For years we have known the value of assessing the delivery and effectiveness of individual clinical services and how factors such as structure, organization, and finance influence the quality and quantity of clinical care. There is a comparable field in public health called public health services and systems research (PHSSR) that studies system-level factors and their association to public health delivery and the health of populations. Mays and colleagues have defined public health services and systems research as a field of study that examines the organization, finance, and delivery of public health services in communities and the impact of these services on public health.

Two more recent efforts have focused on expanding and further enhancing that early definition. Scutchfield et al. suggested that PHSSR would benefit from an enhanced definition that emphasized the following:

- PHSSR is closely related to its parent discipline of health services research.
- Health services provided by categorical public health programs can be strengthened by an understanding of PHSSR. In a similar way, the understanding of public health infrastructure could be enhanced by an understanding of principles that can be learned from categorical public health programs and the direct patient care they deliver.
- The nexus of clinical care and public health in an era where there is a renewed call for bridging public health and primary care, particularly in the wake of population health having become a component of health system reform.

These considerations led to a suggestion for a change in the discipline’s title, from public health systems research to public health services and systems research.

A further effort at refinement was undertaken by AcademyHealth, the professional organization representing health services research. They adopted the following clarifying statements to further develop the field:

- Public Health Systems Research (PHSR) 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.
- PHSR is a multidisciplinary field of study that recognizes and investigates system-level properties and outcomes that result from the dynamic interactions among various components of the public health system and how those interactions affect organizations, communities, environments, and population health status.
- The public health system includes governmental public health agencies engaged in providing the 10 Essential Public Health Services, along with other public and private sector entities with missions that affect public health.
- The term services broadly includes programs, direct services, policies, laws, and regulations designed to protect and promote the public’s health and prevent disease and disability at the population level.

Although PHSSR may seem to be a new discipline, it has a long history, beginning in 1920 and reaching a zenith during the mid-20th century with the release of the Emerson Report of the American Public Health Association in the mid-1940s. Turnock and Handler have traced this history and provided a detailed examination of many of the antecedents of PHSSR.

Bernard J. Turnock and C. Arden Miller were leaders during the 1990s in what we now define as PHSSR. Their work focused on several features of public health that were prompted by the publication of the 1988 IOM report The Future of Public Health and the definition in that document of the role of governmental public health services as assessment, policy development, and assurance, along with the subsequent definition in the early 1990s of the 10 Essential Public Health Services (EPHS). During
that period, Turnock and Miller sought to more accurately describe the measures of local health departments’ performance, using the EPHS. That era also saw efforts by the national public health professional organizations and the federal government to develop a better understanding of the nature of public health departments; surveys of state and local health departments were done to enhance the understanding of the current state of those health departments.

The CDC was also a major player in this new effort. They established the Public Health Practice Program Office (PHPPO) that undertook a number of major initiatives to improve the practice of public health and in many cases provided the resources for Miller and Turnock’s early work. In addition, PHPPO provided support for leadership development and academic connections designed to improve the capacity and functioning of the local health department. Among the areas where that office initiated leadership was the creation of the National Public Health Performance Standards Program (NPHPSP) Instruments. This work focused on the performance of the public health system, rather than the governmental health department, a major shift in focus from Turnock and Miller’s work. The NPHPSP looked at the efforts by all community elements, not just the health department, that focused on improving the public’s health in defining the performance of delivering the 10 EPHS in a community.

The ferment that characterized public health during the decade of the 1990s also resulted in a series of conferences and discussions among those who had an interest in health services research and its application to public health. This particular group of individuals saw potential in the application of health services research principles to the field of public health. With the advent of new data sources, such as the National Association of City and County Health Officials (NACCHO) survey of local health departments and early iterations of the NPHPSP instruments, it seemed that one major problem to the creation of PHSSR, the lack of data, was beginning to be addressed. PHPPO also contributed to the growth of the discipline by convening several meetings and providing support for the establishment of AcademyHealth’s Special Interest Group (SIG) in public health systems research.

This funding allowed for a meeting of the SIG in conjunction with the annual research meeting of AcademyHealth, which included a solicitation of presentations and posters and awarding a prize for the best PHSSR abstract. PHPPO also provided some initial funding for research associated with the NPHPSP tools as a mechanism of establishing both their validity and reliability, but also their utility in new research efforts designed to demonstrate the potential for PHSSR focused on capacity and performance of local health departments and systems.

In addition to the work of PHPPO, the Public Health Foundation began efforts to increase the visibility and viability of PHSSR. They convened meetings in conjunction with the American Public Health Association to showcase and discuss the development and potential of PHSSR. They were involved in making the business case for PHSSR in the early days of its establishment and attempting to encourage potential funding sources for development of PHSSR.

