



Editorial

Behind the Curve?

What We Know and Need to Learn From Public Health Systems Research

Glen P. Mays, Paul K. Halverson, and F. Douglas Scutchfield

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The need to improve the nation’s public health systems has perhaps never been more visible and widely recognized than it is today. The episodes of terrorism and bioterrorism that unfolded in 2001 provided stark examples of the emerging public health threats faced by modern society, highlighting the need for stronger and more effective mechanisms for preventing, detecting, and responding to health threats on a population-wide basis. In the wake of these events, policy makers have begun to increase the governmental resources available to support public health systems, providing a much-needed infusion of funding for public health agencies at the federal, state, and local levels. Information is desperately needed to ensure appropriate investment of these new resources to develop the requisite public health infrastructure.

Over the past three decades, a growing body of evidence has demonstrated variation among and substantial gaps in the public health resources and services available within communities.¹⁻⁷ Nevertheless, efforts to improve public health systems and public health infrastructures have lagged behind comparable efforts in medical care. A persistent obstacle to public health system improvement has been the lack of information about what constitutes effective public health practice, and how best to organize, finance, and implement these activities. Recognizing this problem, the research community has begun to investigate these critical issues of policy and practice through studies of public health systems.

This issue of the *Journal of Public Health Management and Practice* (JPHMP 9:3) comprises articles adapted

from the first meeting of the Public Health Systems Research Affiliate of the Academy for Health Services Research and Health Policy (AcademyHealth). This new affiliate of the Academy’s annual research meeting brings together the latest research on public health systems in order to inform the larger community of researchers, policy makers, and practitioners and to stimulate new scholarship in this area. The first meeting of the affiliate—sponsored by the Centers for Disease Control and Prevention (CDC), Public Health Practice Program Office—was held in June 2002 in Washington, DC, and included the presentation of four invited papers, six papers selected competitively from a call for abstracts, and an additional 15 papers selected competitively and presented during a poster session. Building on the overwhelming success of this first meeting, the next affiliate meeting will be held in June 2003 in Nashville, Tennessee, one day prior to the Academy’s annual research meeting.⁸

This issue includes ten articles that are adapted from presentations given at the first affiliate meeting. Collectively, they exemplify the wide variety of re-

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Glen P. Mays, MPH, PhD, is a Health Researcher with Mathematica Policy Research in Washington, D.C.

Paul K. Halverson, MHSA, DrPH, is Director of the Division of Public Health Systems Development and Research, Public Health Practice Program Office, Centers for Disease Control and Prevention in Atlanta, Georgia.

F. Douglas Scutchfield, MD, is the Peter P. Bosomworth Professor of Health Services Research and Policy, the Director of the Kentucky School of Public Health, and the Director of the Center for Health Services Management and Research at the University of Kentucky in Lexington, Kentucky.

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search currently under way on public health systems, covering topics ranging from public health workforce development to performance measurement and systems improvement to collaboration and community health measurement. As a prelude to these articles, an examination of the nature of public health systems research and the potential lessons from this emerging field of inquiry follows.

● What Is Public Health Systems Research?

Public health systems research is a field of study that examines the organization, financing, and delivery of public health services within communities, and the impact of these services on public health. Studies within this field are designed to produce the evidence needed by key public health decision makers—including practitioners, administrators, and policy makers—to improve the effectiveness and efficiency of public health systems at local, state, and national levels. From this perspective, a public health system includes the full complement of public and private organizations that contribute to the delivery of public health services for a given population, including governmental public health agencies as well as private and voluntary entities. While some studies examine public health systems in their entirety, others choose to focus on specific components within these systems, such as local health departments, community-based initiatives, and linkages between medical care and public health providers. The public health services examined in this field include the full range of activities undertaken to protect and improve health at the population level, as illustrated by the ten essential public health services identified by the Public Health Functions Steering Committee in 1994.⁹

Conceptually, public health systems research fits within the larger field of inquiry known as health services research. In practice, however, much of the health services research conducted to date has focused on the organization, financing, and delivery of medical care. That the medical care system has dominated the health services research agenda for much of the past four decades is not surprising, given the fact that medical care accounts for the vast majority of national health expenditures. This is obviously followed by providing research dollars in an attempt to address issues such as cost, quality, and access to medical care. The field of public health systems research has emerged as a vehicle for applying the concepts and methods of health services research to public health settings. Like studies of the medical care system, public health systems research is a multidisciplinary endeavor that comprises studies from a variety of

theoretical and methodological perspectives, including epidemiology, biostatistics, economics, sociology, psychology, political science, information science, and operations research.

● What Can Be Learned From Public Health Systems Research?

