

Defining Public Health Practice: 25 Years of the 10 Essential Public Health Services

Environmental Scan
August 2019

Introduction

In 1994, in the midst of discussions of healthcare reform and lack of clarity about the role of public health, the Public Health Functions Steering Committee* developed the 10 Essential Public Health Services (EPHS) as a means of communicating the key public health services needed to protect and promote the health of the public. In the 25 years since their development by representatives from federal public health agencies, public health practitioner associations, and public health education, the EPHS have become the definition of what public health is for both those within and outside of the field. Developed through consensus of the major public health organizations and government agencies and designed to explain public health to policymakers and the public, the EPHS have become the foundation for public health work, operationalized by tools to measure the extent to which the EPHS are provided, taught in schools of public health and other disciplines to explain what public health is, laid the groundwork for initiatives like accreditation to ensure that the EPHS are available to all, served as the basis of research studies, and referenced in the international community as a successful model for organizing public health on a national scale. Health departments have organized themselves and aligned their activities around the EPHS, and public health disciplines and related fields have adapted the EPHS to describe and categorize their work, aligning it to a national model.

As the practice and political context continues to change, and new public health threats emerge, it is critical to have a common understanding of what public health is, what public health professionals do, and how they do it. For 25 years, the EPHS have provided that definition and guidance, and the framework is widely recognized and respected as the authoritative description of public health's role.

To commemorate the 25th anniversary of the EPHS and recognize their significance in public health, this review aims to describe the history of the development and use of the EPHS and to highlight the scope and breadth of their impact on public health and beyond.

Methodology

This review brings together a variety of information sources and should not be considered an exhaustive or systematic literature review. That said, a scan of literature was conducted across the databases PubMed and Ovid using search terms "Essential Public Health Services" and "Essential Services." Abstracts were reviewed to determine if the article addressed the EPHS in a substantive way and were not considered if they made only cursory mention of the EPHS. Citations were selected to describe the development of the EPHS and to provide examples (not an exhaustive compilation) of how the EPHS have been utilized.

Additionally, information about both the history and use of EPHS were obtained through key informant interviews and discussions that arose during meetings and think tanks[†]. These meetings were not EPHS-focused, but in the course of conversation about the EPHS, participants often volunteered stories and

* The Public Health Functions Steering Committee included the American Public Health Association, the Association of Schools of Public Health, Association of State and Territorial Health Officials, the Environmental Council of States, the National Association of County and City Health Officials, the National Association of State Alcohol and Drug Abuse Directors, the National Association of State Mental Health Program Directors, the Public Health Foundation, U.S. Public Health Service agencies: the Agency for Health Care Policy and Research, the Centers for Disease Control and Prevention, the Food and Drug Administration, the Health Resources and Services Administration, the Indian Health Services, the National Institutes of Health, the Office of the Assistant Secretary for Health, and the Substance Abuse and Mental Health Services Administration. (Public Health in America Statement, 1994/5).

[†] PHAB think tanks convene thought leaders in public health to inform accreditation standards & measures. Think tank participants are comprised of public health professionals with subject matter expertise, PHAB staff, and a representative of PHAB's board of directors, brought together to deliberate a particular topic. –from: Ingram RC, Bender K, Wilcox R, Kronstadt J. A consensus-based approach to national public health accreditation. *J Public Health Manag Pract.* 2014;20(1):9-13.

resources that may not be found in the published literature. In order to capture the breadth of EPHS use, that feedback has been included.

This environmental scan is intended to provide a broad overview of the history, development, and use of the EPHS; however, it does not represent a comprehensive listing of every use of EPHS. Therefore, readers should understand that there are likely many more examples of EPHS use.

History of EPHS Development

In the 1988 report *The Future of Public Health*, the Institute of Medicine (IOM) found a lack of consensus on what the public could reasonably expect from governmental public health departments and found significant disparities between services available in different jurisdictions, both in terms of types of services and level of service provision. The lack of an agreed-upon public health mission also led to differences in which authorities or agencies provided services, a variety of organizational setups, and a concern that the services needed to keep the public healthy were not being provided. Similar to refrains heard today, the report identified that politics at all levels had an impact on the services provided and that public health's work was often taken for granted, only to be highlighted when facing a public health crisis rather than celebrating public health successes. The report also introduced the concept of the public health system -- that is, a system including organizations other than just governmental public health departments.¹

The committee defined the mission of public health "as fulfilling society's interest in assuring conditions in which people can be healthy" (to be fulfilled by both private and public partners)¹ as well as defined the specific role of governmental public health to fulfill three core functions: assessment, policy development, and assurance.

