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## Stimulating Public Health Improvement in Complex and Constrained Delivery Systems: Findings from the Public Health PBRNs

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## Stimulating Public Health Improvement in Complex and Constrained Delivery Systems: Findings from the Public Health PBRNs

### Abstract

The Robert Wood Johnson Foundation's Public Health Practice-Based Research Networks Program sponsored a series of studies to examine how public health decision-makers are responding to accreditation, quality improvement, and public reporting initiatives amid the ongoing fiscal pressures. Overall, the evidence to date indicates that these initiatives represent promising strategies for strengthening evidence-based decision-making and expanding the delivery of evidence-tested programs and policies in local public health settings. Continued, comparative research and evaluation activities are needed to provide more definitive evidence about which combination of strategies work best, for which population groups, in which community and organizational settings, and why.

### Keywords

phssr, public health services and systems research; practice-based research networks; quality improvement

### Cover Page Footnote

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The nation's public health delivery systems are charged with implementing the programs and policies that promote health and prevent disease and injury on a broad, population-wide basis. A growing body of evidence indicates that this implementation occurs unevenly across the U.S., leaving some communities much more vulnerable to health threats than others.<sup>1</sup> This variation in public health delivery is hardly surprising given that it occurs through a loose constellation of governmental agencies and private organizations that vary widely in their authorities, missions, resources, and expertise. A central question becomes how best to improve public health delivery within such complex and constrained systems.

A variety of initiatives have been launched in recent years to support evidence-based decision-making and stimulate improvements in public health delivery across the U.S., including:

- Programs to promote the use of quality improvement (QI) processes and tools in public health settings, including the U.S. Centers for Disease Control and Prevention's *National Public Health Improvement Initiative* (NPHII) created by the 2010 Patient Protection and Affordable Care Act, and the Robert Wood Johnson Foundation's *Multi-state Learning Collaborative for Quality Improvement in Public Health*;
- A national accreditation program for local and state public health agencies that has established consensus-based standards of practice – including standards related to QI and evidence-based practice in public health – along with a process for evaluating adherence to these standards;
- Measurement and reporting initiatives like the United Healthcare Foundation's *America's Health Rankings* program and the Robert Wood Johnson Foundation's *County Health Rankings* program designed to mobilize broad-based health improvement efforts using comparative information.

These initiatives are unfolding at a time when public health agencies face extended fiscal challenges due to a persistent economic downturn that threatens to erode the reach and effectiveness of their operations. As a consequence, the implementation and impact of efforts to improve public health delivery remain far from certain.

To shed light on these issues, the Robert Wood Johnson Foundation's *Public Health Practice-Based Research Networks Program* sponsored a series of studies to examine how public health decision-makers are responding to accreditation, QI, and public reporting initiatives amid the ongoing fiscal pressures. Practice-Based Research Networks (PBRNs) bring together state and local public health practitioners with academic researchers to collaborate in designing and implementing studies of innovations in public health delivery.<sup>2</sup> Currently, 26 public health PBRNs operate across the U.S., involving more than 900 state and local agencies and more than 30 universities. These networks provide unique vehicles for examining emerging trends and new patterns in public health practice. Most of the sponsored research projects on this topic were organized as PBRN "Quick Strike" studies, wherein networks conduct small-scale, rapid-cycle inquiries designed to produce preliminary evidence on emerging and time-sensitive topics, ultimately leading to larger and more definitive research. This brief review distills and synthesizes major findings and lessons learned from these studies (Table 1).