Well-designed research studies can produce many different types of evidence needed for improving the nation's public health systems. Some of the most important areas in which studies are now under way include:

- *Descriptive information on the current organization and operation of public health systems.* Surprisingly little information exists about the basic characteristics of public health systems, including how many local, state, and tribal public health systems exist across the nation; the range of organizations that contribute to public health systems and the division of labor among them; the range of responsibilities and authorities carried out by public health systems; the organizational structures and financing strategies used by public health systems; and the size, composition, and skills of the workforce that maintains our public health systems. Documenting how these system characteristics vary across communities is an essential first step in identifying both strengths and weaknesses within the nation's public health infrastructure.
- *Evidence about the scope and scale of public health services needed within communities.* Public health practitioners and administrators face an ongoing need for information about what services, programs, and activities constitute effective public health practice within their communities, and how to ensure access to these services for the populations that need them. This information is needed to allocate scarce public health resources efficiently among the broad range of programs and interventions maintained by public health systems, and to address disparities in access to public health services. Several initiatives are currently under way to identify existing research and outstanding research needs in this area, including the CDC's *Guide to Community Preventive Services*¹⁰ and the efforts of the Council on Linkages between Academia and Public Health Practice to develop a research agenda for public health practice.
- *Evidence about how organizational and financial characteristics affect the effectiveness and efficiency of public health systems.* Studies in this area provide vital insight into how best to organize, finance, and

staff public health systems in order to produce the desired services and programs considered essential elements of public health practice. Preliminary research in this area has linked public health system effectiveness to a variety of system characteristics including having full-time executive leadership and a governing board of health, health department staffing levels and per capita expenditures, and the size of the public health jurisdiction.^{4,11}

- *Evidence about how public health system performance affects community health.* These studies are perhaps the most difficult to conduct given the complex relationships that exist between public health systems and community health outcomes. Preliminary research has begun to explore the cross-sectional relationships between system performance and community health status,¹² but additional work will be required—using longitudinal data and multivariate modeling techniques—to elucidate the mechanisms through which public health systems influence community health.

● Research Opportunities and Priorities for the Future

The research needs in public health systems are many and varied, but fortunately, new research opportunities have begun to emerge in the wake of several recent developments in public health. As one of the most promising opportunities, the National Public Health Performance Standards Program was officially launched in June 2002 after several years of development work by CDC, the American Public Health Association, the National Association of County and City Health Officials, the Association of State and Territorial Health Officials, the National Association of Local Boards of Health, and other leading public health organizations. The Performance Standards Program provides a process and set of instruments for collecting valid and reliable measures of public health system performance at local, state, and national levels. Already pilot-tested in eight states, these instruments provide a rich source of data for comparing performance across public health systems and over time, thereby creating opportunities for important new studies in public health systems.¹³ Several studies already have been conducted using pilot test data from this program, and additional studies are now under way. As the number of states participating in the Performance Standards Program grows, it is sure to become a valuable new resource for researchers and public health decision makers alike.

As another research opportunity, CDC and other public health organizations are continuing to develop

data and measures to assess progress toward the *Healthy People 2010* national health objectives related to public health infrastructure development.¹⁴ These objectives, described in Chapter 23 of *Healthy People 2010*, have taken on added importance in the wake of the events of 2001; however, considerable work remains to be done in developing valid and reliable measures of progress toward these goals. The field of public health systems research is well positioned to carry this effort forward and, in so doing, to demonstrate the value of this research to a broad audience of public health decision makers.

Finally, the Institute of Medicine (IOM) recently released a new report on the nation's public health system that identifies a number of important roles that the research community can play in strengthening public health.¹⁵ Specifically, public health systems research will be vital for achieving the IOM's recommendations concerning:

- Developing accountability and accreditation systems for public health
- Monitoring and strengthening the competency of the public health workforce
- Strengthening governmental public health infrastructure and partnerships with other sectors
- Making evidence the foundation of decision making in public health.

The CDC and other public health organizations undoubtedly will look to the field of public health systems research for the information and insight needed to implement these recommendations.

It is important not to leave this topic without adding some caveats. The community of public health researchers is small compared with those who study the medical care system. This is primarily the result of two factors. One is the paucity of research funding available to study public health, as opposed to medical care. Second, most schools of public health do not have mentors to attract doctoral students to the discipline and support their research efforts. Both factors require attention by the federal government, private foundations, and schools of public health.

● The Articles in This Issue

The articles included in *JPHMP* 9:3 were presented at the first meeting of the Public Health Systems Research Affiliate of the Academy for Health Services Research and Health Policy. Collectively, they reflect the diversity and strength of the research currently under way on public health systems, and they demonstrate the roles that research can play in informing

public health administration, policy, and practice. The first four articles examine the issue of performance measurement in public health systems, including Kennedy's study of the correlates of performance in Texas, a report from Beaulieu and colleagues on validity testing of the National Public Health Performance Standards Program instruments, and an examination by Potter and colleagues of a workforce development initiative based on the Performance Standards program. In the fourth article in this series, Mayer presents an empirical investigation of the relationships between workforce competencies and public health performance in a large local health department, a study that received the Best Paper award at the affiliate meeting in June.

The next three articles examine critical issues in public health infrastructure development. First, Mete and colleagues examine the community characteristics associated with the provision of selected public health services by local health departments across the nation. Then, Berkowitz and Nicola present an analysis of the public health systems changes implemented as part of the Turning Point initiative. Next, Pyron and coworkers present early results and insights from Michigan's accreditation program for local public health agencies.

The final set of articles confronts issues of community health measurement. Howell and colleagues describe results and experiences from an innovative partnership to develop and use neighborhood-level measures of community health for public health improvement. Next, Luther and associates present results from an empirical study of how primary care programs influence racial and ethnic disparities in health. Finally, Kanarek and Bialek use community health outcome data to examine local readiness to meet *Healthy People 2010* objectives.

Each article offers valuable information and insight for decision makers seeking to improve public health systems. It is hoped this issue will stimulate additional interest in and demand for public health systems research, as this important field of inquiry continues to develop. Such continued development is essential if the nation's public health systems are to get ahead of the curve in preparing for and responding to current and emerging health threats.

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