

# Creating Quality Improvement Culture in Public Health Agencies

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Increasingly, local public health agencies are implementing quality improvement projects.<sup>1–6</sup> According to results from the 2010 National Association of County and City Health Officials (NACCHO) profile survey, 84% of local public health agencies reported implementing some form of quality improvement effort,<sup>7</sup> with 15% conducting agency-wide quality improvement. These efforts build on foundational initiatives designed to improve agency performance and create a culture of continuous quality improvement.<sup>8–11</sup>

However, agency efforts to move from sporadic projects to creating a quality improvement culture and sustaining the improvement of performance have been challenging.<sup>12</sup> Barriers include perceptions about lack of relevance, time, and financial resources to conduct quality improvement activities; inexperience and insufficient training about the use quality improvement tools and concepts; lack of leadership commitment to quality improvement; the need to create a manageable scope and appropriate measures for a quality improvement project; and public health crises.<sup>2–4,6,13</sup> Furthermore, agencies that serve larger populations are more likely to conduct quality improvement projects, and small agencies may be more likely to consider quality improvement an add-on activity.<sup>14,15</sup>

Facilitators to conducting quality improvement and creating a quality improvement culture include a commitment from senior managers who empower employees closest to the issue to make changes, the creation of activities with clear performance criteria, and the institutionalization of continuous improvement into everything the organization does.<sup>12</sup> Specific strategies include involving more staff in quality improvement efforts and providing training to spread quality improvement competence. Quality improvement becomes part of the agency culture through a process of repetition, saturation, and spread. Agency development of advanced quality

**Objectives.** We conducted case studies of 10 agencies that participated in early quality improvement efforts.

**Methods.** The agencies participated in a project conducted by the National Association of County and City Health Officials (2007–2008). Case study participants included health directors and quality improvement team leaders and members. We implemented multiple qualitative analysis processes, including cross-case analysis and logic modeling. We categorized agencies according to the extent to which they had developed a quality improvement culture.

**Results.** Agencies were conducting informal quality improvement projects (n = 4), conducting formal quality improvement projects (n = 3), or creating a quality improvement culture (n = 4). Agencies conducting formal quality improvement and creating a quality improvement culture had leadership support for quality improvement, participated in national quality improvement initiatives, had a greater number of staff trained in quality improvement and quality improvement teams that met regularly with decision-making authority. Agencies conducting informal quality improvement were likely to report that accreditation is the major driver for quality improvement work. Agencies creating a quality improvement culture were more likely to have a history of evidence-based decision-making and use quality improvement to address emerging issues.

**Conclusions.** Our findings support previous research and add the roles of national public health accreditation and emerging issues as factors in agencies' ability to create and sustain a quality improvement culture. (*Am J Public Health*. 2014;104:e98–e104. doi:10.2105/AJPH.2013.301413)

improvement maturity occurs when administrators take active roles and agencies use a specific quality improvement framework and performance data.<sup>6</sup> Experience from health care supports these findings, particularly the need for leadership support to transfer quality improvement efforts to the whole organization.<sup>16,17</sup>

Building on the literature, we examine why, in what respects, and under what circumstances select agencies develop a quality improvement culture. We explore the factors that support or hinder development of such a culture and propose a logic model for quality improvement culture development in public health agencies.

## METHODS

This qualitative study is the second part of a mixed-method, iterative evaluation examining

the effectiveness of quality improvement trainings provided by NACCHO and the impact of staff and agency participation in quality improvement training on advancing quality improvement culture in an agency. The first phase<sup>18</sup> included a survey of agency staff who participated in NACCHO-sponsored quality improvement trainings (Webcasts, 1-day workshops, and demonstration site opportunities) to evaluate which training type had the greatest impact. Findings revealed that demonstration site participants reported greater gains in knowledge, skills, and perceived ability to conduct a quality improvement project. Demonstration site activities included a quality improvement project to address a gap identified through an agency self-assessment. Project examples included improving HIV testing rates and streamlining animal bite-reporting processes.<sup>3</sup> We used the survey results to

refine the study hypotheses for the second phase described in this article.

In the second phase, we sequentially conducted key informant interviews and case studies with demonstration site agencies. Interviews explored how participation in the demonstration site project affected the initiation and management of quality improvement projects. Case studies explored the extent to which demonstration site agencies could develop a quality improvement culture. This article presents case study results and illustrates how these agencies are progressing to develop quality improvement cultures.

