Editorial

Quality Improvement in Public Health: Moving From Knowing the Path to Walking the Path

Greg D. Randolph, MD, MPH; C. Suzanne Lea, PhD

This issue of the *Journal of Public Health Management and Practice*, the second to focus on quality improvement in public health, moves from "knowing the path," described in the January/February 2010 issue, to actually "walking the path." The 2010 issue outlined important components of transformation (eg, leadership to give clear vision, breaking down silos, and creating a work environment to sustain continuous quality improvement [CQI]) and set forth an ambitious challenge for adoption of quality improvement (QI) by public health.[1]

The foundation of this issue is a series of case studies, addressing not only how public health agencies are conducting QI projects but also how they are sustaining their QI efforts by creating the necessary infrastructure and culture to support CQI. These case studies demonstrate how and under what conditions QI and CQI succeed.

Recognizing that many agencies throughout the country are performing exemplary QI work, the local health departments and projects highlighted in these case studies were primarily selected for pragmatic reasons. Many of these agencies are located in North Carolina, which made it easier for the authors to efficiently develop the case studies with little travel and with the necessary relationship building already accomplished.

However, several other factors guided the selection of these case studies. North Carolina's public health system enabled the selection of several rural and smaller agencies to highlight. Most literature to date has focused on urban and larger agencies. It is important to address this gap because there is potentially greater impact for QI in agencies with fewer resources, and there is concern about the feasibility of QI in smaller agencies.[2,3] Agencies using common QI methods, such as "Lean" and "Model for Improvement," were purposefully chosen because these methods are routinely used by public health system partners. Using the same QI methods will facilitate collaboration between public health departments and their system partners as they jointly attempt to improve population health in communities across the United States. In addition, these widely used methods have a well-established track record of effectiveness within numerous industries. Finally, the included QI projects highlight the breadth of public health practice, including clinical, environmental, health promotion, and population health.

Clarifying Key Terms and Concepts in This Issue

As more public health agencies have applied QI, an abundance of puzzling terminology has emerged. Even in this issue, readers will encounter a collection of confusingly similar terms such as quality assurance, quality improvement, performance improvement, quality management, performance management, and performance measurement. Thus, we have attempted to clarify some of the most important terms and concepts to assist readers as they navigate this issue (see the Table).[4–12]

Author Affiliations: North Carolina Center for Public Health Quality, Raleigh (Dr Randolph); Associate Professor, Department of Pediatrics, UNC School of Medicine (Dr Randolph); Adjunct Associate Professor, Public Health Leadership Program, UNC Gillings School of Global Public Health (Dr Randolph); Department of Public Health, Brody School of Medicine, East Carolina University (Dr Lea).

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Correspondence: Greg D. Randolph, MD, MPH, NC Center for Public Health Quality, PO Box 18763, Raleigh, NC 27619 (randolph@unc.edu); C. Suzanne Lea, PhD, Department of Public Health, Brody School of Medicine, 600 Moye Boulevard, mailstop 660, East Carolina University, Greenville, NC 27834 (leac@ecu.edu).

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TABLE ● Key Terms and Concepts in This Issue

Term	Definition	Comments
QI	The use of a deliberate and defined improvement process, which is focused on activities that are responsive to community needs and improving population health.[4]	The reference to the "Plan-Do-Check-Act" improvement framework is omitted because it adds little to the definition, and worse, may cause confusion. The Plan-Do-Check-Act framework (often called "Plan-Do-Study-Act" or "PDSA") shares the same name as a tool, the PDSA cycle, a vital tool used with the Model for Improvement and other common QI frameworks. Though they share the same name, using PDSA as a framework is very different from the tool, a PDSA cycle.[5-7] In this issue you will see PDSA referred to as both a tool (a "PDSA cycle") and a framework (often listed as "PDCA" or "PDSA"), and the reader should note which is being referred to in each situation.
Performance management	*Performance management* in public health can best be described as what other industries generally refer to as *CQI*—see the following definition.	Performance management in public health is related to QI in that it includes 4 components, one of which is QI (the other 3 components are performance measurement, performance standards, and reporting of progress).[8]
CQI	An organizational commitment to systems change to execute a continuous flow of improvements that meets or exceeds the expectations of the customer (communities) and generally includes a link to the organization's strategic plan and goals; a quality council made up of the organization's top leadership; QI training for staff; a mechanism for prioritizing QI projects based on performance data; and supporting and recognizing staff for their QI activities.[9]	Continuous quality improvement was also referred to as "Big QI" or organizational level QI (vs small QI or project-level QI) in the 2010 *Journal of Public Health Management and Practice* QI issue.[4]
QA	The systematic monitoring and evaluation of the performance of an organization or its programs to ensure that standards (usually set by outside experts) of quality are being met.[10]	In contrast to QI, the focus is on standards set by experts rather than the expectations of customers/communities. Another distinction is in philosophy. When QA is applied broadly to organizations, the focus is on identifying the poor performers and helping, or more often, requiring them to improve to the level of the standard. In contrast, QI focuses on all organizations improving, regardless of their current level of performance.
Public Health Accreditation	The periodic issuance of credentials or endorsement to organizations that meet a specified set of performance standards.[11]	The Public Health Accreditation Board is attempting to promote CQI through the national voluntary accreditation program.[12]