While the core functions were useful for public health professionals to describe public health infrastructure, they were not widely understood by the general public. This lack of understanding potentially created more distance between public health practitioners and the public they served,² making it harder for the public to appreciate the public health system's importance. A further step was needed to address this gap.² In 1993, President Bill Clinton announced that healthcare reform would be comprehensive, leading public health advocates to try to "convince policy makers that a health care plan without public health would be a contradiction in terms."³ The bill President Clinton sent to Congress in 1993 included the "Core Functions of Public Health." However, many outside of public health did not understand these core functions, and even within the field, various stakeholder groups (e.g., the National Association of County and City Health Officials [NACCHO] and the Centers for Disease Control and Prevention [CDC]) had different lists of how to address these functions. Alignment was needed in order to communicate better with each other, with policymakers, and with the public.

To address the need for public health to "speak with one voice," a working group on the core functions of public health was formed. The working group convened in spring 1994 and was composed of representatives of the U.S. Public Health Service's (PHS) agencies – federal agencies concerned with public health – and major public health organizations, and was led by the Director of the CDC and Deputy Assistant Secretary for Disease Prevention and Health Promotion.³ This working group then charged a subgroup with developing a consensus list of the essential services of public health. The list was reviewed and revised by the Core Functions of Public Health Steering Committee, led by the Assistant Secretary for Health and the U.S. Surgeon General and including PHS agency heads and presidents of major public health organizations.³ The leadership from the government agencies and broad representation of public health organizations allowed for broad acceptance of the Essential Public

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Health Services and the ownership of the framework by the field (Ron Bialek, MPP, President, Public Health Foundation, oral communication, June 2019), and the language of the EPHS helped policymakers and the public understand public health.⁴

In fall 1994, the Public Health Functions Steering Committee adopted the Public Health in America Statement, including public health's vision and mission, a concise description of what public health does, and the Essential Services of Public Health [Box 1].

What are the 10 Essential Public Health Services?

The Public Health in America Statement reads as follows:

Box 1: Public Health in America Statement

Vision: Healthy People in Healthy Communities

Mission: Promote Physical and Mental Health and Prevent Disease, Injury, and Disability

Public Health:

- Prevents epidemics and the spread of disease
- Protects against environmental hazards
- Prevents injuries
- Promotes and encourages healthy behaviors
- Responds to disasters and assists communities in recovery
- Assures the quality and accessibility of health services

Essential Public Health Services:

- Monitor health status to identify community health problems
- Diagnose and investigate health problems and health hazards in the community
- Inform, educate, and empower people about health issues
- Mobilize community partnerships to identify and solve health problems
- Develop policies and plans that support individual and community health efforts
- Enforce laws and regulations that protect health and ensure safety
- Link people to needed personal health services and assure the provision of health care when otherwise available
- Assure a competent public health and personal health care workforce
- Evaluate effectiveness, accessibility, and quality of personal and population-based health services
- Research for new insights and innovative solutions to health problems

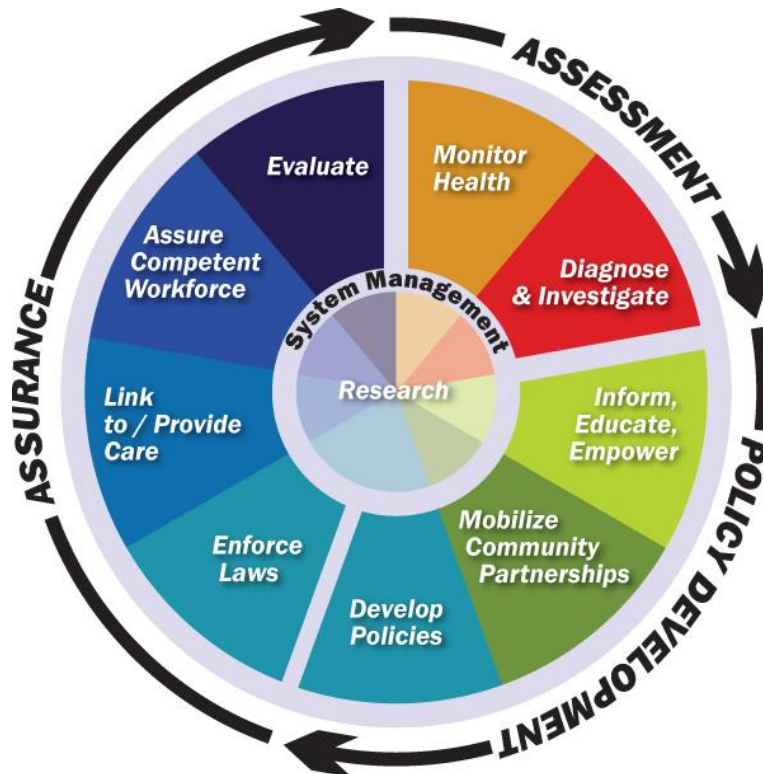
When it was developed, the EPHS defined public health and its role, provided accountability by linking public health performance to health outcomes,³ and provided a starting point in giving structure to how public health could work in the community.⁵ It indicated "a shift:

