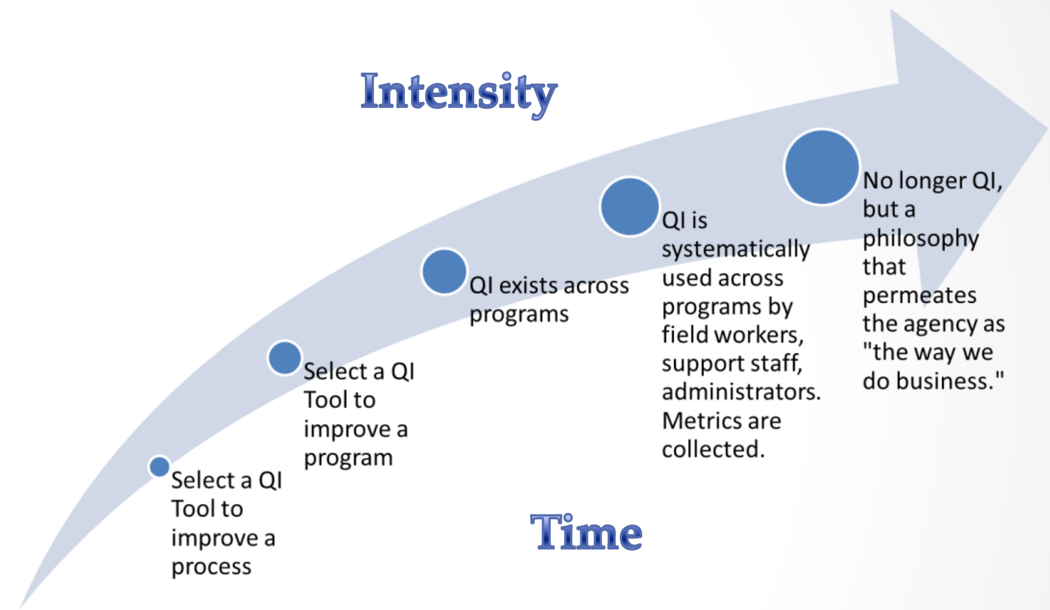
- Preparation and reporting was lower for the non-accredited agencies.

- Accredited group more frequently prepared and presented findings to the community and stakeholders. LHDs should seek training to allow them to apply these skills to multiple fields.

Table 3. Activities for Tailored TA to Reach a QIP	
Stage	**Activities**
Stage 1. Novice Stage	· Invite speakers who have used QI. · Apply QI to staff's personal lives. · Introduce concepts to QI at staff meetings, retreats, newsletters. · Demonstrate the cost-efficiency, benefits of QI (for resisters). · Relate QI use to funding requirements, grant proposals. · Conduct a survey of staff on their perception of QI (i.e., What about their jobs could improve or be made better?).
Stage 2. Building Stage	· Develop a QI Team that meets regularly. Conduct an evaluation of staff meetings and ensure they are opportunity for non-administrative staff to build leadership potential. · Develop a QI wall in the break room that illustrates efforts. · Bring users of QI from other fields to speak on its use. · Conduct a scan of all documents for QIP language. · Offer templates or sample documents that could be tailored to LHD. · Send staff to conferences focused specifically on QI skills and tools.
Stage 3. Maintenance Stage	· Encourage documentation of work through Project Charters, QI Plans, and Project Management Matrices. Encourage staff at LHD to public or speak publicly about their QI experiences and possibly serve as coach to other LHD. · Ensure LHD are tracking metrics of individual programs and those are discussed in relationship to the overall LHD mission.

QIP Instrument as a TA Tool

- Many of the questions provide a list of "to-do's" that may be approached as exercises for the QI team to build experience.
- Above all, there should be an expectation for LHDs to move over time from a focus on single processes to systematic application demonstrating a QIP.
- The QIP Instrument could also be used as a baseline and periodic assessment.
- This tool is available at www.michweb.org/quality improvementphilosophy.



Business with a Heart

We posit that for public health to be a serious player in solving the nation's health problems, we must seek ways to shift the culture away from the way the field has operated in the past and move toward a more intense pursuit of systematic changes in the quality of our services and service delivery. By "intense pursuit," we mean declare it publicly, operate from a "business with a heart" orientation, and seek to stand on the same platform as others who have committed themselves to health for all. This will require a leap in our internal respect that will ultimately lead to external respect from the stakeholders and the citizens we serve.

Thank you!

If you have any questions about this presentation, please contact

Beverly Triana-Tremain
btremain@publichealthconsulting.net