**Study Sample**

We selected 10 case study sites from agencies that participated in a NACCHO demonstration site project and achieved most of their specified aims (NACCHO, unpublished data, 2008), and where multiple staff in these agencies responded to the phase 1 survey and reported that the agency had implemented at least 1 quality improvement effort following the demonstration site project (n = 14).

Within the pool, we chose agencies with a mix of characteristics to minimize the impact of characteristics that could affect quality improvement culture; these were population size (small, < 50 000; medium, 50 000–499 999; large, ≥ 500 000) and governance mechanisms (local, state, and mixed).<sup>14</sup> We also purposively chose agencies that had and had not participated in other quality improvement efforts, such as the Multi-State Learning Collaborative (MLC).

**Data Collection Protocols**

We created multiple interview protocols for the case studies to be administered as part of a site visit. We conducted individual interviews with agency administrators and quality improvement leaders. We conducted group interviews with quality improvement staff teams. Protocols explored barriers, facilitators, and practice-based evidence from the MLC regarding agency progress toward a quality improvement culture,<sup>2</sup> as well as additional factors identified in our interviews. Protocol items examined leadership support for and commitment to quality improvement, the general organizational culture and context, participation in quality improvement trainings,

participation in other quality improvement efforts, implementation of quality improvement initiatives following the demonstration site project, agency structural support for quality improvement (such as a quality improvement team or council), the influence of accreditation and other external drivers for quality improvement, and the impact of emerging issues, such as the H1N1 outbreak and the economic downturn, on an agency’s ability to sustain quality improvement. We also collected available, relevant documents on quality improvement projects implemented after the demonstration site project. Case study data collection occurred between February and May 2011.

**Analysis**

We recorded and transcribed case study interviews. On the basis of their initial observations, interviewers ranked each agency on a scale from 1 (lowest quality improvement implementation) to 5 (highest quality improvement implementation and development of a quality improvement culture) and recorded factors that differentiated the agency ratings. Case study analysis included creating a codebook of themes derived from the variables of interest. We combined transcripts from all participants in a case study site to create 1 transcript for each site. Three team members piloted the theme codebook on 3 site transcripts. Two research team members double-coded the majority of transcripts to reach complete agreement on coding. A single team

member coded the remaining site transcripts and a second member validated them.

We implemented multiple qualitative analysis processes, including cross-case analysis and logic modeling.<sup>19,20</sup> Iterative cross-case analysis included development of analytic matrices to identify and test features of agencies that achieved varying levels of quality improvement culture. The evaluation team analyzed site transcripts with Atlas.ti version 6 qualitative data software (Atlas.ti Scientific Software Development GmbH, Berlin, Germany), and again ranked the agencies on the same scale of lowest to highest quality improvement culture. The second set of ratings agreed with the initial ratings. We compared site features within categories and across categories<sup>20</sup> to clarify features that differentiated levels of quality improvement culture.<sup>21</sup> We reviewed agency documentation of quality improvement projects to validate ratings and distinguishing features between categories.

**RESULTS**

Table 1 presents characteristics of participating agencies. One site served a small population, 7 served medium populations, and 2 served large populations. Eight had local governance structures, and 1 each had a mixed and a state governance structure; 8 were single-county jurisdictions and 2 were district agencies. Four participated in the MLC, and 2 had used National Public Health Performance Standards Program tools. Three

**TABLE 1—Characteristics of Case Study Agencies and Their Participation in Other Quality Improvement Efforts**

Site	Population Size Served	Governance	Multi-State Learning Collaborative Participation	National Public Health Performance Standards Participation
C1	50 000–499 999	Local	No	No
C2	< 50 000	Local	No	No
C3	50 000–499 999	Local	No	No
C4	50 000–499 999	Mixed	No	No
C5	≥ 500 000	Local	No	Yes
C6	50 000–499 999	State	No	Yes
C7	≥ 500 000	Local	Yes	No
C8	50 000–499 999	Local	Yes	No
C9	50 000–499 999	Local	Yes	No
C10	50 000–499 999	Local	Yes	No

agencies were in states with state-based accreditation programs.

Seventy-nine individuals participated in the case study site interviews, with 4 to 14 participants at each site. At all sites, the agency administrator, the quality improvement team lead, and quality improvement team members participated in the interviews. Other participants were management team members and staff working in various public health programs.