- in focus from treating disease to sustaining health; from solving isolated problems to creating a preferred future; from an individual's needs to a broader perspective on the health of populations;
- in strategy from treating illness to promoting prevention; from being focused on needs and problems to looking at community-wide assets and opportunities; from being reactive to being proactive;

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- in guiding principles from managing individual health system components to supporting the dynamic interaction of these components [through] a systems and community approach to health; and setting expectations, outcomes, and accountability that can only be achieved through empowerment.”⁵

In 1997, Harrell & Baker noted, "While no definition of public health's essential role in our nation's health system will ever be final, this statement of essential services can be used by the field as a tool for moving forward with greater clarity of purpose in a time of challenging changes."³



The 10 EPHS as a Basis for Other Initiatives

The EPHS described the processes by which public health achieved core functions and became the basis by which health departments could evaluate their performance and improve practice versus efforts prior to the EPHS development, which often focused on specific program areas (e.g., immunization, STIs, etc.) instead of public health services, such as health education or community partnerships.⁶

Following the release of the EPHS, work began to operationalize the services described. In 1998, the CDC collaborated with five public health organizations – the American Public Health Association (APHA), the Association of State and Territorial Health Officials (ASTHO), NACCHO), the National Association of Local Boards of Health (NALBOH), and the Public Health Foundation (PHF) – to translate the EPHS into practice by developing a national set of performance standards for public health.⁷ The National Public Health Performance Standards Program (NPHPSP), which resulted from this collaboration, aims to measure the capacity of the public health system (governmental and nongovernmental) at the state and local level to deliver the EPHS, includes an assessment instrument for governance, highlighting the importance of policy and oversight,^{8,9,10} and functioned as a tool to operationalize the EPHS.⁵ The NPHPSP focuses on the public health system, emphasizing that the services should be provided everywhere, but who

provides those services in each community may differ.⁷ The NPHPSP represents the “gold standard” of public health services, and the health departments and their partners measure their level of service provision against that standard.^{7,10} NPHPSP measurement instruments for local, state, and governance systems (e.g., boards of health, county commissioners) continue to be updated by ASTHO and NACCHO, in partnership with CDC and other national organizations. They are used by the field as a part of community health improvement planning processes, such as Mobilizing for Action through Planning and Partnerships (MAPP).⁹

In 2005, NACCHO released the Operational Definition of a Functional Local Health Department as a means of specifically defining the role of the local governmental public health department in providing each of the EPHS. Understanding that there are factors at the local level that make each local health department unique, the Operational Definition defines what everyone, no matter where they live, can reasonably expect from the local health department.¹¹

In the 2003 report *The Future of the Public's Health in the 21st Century*, the Institute of Medicine recommended the exploration of national accreditation for health departments and encouraged that accreditation build on existing frameworks such as the NPHPSP and the Operational Definition of a Functional Local Health Department.¹² The Exploring Accreditation Project (EAP) recommended a model for the voluntary national accreditation program including 11 domains for accreditation standards, based largely on the EPHS.¹³ The EAP Steering Committee made a deliberate decision to use existing efforts (including NPHPSP and the Operational Definition, both of which are based on the EPHS) as the cornerstone for developing the Standards & Measures because they had already been vetted and because doing so would ensure the availability of existing tools to help health departments prepare.^{13,14} The resulting Public Health Accreditation Board (PHAB) Standards & Measures were ultimately organized into 12 Domains, the first 10 addressing the 10 EPHS, with two domains added to address management/administration and governance.¹⁵ Organization of the PHAB Standards & Measures around the EPHS also mirrored several states' accreditation efforts based on the EPHS¹⁶ and reflected local health departments' adoption of the EPHS as a framework around which to base their work.¹⁷ PHAB accreditation provided a way for health departments to benchmark their provision of the EPHS, allowing them to understand the extent to which they are providing the EPHS and holding them publicly accountable for their performance.⁸

