Research Findings Brief

No. PR2013-3 April 2013 www.unmc.edu/rural

The Relationship between Quality Improvement and Accreditation in Nebraska's Local Health Departments

Anh T. Nguyen, MSPH; Li-Wu Chen, PhD; Janelle Jacobson, MPH, CHES; Dave Palm, PhD

Research Highlights

- Local health departments (LHDs) in Nebraska are generally highly mature in the area of organizational culture, suggesting that LHD leaders are committed to adopting quality improvement (QI) and that the work environment to adopt QI is collaborative. LHDs in Nebraska are also generally mature in the area of QI practice, with 83.3% of the respondents indicating that their LHD has engaged in implementing a formal QI activity.
- LHDs in Nebraska are generally only moderately mature in the areas of capacity and competency, and alignment and spread, suggesting that further improvements can be made in QI skills and investment, in policies and practices that support QI, and in perceptions of implementing QI.
- LHD directors in Nebraska generally agreed that their agency will seek voluntary national accreditation and that national standards are a good idea in improving the quality of services. While the majority of LHDs in Nebraska have begun preparing for accreditation, LHD directors are generally unsure whether their agency has sufficient capacity to obtain accreditation.
- A commitment to QI among LHD leaders is positively associated with attitudes toward seeking voluntary national accreditation.
- The alignment and spread of QI within an agency is positively associated with believing that accreditation will strengthen the agency. Valuing QI is positively associated with believing that national standards are a good idea.
- The use of QI strategies in an LHD is positively associated with confidence in the agency's capacity to obtain accreditation.

Introduction

There has been a recent push at national, state, and local levels for local health departments (LHDs) to begin the process of accreditation. The Public Health Accreditation Board (PHAB) is currently leading a national voluntary public health accreditation initiative. PHAB accreditation provides a means for public health departments to improve their performance through a developed set of standards. The standards allow public health departments to measure their performance and be rewarded or recognized for meeting the standards. As a result, continuous quality improvement (QI) of public health departments is a major component of PHAB accreditation.[1] Although QI is essential for accreditation, little is known about the relationship between QI and accreditation. Furthermore, Nebraska's setting is unique in that it adopts a regional approach, with 17 of the state's 21 LHDs serving from 2 to 10 counties. Therefore, this study examined the relationship between QI strategies and accreditation for LHDs in Nebraska to inform how QI and accreditation can be better integrated in the regional LHD setting.

Methods

Data Source

This study used 2011 LHD Quality Improvement Survey data. The data was collected by the Nebraska Center for Rural Health Research as part of a study that examined the current status in implementing QI initiatives as well

Nebraska Center for Rural Health Research

Support for this project was provided by the Robert Wood Johnson Foundation through the National Coordinating Center for the Public Health PBRN program. For further information, contact Li-Wu Chen, PhD, liwuchen@unmc.edu, (402) 559-5260, Department of Health Services Research and Administration, College of Public Health, University of Nebraska Medical Center, 984350 Nebraska Medical Center, Omaha, NE 68198-4350.

[1] Public Health Accreditation Board. Available at: http://www.phaboard.org/. Accessed February 27, 2013.

as the effectiveness and challenges of QI implementation in Nebraska's LHDs.[2,3] A total of 19 out of 21 (90.5% of the sample) LHD directors responded to the online survey. The design of the survey instrument was guided mainly by the QI taxonomy developed by the University of Minnesota as well as by continuous input from the Nebraska Public Health Practice-Based Research Network Steering Committee.[4] The survey also included questions regarding QI maturity and accreditation attitudes (2 items), beliefs (4 items), and readiness (2 items) that were adapted from the Multi-State Learning Collaborative 2011 Annual Survey.[5]

Quality Improvement Maturity

Table 1 includes the definitions, number of items, and score ranges for the QI maturity domains and dimensions. The 4 QI maturity domains include (1) organizational culture, (2) capacity and competency, (3) QI practice, and (4) alignment and spread. Organizational culture refers to the QI values and norms that pervade the interactions between the agency and its staff and stakeholders. Its 2 dimensions include commitment and collaboration. Capacity and competency refers to the skills, functions, and approaches used for QI. It includes 3 dimensions: skills, methods, and investment. QI practice refers to the number, type, and length of QI activities. Alignment and spread refers to the extent that QI is supported and diffused within the organization. It includes 4 dimensions: integration, authority, value, and implementation.[5]

Organizational culture, capacity and competency, and alignment and spread, and their respective dimension scores were measured by the sum of scores for the items that fell within that domain or dimension. Each item used a 5-level ordinal response (i.e., 1 [strongly disagree] to 5 [strongly agree]) and requested that respondents rate the level to which they agreed with a specific statement. Reverse coding was conducted as appropriate, and "don't know"s were treated as missing. QI practice was measured by the formal implementation of QI (yes/no), the number of QI projects, the length of time engaged in QI (no QI efforts/< 1 year/1-2 years/3-4 years/5+ years), and the use of QI strategies (none/only QI model, technique, or metric/combination of QI model and technique, QI model and metric, or QI technique or metric/QI model, technique, and metric).