Following analysis, we collapsed the initial rating scheme from 5 to 3 categories for explanatory purposes. These categories are combinations of well-defined quality improvement culture development categories described in the NACCHO *Roadmap to an Organization-Wide Culture of Quality Improvement*.<sup>22</sup> The roadmap outlines common organizational characteristics for 6 phases of quality improvement culture development. Using the quality improvement roadmap for definitional foundations, we found that 4 case study agencies had features of an informal quality improvement culture, 3 had features of a formal quality improvement culture in specific areas, and 3 had features of creating a quality improvement culture but had not achieved all elements of such a culture.<sup>12</sup> Categories were cumulative; in other words, agencies creating a quality improvement culture had all the features of the previous 2 categories.

Table 2 presents category definitions and features that differentiate agencies conducting informal quality improvement, conducting formal quality improvement, and creating a quality improvement culture. The research team noted that there were greater differences in the features of the agencies conducting informal quality improvement compared with the other 2 categories. The commitment of the agency administrator and leadership to quality improvement was the key feature of agencies conducting formal quality improvement and creating a quality improvement culture. Among these agencies, the administrator was more likely to be a strong, vocal proponent of quality improvement and effective at driving efforts, establishing a quality improvement culture, and garnering support.

An agency quality improvement team leader stated,

I really think that [the agency administrator] is the one who really keeps the ball rolling because I remember when a lot of the quality improvement stuff started, people came kicking and screaming, "It's another thing we have to do," and they didn't understand how it was going to benefit them and it's quite complex. I think a lot of administration is on board now and they're in their individual work groups and so they can see progress and it's not so much a thing I have to do but something they can see a benefit in.

Both the administrator and agency staff, especially senior staff, exhibited high levels of commitment to quality improvement and were more likely to be involved in state and national quality improvement initiatives. An agency quality improvement team leader said, "I think overall [senior management is] very committed. . . . They come with ideas. I've never had any resistance from them along the way."

Agencies conducting formal quality improvement and creating a quality improvement culture also tended to have a strong organizational culture with aligned mission and goals, low staff turnover, and a strong commitment to quality improvement training with a sizable percentage of staff trained in quality improvement practices. These agencies exhibited a well-developed quality improvement infrastructure characterized by teams that conduct quality improvement projects with cross-divisional representation, staff authority in quality improvement decision-making, and activities informed by a strategic or quality improvement plan. In addition, these agencies were more successful at leveraging outside support from the MLC, NACCHO, county governance, and other entities to facilitate their quality improvement work. For example, boards of health and, in one case, the mayor, helped further quality improvement efforts by approving funding and staff positions or leveraging other assistance.

Although staff in these agencies supported national public health accreditation, they did not view accreditation as driving quality improvement initiatives. Instead, they viewed quality improvement as a key component of agency functioning in and of itself. An agency quality improvement team member said, "I don't think [the agency administrator] just decided to write a policy on that just because of national accreditation. It's because she expects us to use it."

Staff in agencies conducting informal quality improvement were likely to report that accreditation was the major driver for quality improvement work. A quality improvement team leader described how quality improvement was presented to staff in the agency:

When they hear about quality improvement, we always try to associate it to accreditation because we know moving forward in accreditation we're going to have to have some formal quality improvement process.

Although agencies conducting formal quality improvement and creating a quality improvement culture were similar on most features, there were sufficient differences on some features that warrant discussion. Agencies creating a quality improvement culture were more likely to have a history of evidence-based decision-making and performance measurement. Quality improvement seemed to be a natural fit for these agencies, and they typically had data collection systems and methods and a performance-monitoring mindset already in place. Also, these agencies were more likely to manage emerging issues such as the H1N1 pandemic and budget cuts with quality improvement processes rather than letting these barriers overwhelm or stall their quality improvement work. In general, staff in these agencies viewed barriers as motivators for quality improvement. A team member said,

I know we get excited when there's a chance for quality improvement to come up because . . . you have less and less staff, and you still have the same amount of public, or more, that you're serving, so it gives us a chance to really streamline our processes, be as efficient as we can and still keep that customer satisfaction up.