The PHAB Standards & Measures, with their basis in the EPHS, have been cross-walked with other public health initiatives and tools to foster alignment, identify and leverage areas of reinforcement, and guide future work. Examples of those crosswalks include the Public Health Emergency Preparedness Capabilities, the Baldrige Criteria for Excellence, the Foundational Public Health Capabilities, the FDA Voluntary National Food Regulatory Program Standards, Prevention Status Reports, and the Community Guide.¹⁸ Similarly, resources in PHF's TRAIN Learning Network system and those in the Public Health Quality Improvement Exchange (PHQIX) are categorized and searchable by PHAB Domains, Standards & Measures. Furthermore, the foundational public health services, developed to represent a minimum package of public health services to make the case for sustainable funding and to describe what is needed everywhere for public health to function anywhere¹⁹ and are consistent with the categories for costs in the Public Health Uniform National Data System (PHUND\$),²⁰ are also cross-walked and connected to PHAB Standards & Measures. Because the first 10 PHAB domains reflect the EPHS, these efforts continue to embed the EPHS throughout public health. Furthermore, to ensure a competent public health workforce, PHF developed the Core Competencies for Public Health Professionals, “a consensus set of foundational skills for the broad practice of public health as defined by the 10 Essential

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Services” and have developed a crosswalk to demonstrate how the competencies help to ensure that public health professionals can carry out the EPHS.²¹

The EPHS have also been embedded into the Healthy People initiatives, managed by the Office of Disease Prevention and Health Promotion (ODPHP) at the U.S. Department of Health and Human Services (HHS), beginning with Healthy People 2010, which included a focus area of Public Health Infrastructure with the goal to “ensure that Federal, Tribal, State, and local health agencies have the infrastructure to provide essential public health services effectively”²² and references the NPHSP. Healthy People 2020 also lists out the EPHS on the page for the public health infrastructure topic area.²³

The use of EPHS has broadened beyond its initial scope of defining public health practice as a whole. Disciplines within public health have modified the EPHS to address the specific activities unique to their work to ensure that they are in alignment with how the field is talking about public health. For example, environmental health has developed the 10 Essential Environmental Public Health Services,²⁴ which align with the EPHS but frame them in an environmental health-specific context. CDC has outlined resources to support the provision of each service,²⁵ and programs such as food safety have been evaluated to determine the most commonly provided services.²⁶ With funding from The John A. Hartford Foundation, the Trust for America’s Health is partnering with the Florida Department of Health to implement an age-friendly public health initiative. They have been exploring how health departments can engage in efforts related to each of the EPHS in order to improve the health and well-being of aging adults.²⁷ Additionally, the five Essential Public Health Law Services were established to ‘increase the strategic and evaluative impact of the 10 essential public health services approach on the law-related aspects of public health practice’.²⁸ Other examples of discipline-specific versions include the Ten Essential Public Health Services to Promote Maternal and Child Health in America²⁹ and the Essential Public Health Services to Promote Health and Oral Health in the United States,³⁰ as well as an adaptation of the EPHS to use as a tool to standardize the reporting practices of medical examiners and coroners.³¹

The EPHS have also influenced conversations internationally. The World Health Organization (WHO) released its Essential Public Health Functions (EPHFs) in 1997, established through consensus Delphi methodology, and adapted globally. The EPHFs focus more on minimum services required and gap identification for developing countries, while the EPHS focus on building and improving capacity for existing services, but there is significant overlap and synergy between the two. Furthermore, the WHO cites the EPHS as a successful framework for assessing and improving public health services in the United States and notes its emerging use as an approach for lower- and middle- income countries to build their public health capacity.³² The EPHS informed the development of the Pan American Health Organization’s (PAHO) EPHF model through the Public Health in the Americas initiative.³³ More recently, PAHO has held exploratory discussions to modify the EPHS (oral communication, Tricia Penniecook, MD, MPH, Vice Dean for Education and Faculty Affairs, University of South Florida College of Public Health, July 2019). As another example of international scope, Israel has adapted the EPHS and the NPHSP local instrument to support its public health system.³⁴

EPHS in Practice

Since the release of the EPHS, health departments have utilized the framework to communicate about, assess, and improve their services in a variety of ways. The framework has allowed health departments to understand the scope of what they ought to be doing, identify gaps, and work to fill them. For example, the Middle-Brook Health Commission, in New Jersey, revised its annual report to be based on the EPHS, in order to better explain what public health does and to communicate the value of public health to the community. Previously the report provided only numbers and tables, but the revised

format allowed the health department to share the story of its work in a more narrative style organized around the EPHS, cited in the report as a federally recognized framework and used as a way to educate the reader. Each chapter of the report covers one of the EPHS (written communication, Kevin Sumner MPH, Health Officer/Director, Middle-Brook Regional Health Commission, July 2019). In 2010, facing a budgetary crisis, the Kane County Health Department (IL) completely restructured its health department to ensure that essential services and core functions were being performed. The documentation for the restructured units' missions and goals were clearly linked to the EPHS and Core Functions, and all job description language was updated to reflect the EPHS/Core Functions.³⁵