A key development in the efforts to establish PHSSR as a viable discipline was a statement by an IOM committee in their 2003 IOM report, *The Future of Public Health in the Twenty-First Century*. Specifically

> ... research is needed to guide policy decisions that shape public health practice. The committee had hoped to provide specific guidance elaborating on the types and levels of workforce, infrastructure, related resources, and financial investments necessary to ensure the availability of essential public health services to all of the nation’s communities. However, such evidence is limited, and there is no agenda or support for this type of research, despite the critical need for such data to promote and protect the nation’s health.

The report also called for the development of a PHSSR research agenda to be developed by CDC and the Council on Linkages.

In addition, both the 2000 and the 2010 Healthy People reports called for data regarding the infrastructure of public health. For example, the 2000 report contained an objective:

> Increase to at least 90 percent the proportion of people who are served by a local health department that is effectively carrying out the core functions of public health.

Given this objective, development of a PHSSR research agenda would provide needed focus, encourage and direct researchers and funding organizations, and provide an intellectual base and guide post for the future of PHSSR. For that reason, both the Public Health Foundation and the CDC developed a PHSSR research agenda in the immediate period following the 2003 IOM report. The 2003 CDC description of the methods for establishing that agenda and the results of their efforts provided important direction in the early development of the discipline. Table 1 illustrates the results of CDC’s efforts in establishing a PHSSR agenda and the various research areas that were important to the discipline at that point in time. A quick review will demonstrate that at least some

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of the questions raised in the early development of PHSSR have been addressed but others have not.17

Evidence demonstrates that the field of PHSSR accelerated markedly in 2004 with the entrance of the Robert Wood Johnson Foundation (RWJF, the Foundation). Important keys to the rapid development of PHSSR were

<table>
<thead>
<tr>
<th>Table 1. Research priorities for the public health systems research agenda</th>
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<tr>
<td>1. Determine how public health agency structure affects performance. (40)</td>
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<td>2. Define and quantify dimensions of public health systems, including interorganizational relationships (including the role of the agency within the public health system). (33)</td>
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<td>3. Explore the relationship between performance and health outcomes (and the chain of impacts that leads from improved performance to improved health outcomes). (30)</td>
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<td>4. Define the characteristics of high-performing local, state, and federal public health agencies. (29)</td>
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<td>5. Explore the relationship between social determinants of health and system performance. (28)</td>
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<td>6. Evaluate the costs of achieving and maintaining acceptable/optimal levels of performance. (This activity includes exploring reasonable models to collect agency financial data.) (27)</td>
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<tr>
<td>7. Explore the relationship between public health infrastructure/performance and the design, implementation, and impact: outcomes of categorical programs (including the use of evidence-based interventions). (27)</td>
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<td>8. Conceptualize a framework for high-performing public health systems that includes key elements. (26)</td>
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<tr>
<td>9. Identify, develop, and refine measures of health outcomes that are sensitive to public health systems capacity and performance. (26)</td>
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<tr>
<td>10. Explore models and outcomes of accreditation of public health agencies and/or public health systems as performance improvement methods. (21)</td>
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<tr>
<td>11. Evaluate how shifting policy and financial priorities affect performance of public health systems. (19)</td>
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<td>12. Explore what factors and processes facilitate community involvement in using the National Public Health Performance Standards Program in system improvement activities (quality improvement). (19)</td>
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<td>13. Evaluate how and to what extent a high-performing public health system is indicative of preparedness. (19)</td>
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<td>14. Explore the effectiveness (within the agency and the system) of local and state governance structures. (16)</td>
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Note: Priorities were established by a group of 44 participants from the CDC, national organizations representing public health practitioners, and academic and research institutions. Numbers in parentheses indicate votes received.

Several recent developments have occurred in the field that suggest attention should be once again turned to the issues of an agenda for research in PHSSR. First is a renewed commitment to PHSSR by the Foundation and others interested in public health. Together they have created several new initiatives in public health– and PHSSR–related activities. These initiatives include the recent funding of the public health legal research center, the funding and growth of the public health practice–based research network, along with the creation of a National Coordinating Center for PHSSR at the University of Kentucky. In addition, health reform legislation—the Patient Protection and Patient Care Act (PPACA)—specifically authorizes funding for PHSSR, and a modest appropriation for PHSSR has been obtained.

These new initiatives provide substantial amounts of new funding to be allocated to PHSSR for new grants, the training of new researchers, and facilitating translation of PHSSR into practice. Even private-sector interest in PHSSR emerged with the establishment of the Pfizer Fellowship in PHSSR. National organizations such as Association of Public Health Laboratories, American College of Preventive Medicine, and other public health membership organizations have held focused sessions on PHSSR in recent years recognizing the significance and potential power of this kind of research to public health practice. Given these new initiatives, and evolutions in both the general healthcare environment and the public health environment, the Foundation felt it would be helpful to develop a new current and more focused agenda for PHSSR.