By contrast, agencies conducting informal quality improvement saw barriers to doing quality improvement work as insurmountable. In agencies conducting formal quality improvement, quality improvement sustainability could be affected by the loss of a key administrator or outside support. Staff members in agencies creating a quality improvement culture were more likely to view quality improvement as being sustainable, in large part because they had established quality improvement as part of their organizational culture. Quality improvement was not viewed as a burden but rather as a way of working

**TABLE 2—Features Differentiating Agencies Conducting Informal Quality Improvement (QI), Conducting Formal QI, and Creating a QI Culture**

Factor Affecting QI	Differentiating Features		
	Agencies Conducting Informal QI <sup>a</sup>	Agencies Conducting Formal QI <sup>b</sup>	Agencies Creating a QI Culture <sup>c</sup>
Agency administrator	Does not prioritize QI; staff tend to organize and drive QI efforts.	Viewed as “coach” or “quarterback” of agency QI; often part of state or national QI initiatives; strong vision and passionate about QI.	Viewed as “coach” or “quarterback” of agency QI; often part of state or national QI initiatives; strong vision and passionate about QI.
Senior management commitment	A minority of senior managers are committed to QI.	The majority of senior management are committed and have training and support to lead QI efforts.	The majority of senior management are committed and have training and support to lead QI efforts.
Organizational culture	Fragmented; agency culture is not a strong facilitator of QI work.	Characterized by strong team orientation and shared vision and goals; culture of no-blame accountability enforced by peers as well as leaders; change and initiative embraced; strong commitment to workforce development training.	Characterized by strong team orientation and shared vision and goals; culture of no-blame accountability enforced by peers as well as leaders; change and initiative embraced; strong commitment to workforce development training.
QI training	More training needed for staff at all levels.	Majority of staff have participated in QI training.	Majority of staff have participated in QI training.
QI infrastructure	QI sporadically practiced; QI meetings infrequent; may not have established data collection systems.	Designated QI team and regular meetings with representation across all divisions; likely to have strategic plan informing QI activities and data collection and analysis infrastructure.	Designated QI team and regular meetings with representation across all divisions; likely to have strategic plan informing QI activities and data collection and analysis infrastructure.
Relationship with board of health and city or county governance	May not be strongly involved or supportive of agency QI activities.	Likely to be key supporters of QI initiatives and well informed by agency staff.	Likely to be key supporters of QI initiatives and well informed by agency staff.
Influence of accreditation	Likely to be a strong driver of QI work.	QI activities tend to be driven by a belief in the importance of QI rather than by the external influence of accreditation.	QI activities tend to be driven by a belief in the importance of QI rather than by the external influence of accreditation.
External QI resources (such as MLC, NACCHO, grants)	Not able to gather QI momentum from use of outside resources.	Resources are key parts of building QI; creative about finding and using resources; some agencies gained expertise and support by working with state or national initiatives.	Resources are key parts of building QI; creative about finding and using resources; some agencies gained expertise and support by working with state or national initiatives.
Authority	Staff have limited input.	Staff are incorporated into QI decision-making processes.	Staff are incorporated into QI decision-making processes.
Barriers (time, funding, staff, budget cuts, emergencies, etc.)	Barriers tend to stall QI activities.	Able to withstand some barriers.	Barriers are used as motivators for QI.
Emerging issues (such as H1N1 or budget cuts)	Tend to stall QI work.	Slow QI work, which is eventually able to resume.	Affect QI work, but agencies tend to use emerging issues as a platform to help manage the event with QI.
Sustainability	QI work currently is not seen as sustainable unless done in a limited way.	Sustainability is more likely, but may not withstand loss of key personnel.	Likely because of staff and leadership commitment; QI is not viewed as an extra burden but as a way of working smarter and making jobs easier.
Evidence-based decision-making and performance measurement	Less likely to have a tradition of performance monitoring in place with established data collection systems.	Less likely to have a tradition of performance monitoring in place with established data collection systems.	Committed to evidence-based decision-making and performance monitoring, which translates well to QI.

Note. MLC = Multi-State Learning Collaborative.

<sup>a</sup>Conducting informal QI (NACCHO roadmap categories 2 and 3): leadership understands and discusses QI with staff but does not enforce the implementation of QI, allow sufficient staff time and resources to devote to it, or hold staff accountable to its use. Discrete QI efforts are practiced in isolated instances throughout agency, often without consistent use of data or alignment with the steps in a formal QI process.

<sup>b</sup>Conducting formal QI (NACCHO roadmap categories 4 and 5): a formal QI model is followed, with QI implemented in specific program areas where QI champions exist. The QI plan may be integrated into overall agency policies and plans, including the strategic plan. Policies and procedures are in place, and data are commonly used for problem-solving and decision-making.