Abbreviations: CQI, continuous quality improvement; PDSA, Plan-Do-Study-Act; QA, quality assurance; QI, quality improvement.

● Ascendency of QI in Public Health—Drivers and Constraints

This issue vividly illustrates many of the drivers and constraints to wider adoption of QI in public health. The topics addressed in this editorial will be recurring themes in this issue's case studies, research articles, and commentaries.

In describing the spread of QI in public health, it is instructive to compare to and contrast with the adoption of QI in health care—public health's journey has been and will likely continue to be very similar to health care's trek. Indeed, one of the major drivers of QI adoption in public health is the success of QI in health care. And, just as in health care, public health has a long history of heavy investment in QA, with few results to show for these investments.

In health care, many respected, influential national organizations have been vital to the promotion of QI, including the Institute for Healthcare Improvement, Institute of Medicine, Accreditation Council for Graduate Medical Education, and American Board of Medical

Specialties. Similarly, in public health, the Robert Wood Johnson Foundation (eg, via the Multistate Learning Collaborative), Centers for Disease Control and Prevention (eg, via the National Public Health Improvement Initiative), US Department of Health and Human Services (eg, via the Consensus Statement on Quality and Quality Aims), Public Health Accreditation Board (PHAB), and Public Health Foundation (eg, via supporting efforts like the Multistate Learning Collaborative and the National Public Health Improvement Initiative) are playing major roles in facilitating the spread of QI in public health.[13] In addition, the Association of State and Territorial Health Officials, the National Association of County and City Health Officials, the National Association of Local Boards of Health, and the American Public Health Association are providing tremendous QI resources for practitioners in the field.

One area of contrast is accreditation's role in driving QI. Accreditation has traditionally been a quality assurance activity in health care; because of this, accreditation has played a lesser role in driving QI adoption in health care. However, in public health, accreditation is being honed to serve as a driver of QI and CQI by PHAB's national voluntary accreditation program. According to PHAB, "unlike some health-related agencies and services that are accredited or otherwise regulated, the PHAB board of directors has set the public health accreditation work solidly on the cornerstone of continuous QI. In other words, accreditation is a means to an end, not an end unto itself."[12] Indeed, emerging evaluation results suggest that North Carolina's local health department accreditation program, which is quite similar to PHAB's program, has been a positive force for driving QI adoption in local health departments.[14]

What constraints are slowing the adoption of QI? First, and likely foremost, is the public health workforce's general lack of knowledge and experience related to QI. Because QI requires empowering frontline staff to make changes to improve their work each day, workforce QI capacity is essential. As is the case with health care organizations, very few of the thousands of public health agencies nationally have a workforce well versed in QI and they also lack internal experts who can provide training and support for QI projects. These shortcomings are compounded by little to no inclusion of QI in curricula by graduate and undergraduate programs in public health. Thus, with each graduating class, new public health graduates deficient in QI knowledge and skills add to the burden of retooling the public health workforce.

Sustaining CQI within an agency is also a major challenge.[15] Transforming organizational culture, a prerequisite for long-term sustainability of CQI, is a lengthy process (perhaps up to 5-10 years based on this issue's case studies). Thus, cultural transformation requires not only commitment by leadership, but also the good fortune of the leadership and its vision remaining stable over the long duration of transformation.[16,17] Similarly, creating the supporting infrastructure for CQI is time consuming—it requires creating performance measurement systems, processes for leadership to oversee and help prioritize QI efforts, processes to train staff, and processes to recognize staff for their efforts and communicate about successes. Furthermore, measurement for the purposes of organizational improvement vs measurement for other purposes such as for research or accountability is a challenge for health departments. Organizational improvements must be supported by health data that are meaningful (thus health outcomes are needed), directly attributable to the work of health departments and their community partners (a challenge for important public health issues that have multiple social determinants), and not only available in a timely fashion, but also demonstrate improvement in a timely fashion (thus process measures or intermediate outcomes are needed).[18]