**Table 1: PBRN Studies of Evidence-Based Decision-Making, QI, Accreditation, and Public Reporting**

<p><b>Barriers and Facilitators to Evidence-Based Decision-Making in Local Public Health:</b> This study by the New York PBRN uses a statewide survey and key informant interviews with local public health leaders to examine familiarity with the concepts and methods of evidence-based decision-making, use of these strategies in practice, and factors that facilitate and inhibit their use in local public health settings.</p>
<p><b>Economic Shocks and Evidence-Based Decision-Making in Public Health:</b> This Washington PBRN study examines local variation in public health agency budget reductions during the 2009-10 economic downturn in Washington and the effects of these reductions on public health decision-making and use of evidence-based practices. Data from an existing statewide survey were combined with key informant interviews with local health department leaders to investigate these issues.</p>
<p><b>A Taxonomy of QI Methods, Techniques and Results in Public Health:</b> This study by the Minnesota PBRN creates a database registry of QI projects implemented in public health settings, develops a classification system for these QI projects, and uses the system to document the extent and nature of variation in public health QI projects and to identify key determinants of variation.</p>
<p><b>Quality Improvement Collaboratives for Small and Rural Public Health Settings:</b> This Georgia PBRN study investigates the utility of regional quality improvement (QI) strategies in strengthening accreditation readiness and attainment among small and rural public health jurisdictions in the state. Local public health agencies in a selection of counties are implementing regional public health quality improvement collaboratives (QICs) using the state’s multi-county public health districts as the primary organizational structures.</p>
<p><b>Quality Improvement Strategies and Regional Public Health Structures:</b> The Nebraska PBRN exploits the unique regional health department structure used in two-thirds of its local public health jurisdictions to mount a comparative study of the implementation and perceived effectiveness of QI activities in regional vs. single-county public health delivery systems within the state.</p>
<p><b>Public Health Accreditation and Quality Improvement Philosophy:</b> This Missouri PBRN study examines the association between accreditation and quality improvement among Missouri’s local health departments, which have operated under a voluntary, state-based public health accreditation program for more than a decade. The study compares QI activities across three groups of agencies within the state: (1) agencies that have undergone accreditation; (2) agencies that intend to apply for accreditation within 2 years; and (3) agencies that do not intend to apply for accreditation.</p>
<p><b>Evaluation of a Quality Improvement Project to Improve Workforce Diversity:</b> This study by the Washington PBRN investigates the effectiveness of a quality improvement (QI) initiative designed to improve racial/ethnic diversity across workforce categories within a large local public health agency in the state. The study examines changes in recruitment and hiring processes and staffing outcomes that occur after implementation of the QI initiative, using retrospective data from human resource records.</p>
<p><b>Local Public Health Responses to the County Health Rankings:</b> This study by the Florida PBRN investigates local variation in how public health organizations across Florida’s 67 counties respond to and use the County Health Rankings (CHR) data for public health practice and health improvement activities. The study seeks to identify organizational and community-level factors that drive variation in the types of responses taken across communities and in the degree of success in implementing these responses.</p>

**Background: What We Know About QI, Accreditation, and Public Reporting**

Despite several decades of experience with implementing QI approaches in health care settings, definitive evidence about the effectiveness of these approaches in improving care and reducing costs remains surprisingly thin. A recent review of the research concluded that “the best evidence currently available indicates that while QI alone is no magic bullet, it generally has

modest, positive effects.”<sup>3</sup> The same can be said for accreditation programs and public reporting initiatives in health care, although the evidence base surrounding this last topic has grown considerably in recent years due to a series of rigorous studies.<sup>4,5</sup> In the field of public health, efforts to implement QI, accreditation, and public reporting initiatives are only a few years old, so even less empirical evidence is available.<sup>6</sup> In both health care and public health settings, efforts to study these innovations rigorously is complicated by wide variation in the design and implementation of the approaches used, and considerable heterogeneity in the organizational and community settings in which they are implemented.

### **Emerging Findings from PBRN Research**

The studies undertaken by the Public Health PBRNs represent some of the first formal efforts to examine how QI, accreditation, and public reporting initiatives influence decision-making and action within local public health practice settings. Most of these studies focus specifically on local health departments as the practice settings of interest, although a few studies also examine nongovernmental organizations and community-based settings that work in concert with governmental public health agencies. Although the research questions, methodologies, and practice settings vary considerably across these studies, several key findings and cross-cutting themes emerge from the research:

**1: *Evidence-based decision-making is limited and constrained in many local public health settings.*** Local public health officials often make decisions about what activities to implement and how to allocate and use their resources without explicitly reviewing evidence on which options are likely to be most effective and efficient. Inflexibility in funding sources and legal requirements, lack of support from political leaders and governing bodies, lack of staff training and expertise, and inaccessibility of relevant data and evidence are some of the key barriers to evidence-based decision-making.