<sup>c</sup>Creating a QI culture (NACCHO roadmap categories 5 and 6): QI is strongly embedded into the way the agency does business across levels and services. Leadership and staff are fully committed to quality, and results of QI efforts are communicated internally and externally. Even if leadership changes, the basics of QI are ingrained in staff.



smarter and making jobs easier. An agency quality improvement team member noted,

Just changing our culture just a little bit so that we do a project a little bit differently that incorporates some of the quality improvement into it. If you can make it part of your daily activity, you're not really doing more but you're making an improvement.

Agency documentation of quality improvement projects (conducted in 2009 and 2010) validated quality improvement culture category assignments. Among agencies conducting informal quality improvement, only one provided specific documentation demonstrating implementation of quality improvement projects with specific aims and results. Among agencies conducting formal quality improvement, 2 agencies had conducted multiple quality improvement projects

with aim statements and results; 1 had completed a quality improvement project and had another one in process, but these projects had not achieved results connected with the aim statements. Among the agencies creating a quality improvement culture, 2 had numerous examples of quality improvement projects with aim statements and results; the third did not provide documents for review.

Quality improvement projects included reducing chart errors, improving clinic show rates, improving immunization rates, and creating staff development and health improvement plans. Agencies conducting informal quality improvement activities primarily used the Plan-Do-Study-Act process (required for the NACCHO demonstration site project) and reported being unable to complete multiple process cycles. Agencies conducting formal

quality improvement and creating a quality improvement culture were more likely to complete Plan-Do-Study-Act cycles and to employ a range of quality improvement methods and resources (lean enterprise practices, scorecards, performance management, etc.).

Figure 1 illustrates how the features described throughout Results work together to depict the development of agency quality improvement culture. There are 5 key ingredients needed to build a sustainable culture of quality improvement. First, leadership and staff commitment to quality improvement is essential. Second, agencies that value innovation and align quality improvement practices with their strategic goals and mission are more likely to build and sustain a culture of quality. Third, agencies with strong experience in performance management, quality



Note. LHD = local health department; MAPP = Mobilizing for Action through Planning and Partnerships; MLC = Multi-State Learning Collaborative; NACCHO = National Association of County and City Health Officials; NPHSP = National Public Health Performance Standards Program; PHAB = Public Health Accreditation Board.

FIGURE 1—Logic model for the development of a quality improvement (QI) culture.

improvement, and evidence-based decision-making are more likely to have core capacity to lead improvement efforts and encourage adoption by others. Fourth, agencies that are held accountable for the quality of their services, programs, and outcomes by governing bodies, partners, funders, and others are likely to monitor their efforts and seek opportunities for improvement. Finally, agencies with core infrastructure and resources that support ongoing quality improvement initiatives (e.g., available data, quality improvement teams) are better positioned to sustain a culture of quality improvement. Agencies adopted a number of strategies that influence quality improvement culture, including skill-building activities and leveraging resources to advance quality improvement efforts, identifying gaps related to accreditation, and addressing emerging issues. These strategies led to an increased perception of the value of quality improvement, an increase in organizational structures and supports, and an increase in the ability of practitioners to apply quality improvement concepts, tools, and approaches.

This logic model hypothesizes that quality improvement efforts in agencies with a quality improvement culture will spread and become part of routine practice, resulting in improved quality of service, programs, and operations. In turn, a sustainable quality improvement culture results in long-term outcomes of increased agency efficiency and effectiveness, enhanced delivery and quality of public health services, and improved population-based outcomes. According to the literature, contextual factors such as agency and community characteristics and quality improvement barriers of time and money affect the development of a quality improvement culture. Our study supports this hypothesis and refines it. Agencies that were developing a quality improvement culture were able to withstand barriers. Furthermore, community characteristics, such as population size, were not a factor in the ability of these agencies to conduct quality improvement.

## DISCUSSION

This is one of the first studies to examine the circumstances under which agencies develop a quality improvement culture. Study findings

validate previous public health and health care literature regarding quality improvement culture facilitators and barriers.<sup>3,4,6,12,13,17</sup> Most importantly, the agency administrator plays the key role as a champion for quality improvement activities and culture. This mirrors what has been found in health care systems, where leaders who support quality improvement mobilize change through the organization's structure and demonstrate authentic passion for and commitment to quality through inspiring and motivating staff.<sup>17</sup>

Additional facilitators identified in this study include support of county governance and experience with other national quality improvement efforts. We have observed the importance of support by county managers and commissioners in other studies (North Carolina Institute for Public Health, unpublished data, 2010). Future research should examine how—and the extent to which—this support facilitates development of a quality improvement culture. Administrators in agencies creating a quality improvement culture and, in some respects, conducting formal quality improvement, reported seeking out national and state quality improvement offerings as a learning opportunity for the agency, an opportunity for recognition as an innovative agency, or both. The opportunity to practice quality improvement and leadership support for quality improvement as an approach to everyday work were mutually reinforcing facilitators for developing a quality improvement culture. All agencies were able to obtain resources to continue quality improvement work through grants, participation in national efforts, or local funding. Leveraging these resources helped continue quality improvement efforts, but a quality improvement culture was created through leadership commitment to quality improvement.