Based on a scan of state laws published in 2016, the EPHS have also been incorporated into state public health laws. Thirteen states – Alaska, Colorado, Connecticut, Illinois, Iowa, Minnesota, Montana, Nebraska, New Jersey, North Carolina, Texas, West Virginia, and Wisconsin – reference all 10 EPHS in their public health laws, while in Oregon, the EPHS are listed in laws other than public health statutes. Of these thirteen, eight states' laws (Colorado, Illinois, Iowa, Minnesota, Nebraska, New Jersey, Texas, Wisconsin) also reference the core functions. An additional five states (Delaware, Kentucky, Maine, New York, and Washington) reference only the core functions. The laws of some states, including Colorado, Iowa, Maine, North Carolina, Ohio, Oregon, and Vermont, reference either PHAB or state accreditation, which incorporate the EPHS. Additional states may reference individual services and/or spread them throughout regulations or may reference other initiatives (e.g., accreditation) that encompass the EPHS without calling them by name.³⁶ Connecticut lists the EPHS in its statutes, stating that “each district department of health and municipal health department shall ensure the provision of a basic health program that includes, but is not limited to, the following services for each community served by the district department of health and municipal health department” followed by a listing of the EPHS.³⁷ One Connecticut jurisdiction, historically focused only on environmental health, has leveraged the state requirement to engage its board in five-year strategic planning to use PHAB accreditation, due to its alignment with the EPHS, to move the health department toward its goal of meeting the EPHS (written correspondence, Jennifer Kertanis MPH, Director of Health, Farmington Valley Health District, July 2019).

Additional examples of EPHS use include the local health districts in the state of Idaho, which utilized the EPHS as agreed upon terminology, measurement, and goals in conversations across the state as they developed a statewide strategic plan. With all seven health districts in Idaho using the same language and working toward the same statewide goal, they were able to reduce duplicative work and focus on ensuring that the districts had the capacity to provide the EPHS statewide.⁸ In the Northern Kentucky Independent Health District, undergoing the MAPP process and using the EPHS as a framework for quality improvement allowed for health department leadership, health department staff, and community partners to have a better understanding of the public health system and each of their roles in it. Recognition of the cross-cutting responsibilities of the EPHS led to organizational changes in the health department and to planning processes being viewed with more credibility and visibility by others in the health department, the board of health, and the broader community.⁸

The EPHS have also been used to guide and evaluate health department efforts to combat specific issues faced by their communities like diabetes and obesity. For example, the CDC's Division of Diabetes Translation (DDT) developed a vision and mission for diabetes prevention and used the EPHS framework to describe an approach to tackle diabetes in a systematic fashion by delineating activities according to essential service and using tools like the NPHPSP to evaluate performance.³⁸ Similarly, local health departments have used the EPHS to develop and evaluate obesity programs and services in order to demonstrate where they are doing well or could make improvements (e.g., monitoring disease,

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developing relevant policies, etc.).³⁹ Roberts et al. have suggested use of the EPHS as a framework to guide how health departments approach abortion laws and activities by listing out specific activities that map to each service, for example, “plan and implement trainings for public health department health inspectors who inspect abortion facilities” as an activity under Essential Service #8: Assure a competent public health and personal healthcare workforce.⁴⁰ The EPHS has also been used to evaluate emergency preparedness and disaster response,^{41,42,43} has been suggested as a model to formulate a response to climate change by listing out climate change-focused activities by essential service,⁴⁴ and has been used internationally for similar efforts.⁴⁵

Many health departments display the 10 Essential Public Health Services on their websites for the public. One example is the Northern Kentucky Health Department, which features prominently the EPHS in a sidebar of related topics on their About Us page (HD website).⁴⁶ Other examples of the various ways health departments have incorporated the EPHS on their websites include:

- Including it as a topic along with other topics like accreditation and grants (Rhode Island Department of Health: Rhode Island Department of Health website);⁴⁷
- Using it to help clarify public health to the community (Jefferson County, Kansas: HD website);⁴⁸ and
- Organizing the results of its public health system assessment by EPHS for public viewing (San Diego Local Public Health System Assessment).⁴⁹

EPHS in Research and Teaching

Numerous studies analyze what factors (e.g., funding, governance, infrastructure) impact EPHS provision. For example, a forthcoming study evaluates the performance of health departments on the EPHS and describes the relationship between performance and institutional characteristics (M. Wallace, J. Sharfstein, and J. Lessler, unpublished data 2019). A significant study with a strong link to the EPHS is the National Longitudinal Survey of Public Health Systems (NALSYS, formerly NLSPHS). NALSYS has followed a nationally representative cohort of local public health systems since 1998 to examine, over time, public health activities, partnerships to achieve those activities, and their perceived effectiveness. NALSYS examines 20 public health activities, based upon the IOM’s Core Functions and closely aligned to the EPHS.^{50, 51}