**2: *QI initiatives can facilitate evidence-based decision-making and improvements in delivery.*** QI initiatives implemented in public health settings can help to identify and generate locally-relevant evidence, and can facilitate the use of this evidence by decision-makers at multiple levels within an organization. Furthermore, Minnesota’s taxonomy study of more than 50 individual QI initiatives indicates that these projects can produce significant improvements in the effectiveness and efficiency of public health programs, particularly when these initiatives adhere closely to core QI principles and methods.

**3: *Local capacity to implement QI is limited and variable.*** Unfortunately, multiple PBRN studies indicate that the capacity to implement QI initiatives successfully in local public health settings is quite limited, particularly in small, rural, and low-resource settings. Barriers to implementation include a lack of staff training in QI methods, lack of access to external QI expertise, insufficient data resources and analytic capabilities at the local level, and insufficient leadership for creating a pervasive culture of QI across the organization.

**4: *Regional cooperation can facilitate QI implementation.*** Regional cooperative structures such as Georgia’s multi-county public health districts appear helpful in sharing QI expertise and resources across public health settings and facilitating peer-to-peer learning and support for QI

implementation. Under the right circumstances, these regional structures can function much like the multi-organizational quality improvement collaboratives (QICs) that have been used successfully in medical practice settings.

**5: Accreditation programs and public reporting efforts can stimulate and support improvement.** Both the state-based public health accreditation program in Missouri and the more recently developed national accreditation program from the Public Health Accreditation Board appear to generate awareness of and interest in QI techniques among local public health practitioners, due in part to the inclusion of accreditation standards that explicitly emphasize the use of QI. At the same time, evidence from Florida indicates that the *County Health Rankings* reporting initiative is increasingly being used by local public health officials to mobilize community-wide health improvement activities. Overall, these two national strategies – voluntary accreditation and comparative public reporting – appear to help public health professionals navigate some of the local barriers to evidence-based decision-making and QI implementation.

## Implications and Next Steps

Evidence from PBRN studies to date indicate that QI, accreditation, and public reporting initiatives are promising strategies for strengthening evidence-based decision-making and expanding the delivery of evidence-tested programs and policies in local public health settings. Because these studies are preliminary and exploratory in their design and methodology, they fall far short of offering definitive evidence about the effectiveness and efficiency of these strategies in improving public health delivery, and they are largely silent about whether these strategies ultimately can improve population health. Nevertheless, the preliminary findings from these studies suggest that continued experimentation with these improvement strategies – and continued research on their effectiveness, cost-effectiveness, and health impact – are worthwhile. These results should encourage stakeholders at national, state, and local levels to continue their investments in QI, accreditation, and public reporting strategies, but also to invest in the comparative research and evaluation activities that will provide more definitive evidence about which combination of strategies work best, for which population groups, in which community and organizational settings, and why.

Several of these PBRN studies are profiled in greater depth in this issue of *Frontiers in Public Health Services and Systems Research*. Several other studies appear in a current issue of the *Journal of Public Health Management and Practice*,<sup>7</sup> and still other studies are scheduled to appear in a forthcoming theme issue of the *American Journal of Preventive Medicine*. The PBRNs that implemented these “Quick Strike” studies are now working on larger and more definitive research projects to uncover the strategies that work best in improving public health delivery. Most recently, the Robert Wood Johnson Foundation launched the *Public Health Quality Improvement Exchange*, an electronic repository that allows public health organizations to share information about their QI projects, implementation experiences, and results ([www.phqix.org](http://www.phqix.org)). These and similar innovations in public health practice and research promise to advance the field’s knowledge of how best to harness the powerful potential of QI, accreditation, and public reporting in public health.

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