Barriers commonly cited in the literature, including lack of time and resources and relevance of quality improvement to daily work, were seen as insurmountable in agencies conducting informal quality improvement and in some agencies conducting formal quality improvement. Although agencies creating a quality improvement culture experienced these barriers, staff used quality improvement to overcome them and viewed these as opportunities to use quality

improvement. Nevertheless, the greatest barrier to creating a quality improvement culture and sustained performance improvement may reside with the leadership and teamwork within an organization.<sup>12</sup> Our findings support the key role of the leadership to break through these barriers.

This study was initiated as the national public health voluntary accreditation program, or Public Health Accreditation Board, was under development. Some agencies conducting informal quality improvement reported shifting the focus of improvement work from quality improvement to accreditation preparation. Agencies conducting formal quality improvement and creating a quality improvement culture were supportive of accreditation and were actively preparing to apply, but they saw improvement, not accreditation, as the driver of quality improvement efforts. This finding is particularly encouraging in light of the fact that the Public Health Accreditation Board emphasizes health department improvement as the overriding goal of that program.<sup>23</sup>

The literature suggests that more work is needed to better understand the culture and practice of quality improvement in relation to agency characteristics (e.g., urban vs rural, centralized vs decentralized) and based on what public health services are provided and how they are financed.<sup>2</sup> Results from the 2008 NACCHO profile demonstrated that agencies that serve medium or large populations were more likely to implement quality improvement.<sup>14</sup> Additionally, results from the MLC evaluation revealed that agencies with a reported higher level of quality improvement sophistication were often more likely to be larger and have more resources.<sup>24</sup> In this study, we included agencies that varied by population size and governance structures, although most agencies served medium populations and had local governance structures. Future research should continue to explore whether agency characteristics affect use of quality improvement and how agencies, especially those that serve small populations, can be encouraged to implement quality improvement efforts and develop a quality improvement culture.

We found NACCHO's quality improvement roadmap to be a useful framework for defining

the types of quality improvement that are occurring in agencies. Our findings support the framework and have informed roadmap revisions. We found that the 10 case study agencies grouped together in explanatory clusters rather than in the fine-grained categories the roadmap defines. Additional research among a larger set of agencies should further explore these definitions.

We note the following limitations. Although the research team categorized agencies into quality improvement categories twice using criteria from the research hypotheses, the ratings were subjective and not verified or discussed with agency staff to gain their perspective.<sup>21</sup> Furthermore, the categorization scale was based on participating agencies and is not necessarily representative of a quality improvement culture continuum. In addition, findings are based on a snapshot approach and limited to agencies with characteristics similar to those included in this study. Although we purposively sampled agencies that served various size populations and governance structures, the agencies in this study were quite different from agencies nationwide. Finally, given the nature of the study design, the findings do not include considerations of causation.

This study provides insights as to how agencies develop a quality improvement culture. We validated much of the existing literature and, in addition, we discussed the impact that emerging issues and experience with quality improvement projects can have on an agency's ability to develop such a culture. Importantly, the role of accreditation preparation as a driver for quality improvement appears to diminish as an agency develops a quality improvement culture. Future research that examines diffusion of quality improvement and development of quality improvement cultures in a variety of health department governance structures will further advance this literature. ■

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### Contributors

M. V. Davis originated and directed the evaluation research study and led article writing and editing. E. Mahanna led the data analysis, participated in data collection, and contributed to writing and editing the article. B. Joly contributed to the design of the study, research activities, and writing and editing the article. M. Zelek contributed to the data analysis. W. Riley contributed to the design of the study, research activities, and editing the article. P. Verma and J. S. Fisher contributed to research activities and editing the article.

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### Human Participant Protection

This evaluation study was declared exempt from review by the non-biomedical institutional review board at the University of North Carolina. Participant confidentiality was ensured throughout the study.

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