

A Comparison of System-Level D&I Strategies on Local Health Department Quality Improvement Maturity

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D&I of Quality Improvement

- Quality Improvement (QI): a structured approach to assess performance followed by the implementation of efforts to improve it
- Heterogeneity in how local health departments (LHDs) disseminate and implement QI
- LHDs are encouraged to do QI
- Best practices to disseminate and implement QI still unknown

System-Level D&I Movements

- A variety of approaches to disseminate and implement QI exist
- Implement system-level initiatives
 - Training
 - Technical Assistance
 - Funding
 - Learning Community Facilitation
- Leverage national funding
 - Preventive Block Grant
 - National Public Health Improvement Initiative (NPHII)
 - NACCHO Accreditation Initiative
 - Multi State Learning Collaboratives

Research Question

Do health departments in states with more system-level investments and initiatives for QI have higher QI maturity and less heterogeneity between populations?

Measuring Quality Improvement

- QI efforts can be measured by a validated measure of QI maturity
 - Survey previously developed to evaluate the Robert Wood Johnson Foundation Multi-State Learning Collaborative
- Domains of QI Maturity:
 - Organizational Culture: values and norms of an agency
 - Capacity and Competence: skills and approaches
 - Alignment and Spread: diffusion of QI

Data Collection

- Survey: Organizational QI Maturity Survey
- Participants: Local Health Departments (LHDs) in Colorado, Kansas, and Nebraska
 - Colorado: 36 LHDs (67% response rate)
 - Kansas: 100 LHDs (100% response rate)
 - Nebraska: 20 LHDs (100% response rate)
 - Total Sample Size: 156
- Time Period: January to March 2015

Analytical Approach

- Analyze differences (between states and population sizes) in overall QI Maturity and QI Maturity domains
 - ANOVA
 - OLS Regression
 - $QI\ Score = \beta_0 + \beta_1 Population + \beta_2 NE + \beta_3 KS + \beta_4 Population * KS + \beta_5 Population * NE + \epsilon$
 - 4 Dependent Variables
 - Overall QI Maturity
 - Organizational Culture
 - Capacity and Competence
 - Alignment and Spread
- Hypothesis: LHDs in states with **higher levels of system-level investments in QI** will have **higher QI maturity scores** and **less heterogeneity** across different population sizes.

Results: Descriptive Statistics

	QI Maturity	Organizational Culture	Capacity and Competence	Alignment and Spread
BY STATE				
<i>Colorado</i>	3.51	4.11	2.72	3.14
<i>Nebraska</i>	3.8	4.10	3.35	3.65
<i>Kansas</i>	3.73	4.19	2.99	3.43
BY POPULATION				
<i>0-24,999</i>	3.65	4.19	2.83	3.34
<i>25,000-99,999</i>	3.68	4.08	2.96	3.39
<i>100,000-499,999</i>	4	4.06	4.33	3.56
<i>500,000+</i>	3.71	4.36	3.14	3.71

Boldface indicates statistical significance from ANOVAs.

1=Lowest 2=Low 3=Medium 4=High 5=Highest

Results: OLS Regression

	QI Maturity	Organizational Culture	Capacity and Competence	Alignment and Spread
Population	0.006	0.03	0.03	0.06
NE	0.293	0.183	0.803	0.557
KS	0.169	0.099	0.164	0.319
KS*Population	0.2	0.04	0.5	0.1
NE*Population	-0.004	-0.2	-0.2	-0.01

Boldface indicates statistical significance.

Population coefficients are per 10,000 people.

Limitations

- ENDOGENEITY!
 - There is a potential for the estimates to be biased due to omitted variables
 - Could there be other state-level factors that affect QI scores?
- Potential for selection bias in Colorado

Conclusions & Implications

- Significantly higher scores for QI Capacity and Competence in Nebraska
- Potentially lower heterogeneity across population sizes in Nebraska
- System-level investments and initiatives likely **increase QI maturity** AND **reduce heterogeneity** across LHDs, mostly in the Capacity and Competence domain
- Fruitful area of further research to quantify these investments/initiatives and expand the observation of impact to accreditation readiness
- System-level efforts to improve QI in LHDs could improve the dissemination and implementation of QI at the local level and reduce heterogeneity

Next Steps

- Conduct interviews with state-level partners to understand the environment for QI and AR
- Collect quantitative data on the amount of each system-level initiative dispersed to LHDs
- Collect and score accreditation readiness (AR) data
- Collect data on potential confounding variables
 - Network analysis of connections among LHDs and state-level partners

Questions?

Thank you!

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