The EPHS are also a critical component of the curricula in schools of public health. The Council on Education for Public Health (CEPH), which accredits public health schools and programs, requires that schools and programs of public health ensure that all graduates are grounded in foundational public health knowledge and specifically lists the EPHS as one of the required topic areas.⁵² The environmental scan revealed several examples of how the EPHS have been incorporated into courses, including an introductory public health course that examined current public health events (e.g., Zika) through the lens of the EPHS, walking through each service and the activities that would address the issue. In the revised core coursework at the University of South Florida, the dean of the school teaches public health history, philosophies, and systems including the EPHS. One interviewee stated “That [the EPHS] is our foundation for teaching public health to those who are going to practice the profession” (oral communication, Tricia Penniecook MD, MPH, July 2019). The EPHS also appear in several textbooks, including special topic areas like public health leadership and public health nursing.^{53,54}

Conclusion

Developed 25 years ago, the EPHS have become the foundation of public health practice, education, and research. From informing initiatives like accreditation, to becoming the framework around which health

departments organize their services, to being used as a tool for both health department evaluation and research studies, the EPHS have a reach beyond public health and beyond U.S. borders. The EPHS have become so embedded in public health practice that when writing to support a minimum package of public health services, NACCHO specified that such a “minimum package should be built on the conceptual framework described by the three core public health functions, the ten essential public health services, the operational definition of a local health department, and the capacities needed for public health preparedness.”⁵⁵ The EPHS continue to be widely utilized to explain and define public health both within the field and with outside stakeholders, policymakers, and the public to provide a clear description of the role of public health, even as the world around us changes. As the public health field celebrates 25 years of the EPHS providing a common definition of public health practice, and work to reexamine and revise the framework to ensure its relevance for the next 25 years and beyond, we should acknowledge and appreciate the vast impact it has had in the last quarter century.

References

- ¹ Institute of Medicine. *The Future of Public Health*. Washington, DC: National Academies Press; 1988.
- ² Baker EL Jr, Koplan JP. Strengthening the nation’s public health infrastructure: historic challenge, unprecedented opportunity. *Health Aff (Millwood)*. 2002;21(6):15-27.
- ³ Harrell JA, Baker EL. The essential services of public health. *Leadership Public Health*. 1994;3(3):27-30.
- ⁴ Corso LC, Wiesner PJ, Halverson PK, Brown CK. Using the essential services as a foundation for performance measurement and assessment of local public health systems. *J Public Health Manag Pract*. 2000;6(5):1-18.
- ⁵ Nelson J, Essien J, Loudermilk R, Cohen D. *The Public Health Competency Handbook: Optimizing Individual and Organizational Performance for the Public’s Health*. Atlanta, GA: Center for Public Health Practice of the Rollins School of Public Health, 2002.
- ⁶ Beitsch LM, Landrum LB, Turnock BJ, Handler AS. Performance management in public health. In: Shi L, Johnson JA, eds. *Novick and Morrow’s Public Health Administration: Principles for Population-Based Management*. 3rd ed. Burlington, MA: Jones & Bartlett Learning; 2014.
- ⁷ Bakes-Martin R, Corso LC, Landrum LB, Fisher VS, Halverson PK. Developing national performance standards for local public health systems. *J Public Health Manag Pract*. 2005;11(5):418-421.
- ⁸ Davis P, Elligers JJ, Solomon J. Accreditation as a means for quality improvement. In: Bialek R, Duffy GL, Moran JW, eds. *The Public Health Quality Improvement Handbook*. Milwaukee, WI: ASQ Quality Press; 2009.
- ⁹ National public health performance standards. Centers for Disease Control and Prevention Web site. <https://www.cdc.gov/publichealthgateway/nphps/index.html>. Reviewed October 4, 2018. Accessed July 12, 2019.
- ¹⁰ Corso LC, Lenaway D, Beitsch LM, Landrum LB, Deutsch H. The National Public Health Performance Standards: driving quality improvement in public health systems. *J Public Health Manag Pract*. 2010;16(1):19-23.
- ¹¹ National Association of County & City Health Officials. Operational Definition of a functional local health department. Washington, DC: National Association of County & City Health Officials: 2005.
- ¹² Institute of Medicine. *The Future of the Public’s Health in the 21st Century*. Washington, DC: National Academies Press: 2003.
- ¹³ Corso LC, Landrum LB, Lenaway D, Brooks R, Halverson PK. Building a bridge to accreditation – the role of the National Public Health Performance Standards Program. *J Public Health Manag Pract*. 2007;13(4):374-377.
- ¹⁴ Exploring Accreditation Project. Final recommendations for a voluntary national accreditation program for state & local public health departments: summary document. Published September 12, 2006.
- ¹⁵ Bender K, Kronstadt J, Wilcox R, Lee TP. Overview of the Public Health Accreditation Board. *J Public Health Manag Pract*. 2014;20(1):4-6.
- ¹⁶ Thielen L. Exploring public health experience with standards and accreditation: a report for the Robert Wood Johnson Foundation. Published October 2004.
- ¹⁷ Lenihan P, Welter C, Chang C, Gorenflo G. The Operational Definition of a Functional Local Public Health Agency: the next strategic step in the quest for identity and relevance. *J Public Health Manag Pract*. 2007;13(40):357-363.
- ¹⁸ Corso LC, Thomas CW. Driving change and reinforcing expectations by linking accreditation with programmatic and strategic priorities. *J Public Health Manag Pract*. 2018;24(suppl 3):S109-S113.