Table 1. Quality Improvement Maturity Domains and Dimensions[5]

Domain & Dimension	Description	No. of Items	Score Range
1. Organizational Culture	QI values and norms that pervade how the agency interacts with its staff and stakeholders	7	7 – 35
a. Commitment	Willingness to adopt new ideas among leaders and a desire to improve services and outcomes	3	3 – 15
b. Collaboration	A mutually supportive work environment that engages staff and creates an environment where QI can thrive	4	4 – 20
2. Capacity and Competency	Skills, functions, and approach used within an organization to assess and improve quality	10	10 – 50
a. Skills	Leadership and staff training in basic methods for evaluating and improving quality	2	2 – 10
b. Methods	Application of QI tools, approaches, and data to systematically assess and improve quality	6	6 – 30
c. Investment	Dedicated staff and priorities for QI	2	2 – 10
3. QI Practice	Number, type, and length of formal QI efforts	NA	NA
4. Alignment and Spread	Extent to which QI supports and is supported by the organization and is diffused within the agency	11	11 – 55
a. Integration	Agency policies and practices that support QI	8	8 – 40
b. Authority	The ability of staff to make and implement decisions that affect quality	1	1 – 5
c. Value	The perception that QI is worthwhile	1	1 – 5
d. Implementation	The perception that QI is not challenging to implement	1	1 – 5

Analysis

QI maturity, and accreditation attitudes, beliefs, and readiness were descriptively summarized. Spearman correlation analyses were used to analyze the relationship between QI maturity and accreditation. All data were analyzed with SAS 9.3 software (SAS Institute Inc., Cary, NC).

[2] Chen, L.W., et al. (2011). Quality Improvement Activities and Strategies in Nebraska's Local Health Departments: Findings from a 2011 Local Health Department Quality Improvement Survey. (PR2011-9). Omaha, Ne: Nebraska Center for Rural Health Research.
[3] Chen, L.W., et al. (2011). Effectiveness and Challenges of Implementing Quality Improvement Strategies in Nebraska's Local Health Departments. (PR2011-11). Omaha, Ne: Nebraska Center for Rural Health Research.
[4] Riley, W., Lownik, E. Process Analysis in Local Health Departments: Using Quality Improvement Methods and Techniques to Identify Failure Modes. AcademyHealth Annual Research Meeting. Seattle, WA. June 2011.
[5] Joly, B., Booth, M., Mittal, P., & Shaler, G. (2012). Measuring quality improvement in public health: the development and psychometric testing of a QI Maturity Tool. *Evaluation & The Health Professions*, 35(2), 119-147.

Results

Quality Improvement Maturity

Organizational Culture: The median score for organizational culture was 32.0 (out of 35), suggesting that LHDs in Nebraska are highly mature in fostering an environment with QI embedded in its organizational values and norms. More specifically, the median score for commitment was 14.0 (out of 15) and for collaboration was 18.0 (out of 20), suggesting that leaders within LHDs are willing to adopt and create a supportive environment for QI (Table 2).

Capacity and Competency: The median score for capacity and competency was 37.0 (out of 50), suggesting that LHDs in Nebraska are moderately mature in their skills, functions, and approaches to QI. More specifically, the median score was 22.0 (out of 30) for methods and 6.0 (out of 10) for investment, further suggesting that LHDs struggle with applying the appropriate QI strategies and lack the capacity to implement QI (Table 2).

QI Practice: The majority (83.3%) of respondents indicated that their LHD has engaged in implementing a formal process to improve the performance of a specific service or program, process, or outcome. A median of 3.0 formal projects have been implemented within the last 12 months (N = 8). About half (47.4%) of those who indicated that their LHD has ever implemented a formal QI project also indicated that efforts have been consistent for more than 5 years; however, 5.3% indicated efforts have been consistent for less than 1 year. More than half (53.3%) further indicated that their LHD has used a QI model, technique, and metric, and 13.3% of the respondents indicated that their LHD has not used any QI strategies (Table 2).

Alignment and Spread: The median score for alignment and spread was 36.0 (out of 55), suggesting that LHDs in Nebraska are moderately mature in formally supporting and diffusing QI. More specifically, the median score was 26.5 (out of 40) for integration and 2.0 (out of 5) for implementation, suggesting that there are opportunities to improve the policies and practices that support QI and the perceptions of implementing QI (Table 2).

