

► **PRIVATE DRINKING WATER SYSTEMS: CREATING A PUBLIC HEALTH NETWORK FOR PARTNERSHIPS, RESOURCES, AND TRAINING**

Part 1: The Private Water Network

Editor's Note: The National Environmental Health Association is publishing a three-part series that describes the creation and execution of a public health network focused on private drinking water systems. This series will provide insights into the development process, mission, and goals of the network, as well as preview upcoming trainings and resources. This series is supported by the Centers for Disease Control and Prevention (CDC) Contract 200-2013-57475. The conclusions in this series are those of the author(s) and do not necessarily represent the official position of CDC.

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Introduction

In late 2017, the Centers for Disease Control and Prevention's Water, Food, and Environmental Health Services Branch (WFEHSB) partnered with the National Environmental Health Association (NEHA) to establish a network focused on private drinking water systems. WFEHSB and NEHA are creating the Private Water Network to support the estimated 50 state and 2,800 local environmental public health programs (National Association of County and City Health Officials, 2017) and the diverse partners working with them to ensure safe drinking water from federally unregulated drinking water systems (e.g., private wells, springs, trucked water). WFEHSB and NEHA are bringing together the varied skill sets, experience, and capacity needed to assure safe drinking water for approximately 34 million U.S. residents relying on private wells and for others depending on drinking water sources not protected by the Safe Drinking Water Act (National Ground Water Association, 2016). Initial members of the Private Water Network include representatives from state and local health departments, universities, federal agencies, and national associations. Members facilitating the network are working with stakeholders throughout the private drinking water spectrum to define the vision, mission, structure, and goals for an inclusive national network.

Private Water Network Topics

Early discussions with partners identified topic areas that will define the purpose of the Private Water Network and the types of support it should provide. Initial dialogue on priority areas for the network focused on the need to create opportunities for interdisciplinary and collaborative research. These opportunities include identification of funders and more targeted methods to report and share results.

Another theme in early conversations about the network focused on improving outreach and communication to partners. The network can help members improve outreach to first responders in disaster events, communicate effectively to culturally distinct communities (e.g., rural versus urban, affluent versus poor), and develop plain language for homeowner outreach and educational materials, including the reporting of laboratory results on water quality. Network members underscored the need to provide resources, strategies, and best treatment options for homeowners to prevent exposure to contaminants in well water. Additionally, some members thought providing a national-level perspective on policy issues and gaps for federally unregulated drinking water systems and sources would be useful.

Existing Water Networks

The Private Water Network will use existing network structures not only as resources and

models for developing a national network but also as potential members and contributors. Existing water networks operate at national, regional, and local levels to organize information, collect data, and disseminate useful resources for environmental public health programs, practitioners, and partners. For example, the U.S. Geological Survey Office of Groundwater manages Groundwater Watch, a website with maps, graphs, and tables describing real-time and past groundwater conditions gathered from local databases and active well monitoring networks (U.S. Geological Survey, 2017).

State and university examples of water and groundwater networks include the Ohio Watershed Network managed by Ohio State University Extension. The network connects community members and natural resource professionals and provides educational programs for members (Ohio State University Extension, 2018). Likewise, the University of Arizona facilitates the Arizona Water Network, which connects researchers, students, government officials, businesses, and citizens (The University of Arizona, 2016). In Indiana, the Department of Environmental Management supports and contributes to the state groundwater monitoring network (Indiana Department of Environmental Management, 2018). The Indiana network collects and disseminates data on source water, water-

shed protection, and groundwater quality to communities, citizens, research organizations, and industry. Each of these networks has its own unique goals, mission, and infrastructure. Bringing people, ideas, and data together through a network can provide motivation for problem solving and change.

Purpose of Public Health and Environmental Science Networks

Public health and environmental science circles use networks to improve essential services delivery and to protect the health of global populations and U.S. citizens. These networks develop out of the need to combine disparate resources and knowledge so network members are more able to address critical public health issues. Reasons galvanizing development of these networks include the following:

- pooling resources and expertise to build a system of monitoring and surveillance (Mackenzie et al., 2014);
- developing standards of practice to improve the efficiency of public health implementation (Coish et al., 2018; Mackenzie et al., 2014);
- establishing and managing centralized databases (Schmeltz et al., 2011) that improve data accessibility and sharing (Mahler & Regan, 2012);
- fostering collaboration and mobilizing scarce public health expertise during outbreak response (Mackenzie et al., 2014); and
- sustaining a knowledge base and approach for solving environmental public health problems (Environmental Public Health Leadership Institute, 2013).

Public health networks have evolved to

- address key questions about exposures (e.g., mercury emissions, arsenic, particulate matter) (Hansen et al., 2012; Schmeltz et al., 2011);
- gather data through groundwater monitoring networks;
- contain structure, mission, and function (Centers for Disease Control and Prevention, 2015);
- establish and implement frameworks for information systems;
- establish reporting standards for information exchanges (Environmental Information Exchange Network, 2018); and

- organize training on learning management systems (Mackenzie et al., 2014).

The Private Water Network is seeking members to inform the development of the network's structure and mission.

Conclusion

Environmental health practitioners rely on partnerships, connections, and sharing of resources to improve programs and protect public health. The Private Water Network will make those connections easier to build, maintain, and grow. The network will be a forum to identify priorities and provide a collaborative workspace to create and disseminate resources. Furthermore, the network will have access to multiple types of internal communication channels such as online-facilitated discussions, teleconferences, virtual conferences, and webinars.

Facilitators supporting the network will have the capacity and reach to share messaging on best practices throughout the nation. Facilitators are committed to work with all partners to improve water quality for every community. To find out more about the Private Water Network and opportunities to participate, or to share your experiences or challenges with federally unregulated drinking water, visit www.neha.org/eh-topics/water-quality-0/private-drinking-water.

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