- ¹⁹ Public Health National Center for Innovations. Aligning accreditation and the foundational public health capabilities. <https://phnci.org/uploads/resource-files/Aligning-Accreditation-and-the-Foundational-Public-Health-Capabilities-November-2018.pdf>. Updated November 2018. Accessed July 12, 2019.
- ²⁰ Honoré PA, Zometa C, Thomas C, Edmiston A. The Public Health Uniform National Data System (PHUND\$): a platform for monitoring fiscal health and sustainability of the public health system. *J Public Health Manag Pract*. 2019;25(4):366-372.
- ²¹ The Public Health Foundation. Crosswalk of the 2014 Core Competencies for Public Health Professionals and the Essential Public Health Services. http://www.phf.org/resourcestools/Documents/CC2014_EPHS_Crosswalk_final.pdf. Released October 2015. Accessed July 12, 2019.
- ²² Centers for Disease Control and Prevention. Public Health Infrastructure. In: Healthy People 2010 Final Review. https://www.cdc.gov/nchs/data/hpdata2010/hp2010_final_review_focus_area_23.pdf. Accessed July 12, 2019.
- ²³ Public Health Infrastructure. Healthy People 2020 Web site. <https://www.healthypeople.gov/2020/topics-objectives/topic/public-health-infrastructure>. Accessed July 12, 2019.
- ²⁴ 10 Essential Environmental Public Health Services. Centers for Disease Control and Prevention Web site. <https://www.cdc.gov/nceh/ehs/10-essential-services/index.html>. Reviewed October 19, 2016. Accessed July 12, 2019.
- ²⁵ Curtiss E. Environmental health resources by Essential Services. *J Environ Health*. 2016;79(4):42-43.
- ²⁶ Tete F, Brown L, Gerding J. Food safety program successes in providing the 10 Essential Environmental Public Health Services. *J Environ Health*. 2017;80(5):52-54.
- ²⁷ Wolfe M, Carmody J, Henry C. Advancing age-friendly public health. Paper presented at: NACCHO Annual Meeting; July 10, 2019; Orlando, FL.
- ²⁸ Burris S, Ashe M, Blanke D, et al. Better health faster: the 5 essential public health law services. *Public Health Rep*. 2016;131(6):747-753.
- ²⁹ The Child and Adolescent Health Policy Center at Johns Hopkins University. Public MCH Program Functions Framework: Essential Public Health Services to promote maternal and child health in America. <http://www.amchp.org/programsandtopics/CAST-5/Documents/MCHPHFXFRA.pdf>. Published 1995. Accessed July 12, 2019.
- ³⁰ Association of State & Territorial Dental Directors. Essential Public Health Services to promote health and oral health in the United States. <https://www.astdd.org/docs/essential-public-health-services-to-promote-health-and-oh.pdf>. Accessed July 12, 2019.
- ³¹ Drake SA, Nolte KB. Essential medicolegal death investigation series: standardization of a survey instrument based on the essential public health services. *J Forensic Sci*. 2011;56(4):1034-1040.
- ³² World Health Organization. Essential Public Health Functions, health systems, and health security: developing conceptual clarity and a WHO roadmap for action. <https://extranet.who.int/sph/sites/default/files/document-library/document/WHO%20EPHF-Health%20Security-compressed.pdf>. Published 2018. Accessed July 12, 2019.
- ³³ Pan American Health Organization. *Public Health in the Americas*. Washington, DC: Pan American Health Organization; 2002.
- ³⁴ Scutchfield DF, Miron E, Ingram RC. From service provision to function based performance – perspectives on public health systems from the USA and Israel. *Isr J Health Policy Res*. 2-12;1:46.
- ³⁵ Kuehnert PL. Ending business as usual: the Kane County Health Department in a worsening fiscal climate. In: Novick LF, Morrow CB, Novick C, eds. *JPHMP's 21 Public Health Case Studies on Policy & Administration*. Philadelphia, PA: Wolters Kluwer; 2018.
- ³⁶ Hoss A, Menon A, Corso L. State public health enabling authorities: results of a fundamental activities assessment examining core and essential services. *J Public Health Manag Pract*. 2016;22(6):529-536.
- ³⁷ CT Gen Stat § 19a-207a (2014). Available at: <https://law.justia.com/codes/connecticut/2014/title-19a/chapter-368e/section-19a-207a>.
- ³⁸ Satterfield DW, Murphy D, Essien JDK et al. Using the Essential Public Health Services as strategic leverage to strengthen the public health response to diabetes. *Public Health Rep*. 2004;119:311-321.
- ³⁹ Luo H, Sotnikov S, Shah G, Galuska DA, Zhang X. Variation in delivery of the 10 Essential Public Health Services by local health departments for obesity control in 2005 and 2008. *J Public Health Manag Pract*. 2013;19(1):53-61.
- ⁴⁰ Roberts SCM, Fuentes L, Berglas NF, Dennis AJ. A 21st-century public health approach to abortion. *Am J Public Health*. 107(12):1878-1882.