Table 2. Level of Quality Improvement Maturity among Nebraska's Local Health Departments, 2011

Domain & Dimension	N	%	Mean	Median	Min	Max
1. Organizational Culture	19	---	31.4	32.0	24.0	35.0
a. Commitment	19	---	13.5	14.0	9.0	15.0
b. Collaboration	19	---	18.0	18.0	15.0	20.0
2. Capacity and Competency	17	---	36.5	37.0	23.0	48.0
a. Skills	18	---	7.7	8.0	4.0	10.0
b. Methods	19	---	22.6	22.0	14.0	29.0
c. Investment	17	---	6.1	6.0	2.0	10.0
3. QI Practice						
a. Ever implemented QI (N = 18)						
Yes	15	83.3	---	---	---	---
No	3	16.7	---	---	---	---
b. Number of projects, last 12 months	8	---	3.8	3.0	0.0	15.0
c. Length of time engaged in QI (N = 18)						
No systematic QI efforts in place	3	15.8	---	---	---	---
<1 year	1	5.3	---	---	---	---
1-2 years	4	21.1	---	---	---	---
3-4 years	2	10.5	---	---	---	---
5+ years	9	47.4	---	---	---	---
d. Use of QI Strategies (N = 15)						
None	2	13.3	---	---	---	---
QI model, technique, or metric	2	13.3	---	---	---	---
Combination of QI model and technique, QI model and metric, or QI technique and metric	3	20.0	---	---	---	---
QI model, technique, and metric	8	53.3	---	---	---	---
4. Alignment and Spread	17	---	37.3	36.0	26.0	44.0
a. Integration	18	---	27.2	26.5	18.0	34.0
b. Authority	18	---	4.0	4.0	2.0	5.0
c. Value	19	---	4.3	4.0	3.0	5.0
d. Implementation	19	---	1.8	2.0	1.0	3.0

Accreditation

Table 3 shows the attitudes toward, beliefs in, and perceived readiness for accreditation in Nebraska's LHDs. While LHD directors in Nebraska agreed that their agency will seek voluntary national accreditation (median = 4.0), they are unsure whether accreditation will be sought within the first 2 years of the program (median = 3.0). LHD directors in Nebraska believe that national standards are a good idea and will strengthen agencies, improve the quality of services, and enhance credibility with stakeholders (median = 4). While LHDs in Nebraska have begun the preparation for accreditation (median = 4.0), respondents are unsure whether their agency has sufficient capacity to obtain accreditation (median = 3.0).

Table 3. Accreditation Attitudes, Beliefs, and Perceived Readiness in Nebraska's Local Health Departments, 2011

Accreditation Measures	N	Mean	Median	Min	Max
Attitude Toward Accreditation					
a. Agency will seek accreditation	17	3.9	4.0	2.0	5.0
b. Agency will seek accreditation within first 2 years	16	3.0	3.0	1.0	5.0
Belief in Accreditation					
a. Believe that national standards are a good idea	18	4.1	4.0	2.0	5.0
b. Believe accreditation will strengthen agency	18	3.9	4.0	1.0	5.0
c. Believe accreditation will improve agency's quality of services	17	3.7	4.0	1.0	5.0
d. Believe national accreditation will enhance credibility with stakeholders	18	3.8	4.0	2.0	5.0
Perceived Readiness for Accreditation					
a. Confident in agency's capacity to obtain accreditation	17	2.9	3.0	1.0	4.0
b. Agency has begun preparing for accreditation	18	3.8	4.0	1.0	5.0

Scale: 1 (Strongly Disagree) to 5 (Strongly Agree).

The Relationship between Quality Improvement and Accreditation

A commitment to QI among LHD leaders as well as the length of time engaged in QI is positively associated with attitudes towards seeking voluntary national accreditation. The use of QI strategies is positively associated with attitudes towards seeking voluntary national accreditation within the first 2 years of the program. Valuing QI is positively associated with believing that national standards are a good idea. The ability to apply QI methods, integration of QI policies and practices, and the alignment and spread of QI within an agency are positively associated with the belief that accreditation will strengthen the agency. A commitment to QI is positively associated with having begun to prepare for accreditation. The use of QI strategies and the integration of QI policies and practices within the agency are positively associated with confidence in the agency's capacity to obtain accreditation.

Acknowledgements

We thank the directors of Nebraska's LHDs for their participation in this study. We also thank Dr. William Riley at the University of Minnesota and the Nebraska Public Health PBRN Steering Committee for their input, as well as Sue Nardie for her help editing this brief.