

## ▶ DIRECT FROM CDC ENVIRONMENTAL HEALTH SERVICES BRANCH



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## Environmental Public Health Systems and Services Research

**Editor's Note:** NEHA strives to provide up-to-date and relevant information on environmental health and to build partnerships in the profession. In pursuit of these goals, we feature a column from the Environmental Health Services Branch (EHSB) of the Centers for Disease Control and Prevention (CDC) in every issue of the *Journal*.

In this column, EHSB and guest authors from across CDC will highlight a variety of concerns, opportunities, challenges, and successes that we all share in environmental public health. EHSB's objective is to strengthen the role of state, local, and national environmental health programs and professionals to anticipate, identify, and respond to adverse environmental exposures and the consequences of these exposures for human health. The services being developed through EHSB include access to topical, relevant, and scientific information; consultation; and assistance to environmental health specialists, sanitarians, and environmental health professionals and practitioners.

The conclusions in this article are those of the author(s) and do not necessarily represent the views of the Centers for Disease Control and Prevention.

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Current economic conditions have affected the operating budgets of all levels of government. Many environmental public health program managers are being asked to do more with fewer resources. Those in government who are charged with making funding decisions are requesting information about the effectiveness and efficiency of the programs for which funding is requested. The public is also trying to understand the value and importance of government service programs. In short, environmental public health practitioners, government decision makers, and the public

are looking for evidence of program success and effectiveness. Answering critical questions about the effectiveness and worthiness of environmental public health systems requires considerable investigation in the form of systems research. The concept of systems research applies to all the aspects, both internal and external, of a system. In terms of public health, the U.S. Department of Health and Human Services (HHS) defines the public health system as "...the complex network of organizations that work towards fulfilling the public health mission of assuring conditions for a healthy population (HHS, 2011)." The

field of environmental public health is certainly a critically important part of the public health system as defined by HHS.

The traditional health care sector has used systems research for a number of years. The use of systems research has also been gaining increasing momentum in public health. In 2003, the Centers for Disease Control and Prevention (CDC), through collaboration with partners, established a consensus-based public health system research agenda. The initiative resulted in identification of a range of research priorities summarized in three main areas of need: (1) to describe public health systems in terms of structure, characteristics, costs, funding mechanisms, and other factors; (2) to address the relationship between system performance and such core areas as social determinants of health, public policy, preparedness, and governance structures; and (3) to explore concepts of performance measurement (Lenaway et al., 2006). In addition to agenda setting, such networks and coalitions as the Robert Wood Johnson Foundation-funded Public Health Practice-Based Research Networks program and the Public Health Foundation's Council on Linkages Between Academia and Public Health Practice have formed to coordinate and carry out public health systems research efforts. As a component of the public health system, environmental public health has been included in some of these research efforts. Regardless, complex environmental public health practice questions need to be answered and more needs to be done to provide credible evidence to decision makers.

In the document *A National Strategy to Revitalize Environmental Public Health Services*

(CDC, 2003), CDC's National Center for Environmental Health (NCEH) advocates a systems-oriented approach to delivering and enhancing environmental public health services. A goal of this strategy is to "support research to define effective approaches to enhance environmental public health services." One CDC initiative that supports this goal is the Environmental Health Specialists Network (EHS-Net), which employs a systems-based approach to identify environmental antecedents (underlying factors) of foodborne illness outbreaks and to translate the findings into improved prevention efforts. An evaluation plan is being implemented to assess the baseline infrastructure, implementation processes, performance, and impact of the EHS-Net programs. In addition, the concept of systems thinking is a central concept of CDC's Environmental Public Health Leadership Institute (EPHLI). EPHLI Cohort VI fellows engaged in an exercise during their October 2010 session in which they identified 21 environmental public health system research needs. Top research areas identified the need to be able to describe the impact and outcomes of environmental public health services.

While there is a need for more systems research to allow an understanding of the gaps in environmental public health systems, some of that research is already taking place. In addition to CDC, other organizations and agencies have engaged in environmental public health systems research. For example, NEHA has facilitated work to improve the practice of environmental health through its research and development department (NEHA, 2011). In addition to the need for more research, another key issue is the lack of a repository, or centralized location, to promote, create awareness of, and disseminate environmental public health systems research initiatives and results. The revitalization strategy identifies several objectives in

## A National Strategy to Revitalize Environmental Public Health Services

### Goal II: Support Research

Support research to define effective approaches to enhance environmental public health services. Objectives:

1. Identify environmental antecedents to disease outbreaks.
2. Engage community support for community-based environmental public health research.
3. Synthesize and disseminate relevant environmental public health services research findings.
4. Implement environmental public health service demonstrations and evaluations in the built and natural environments that lead to healthier communities.

the area of research. One of those objectives is to "synthesize and disseminate relevant environmental public health services research findings (CDC, 2003)." This objective highlights the need for collaboration among the various groups engaging in research.

In short, research is a necessary component for improving and delivering effective and efficient environmental public health services. Environmental public health will need to become more engaged in systems thinking and public health systems research to strengthen the practice of environmental public health. Active involvement in public health systems research will help to ensure representation of environmental public health in research initiatives. The Environmental Health Services Branch of CDC's National Center for Environmental Health and partners will continue efforts to address the research needs for environmental public health systems. 🐼

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