- ⁴¹ Lurie N, Wasserman J, Stoto M et al. Local variation in public health preparedness: lessons from California. *Health Aff (Millwood)*. 2004;23(suppl 1). doi: <https://doi.org/10.1377/hlthaff.w4.341>.
- ⁴² Williams JC. State of emergency preparedness of Kentucky's rural public health workforce: assessing its ability to identify community health problems. *Public Health Rep*. 2008;123(2):178-188.
- ⁴³ Fitter DL, Delson DB, Guillaume FD et al. Applying a new framework for public health systems recovery following emergencies and disasters: the example of Haiti following a major earthquake and cholera outbreak. *Am J Trop Med Hyg*. 2017;97(suppl 4):4-11.
- ⁴⁴ Frumkin H, Hess J, Lubner G, Malilay J, McGeehin M. Climate change: the public health response. *Am J Public Health*. 2008;98(3):435-445.
- ⁴⁵ Selvey LA, Rutherford S, Dodds J, Dwyer S, Robinson SM. The impact of climate-related extreme events on public health workforce and infrastructure – how can we be better prepared?. *Australian and New Zealand Journal of Public Health*. 2014;38(3):208-210.
- ⁴⁶ 10 Essential Public Health Services. Northern Kentucky Health Department Web site. <https://nkyhealth.org/about-us/10-essential-public-health-services/>. Accessed July 12, 2019.
- ⁴⁷ Ten Essential Public Health Services. State of Rhode Island Department of Health Web site. <http://www.health.ri.gov/about/tenessentialservices/>. Accessed July 12, 2019.
- ⁴⁸ Public Health. Jefferson County Health Department Home Health & Hospice Web site. <https://www.jfcountys.com/269/Public-Health>. Accessed July 12, 2019.
- ⁴⁹ County of San Diego Health and Human Services Agency. San Diego County Local Public Health System Assessment. https://www.sandiegocounty.gov/content/dam/sdc/hhsa/programs/phs/documents/Local_Public_Health_System_Assessment.pdf. Published June 2018. Accessed July 12, 2019.
- ⁵⁰ National Longitudinal Survey of Public Health Systems. Public Health Services & Systems Research Web site. <http://www.publichealthsystems.org/national-longitudinal-survey-public-health-systems>. Accessed July 12, 2019.
- ⁵¹ NALSYS FAQs. Systems for Action Web site. <http://www.publichealthsystems.org/national-longitudinal-survey-public-health-systems>. Accessed July 12, 2019.
- ⁵² Council on Education for Public Health. *Accreditation Criteria: Schools of Public Health & Public Health Programs*. https://media.ceph.org/wp_assets/2016.Criteria.pdf. Amended October 2016. Accessed July 12, 2019.
- ⁵³ Rowitz L, ed. *Public Health Leadership: Putting Principles into Practice*. 3rd ed. Burlington, MA: Jones & Bartlett Learning; 2014.
- ⁵⁴ Lundy KS, Janes S, eds. *Community Health Nursing: Caring for the Public's Health*. 3rd ed. Burlington, MA: Jones & Bartlett Learning; 2016.
- ⁵⁵ National Association of County and City Health Officials. Statement of Policy: Foundational Public Health Services. <https://www.naccho.org/uploads/downloadable-resources/12-18-Foundational-Public-Health-Services.pdf>. Published December 2018. Accessed July 12, 2019.

About the Public Health National Center for Innovations

The Public Health National Center for Innovations (PHNCI), a division of the Public Health Accreditation Board (PHAB), with support and funding from the Robert Wood Johnson Foundation, was established in 2015 to help foster a multi-sector learning community that will help identify and test new and innovative practices to improve public health capacity. In this role, PHNCI serves as the hub for national public health innovations. For more information, visit www.phnci.org.

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