The current effort to update the PHSSR agenda represents a new phase in the development of the field and provides an opportunity to build on the PHSSR knowledge that has been accumulated over the last several years. This updated agenda also will help set a new direction for the continued growth and development of PHSSR. The Foundation made a specific decision to partner with the CDC in the development of this agenda and the Office for State, Tribal, Local and Territorial Support and its director, to lead this effort. In addition, a consulting firm, Altarum, was hired to facilitate sessions and provide logistic support to the effort. Likewise, the National Coordinating Center for PHSSR was asked to provide intellectual assistance to the agenda-setting endeavor.
The decision was reached early on to ensure that the deliberations that resulted in the new PHSSR research agenda were, to the extent possible, informed by contemporary research and the most current developments in practice, policy, and research. To accomplish this, a series of systematic reviews was commissioned. The systematic reviews focused on major issues of concern in PHSSR and can be found in this supplement to the American Journal of Preventive Medicine. In addition to the systematic reviews, Altarum completed a thorough review of the current research efforts of RWJF. The review conducted by Altarum included research that had been published as a result of the Foundation’s efforts as well as current activities related to the various parts of the Foundation’s PHSSR portfolio. Both sets of material were made broadly available to the participants in the research agenda-setting process, such as RWJF websites dedicated to this effort.

The decision was made to focus on four general areas for development of the agenda: (1) workforce; (2) financing; (3) data and methods; and (4) organization and structure. Although the original intent was to convene a meeting of researchers, practitioners, policymakers, and other stakeholders at the CDC, weather forced the planning group to make a different and, in many ways, more inclusive method of developing the agenda. Instead of a 3-day meeting, with limited participants, the group convened a larger and more representative group of participants in four work groups, each focusing on separate research areas. Two professionally facilitated webinars also were held with expert leadership on each of the four topics. The first webinar in each area focused on the identification of research topics, and the second allowed for clarification and priority setting for the topics identified. From this process, an initial draft of priority research topics emerged.

With this draft in hand, the next task was vetting the results more broadly. The vetting process took nearly 6 months and included many stakeholders in public health: membership organizations, practitioners, sitting state health officers, local health directors, and community-based organizations. The broad vetting of the results with the practice community, for example, represented an important area for ensuring input, so that specific opportunities for engagement were used to ensure input from state and local health officials. In addition, the draft agenda was posted on the National Coordinating Center’s website with requests for further suggestions and the opportunity to set priorities for those research priorities they felt were important. The agenda also underwent a thorough review to guarantee that the research questions were focused and phrased in the most effective manner to ensure their appropriateness to PHSSR research efforts.

The research agenda that resulted from this effort, and the materials that guided it, are available in this supplement. This research agenda is intended to guide those who wish to know the questions that most likely will produce just-in-time, pragmatic, and critical information capable of improving public health practice and policy. At a time of ever shrinking resources for public health practice, evidence is needed that demonstrates the value of public health. As governmental health budgets and workforce are diminishing, we need to support decision making in the short term. Having a vibrant and viable agenda that resonates with the needs of the field is essential for an effective public health system. This research agenda will provide direction for multiple efforts to come. It also will be used to track the work of our research community in an effort to ascertain what items on the list are being addressed. Finally, this agenda will be used to keep track of current research efforts for the purpose of highlighting areas that are in need of greater research attention and focus. Not only will it be used in a number of current grant activities that provide resources for research and education in PHSSR but will live and breathe as it evolves and responds to practitioners.

This research agenda is a continuation, in many ways, of the earlier agenda constructed by CDC and the Public Health Foundation. The field of public health changes rapidly. The advent of new public health issues is likely within the next year or two. Just as the events of September 11, 2001, the anthrax scare, SARS, or H1N1 changed the nature and work of public health, we anticipate that there will be changes that will prompt new questions and raise new issues that must be examined in public health practice. Some are obvious, such as the continued roll-out of health reform that will change the nature of public health as it moves from direct patient care to population-based services. Key questions include: How will public health departments fit, if at all, in the new Accountable Care Organizations? or How will PHSSR best be integrated with the new initiatives of the Patient Care Outcomes Research Institute?

New technologies and the economy are additional drivers that affect the workforce and public health practice and generate new questions. These developments and ones we have not yet seen will influence the nature of the research agenda. For that reason, this research agenda cannot be a static document but must be dynamic, allowing for continued development as new issues and concerns arise that require the knowledge derived from PHSSR. We anticipate continuing the development of this agenda over time, with sustained input from those who helped with its formation. We believe that continual evolution of the PHSSR agenda is in the best interest of all those in the field: researchers, practitioners, policymak-
ers, and other stakeholders. Just as public health practice changes as the times change, so should our research activities. Continue to look for development of this research agenda and the evolution of PHSSR research questions.

Publication of this article was supported by a grant from the Robert Wood Johnson Foundation.

No financial disclosures were reported by the authors of this paper.

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