Paradigms (also called mental models) can be major barriers to adoption of new and innovative approaches like QI.[19] In health care, a strong research paradigm, wherein changes in patient care should occur only after randomized controlled trials and systematic reviews demonstrate effectiveness, has been a constraint to QI adoption; this level of evidence for organizational interventions such as QI is sparse and will likely always be.[20] Public health shares this research paradigm and thus is affected by it as well. However, the traditional program planning and evaluation paradigm in public health is likely the single most important paradigm limiting the effectiveness of QI. The "default" for many public health professionals is to plan and gather data extensively, implement the plan, then study the impact post hoc (usually months or years later), and compare results to baseline measurements. At this point, program planners learn how well the plan worked. Effective QI projects are of a very different paradigm—a continuous learning approach—involving ongoing, rapid cycles of change (ie, Plan-Do-Study-Act cycles) with embedded measurements to promote team learning immediately. In addition, teams use ongoing measurement to assess progress toward the project's goals and make adjustments accordingly. Public health professionals often struggle with shifting to this approach of rapid testing (vs going straight to implementing) and ongoing measurement (vs before-after measurements).

Looking to the Future—Important Opportunities

Many of the aforementioned drivers and constraints will continue to influence the adoption of QI. However, 3 factors will likely dominate the future

spread of QI and CQI in public health. The first (already mentioned) is the urgent need to build QI capacity within the public health workforce. This must include not only general workforce training, but also developing internal experts to facilitate and help lead QI efforts within agencies. Training to equip leadership and management with strategies to effectively support CQI is also a necessity. In this issue, a statewide training program for local public health departments in North Carolina is included to illustrate one model of general workforce QI training. The Centers for Disease Control and Prevention's recently launched the National Public Health Improvement Initiative will provide an enormous opportunity for many state, large city, territorial, and tribal agencies to build workforce QI capacity going forward.

In addition, it will also be important for graduate and undergraduate programs in public health to incorporate QI knowledge and skills into their curricula more broadly. The University of Minnesota is leading in this area with the launch of a new certificate program addressing QI.[21] Opportunity exists for the Association of Schools of Public Health and the Association of Prevention Reaching and Research Council of Graduate Programs in Public Health to lead in building the workforce's capacity to successfully execute QI as well, just as the Accreditation Council for Graduate Medical Education has in health care. Given that nurses comprise the majority of the public health workforce, nursing schools and programs can also have a substantial impact on the public health workforce's QI capacity.[22]

A second major opportunity is the increasing focus on improving population health due to unabated increases in health care costs. This is evident in the recent health reform legislation and in the growing influence of the Institute for Healthcare Improvement's Triple Aim initiative, wherein one of the 3 aims is improving population health (in addition to lowering per capita health care costs and improving patients'/citizens' satisfaction).[23] The Triple Aim framework is already being embedded into many aspects of federal policy related to health care reform. The increasing need to improve population health to lower heath care costs will propel the need for public health agencies to collaborate with health care partners much more around population health improvement. An important corollary of this development is that successful agencies in the future must be able to jointly conduct QI efforts with health care partners in their communities. Thus, it will be important for effective agencies to understand and use common QI methods (such as Lean and Model for Improvement) and tools (such as process maps, run charts, and Plan-Do-Study-Act cycles) that are widely used in health care and among other partners.

Finally, governmental fiscal austerity, unlikely to change for a long time, will place enormous pressure on all agencies to "do more with less."[24] Declining funding will likely serve as a powerful driver of QI in all public health agencies. In particular, Lean methods are likely to be the most direct beneficiary since this method focuses on relentlessly reducing waste and increasing efficiency. Austerity will also certainly increase the already brisk pace of change in public health, and thus the need for change management skills by public health care leaders and managers. Rapid change should further position QI positively because QI is fundamentally a set of evidence-based change management tools.

In the future, the overall success of many health departments may largely be determined by their ability to adopt and sustain CQI as agencies face rapid change, are under pressure to improve population health, and are provided far less resources to accomplish their mission. With this in mind, this timely issue of the *Journal of Public Health Management and Practice* illustrates how health departments are already walking this path.

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