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Unregulated Drinking Water Initiative for Environmental Surveillance and Public Health

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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Unregulated Drinking Water—Resource or Hazard?

The *Safe Drinking Water Act* of 1974 ensures that most Americans are provided access to water that meets specific public health standards. For nearly 37 million Americans, however, that is not the case (U.S. Census Bureau, 2009). Many people, particularly those living

in remote areas outside the public drinking water distribution infrastructure, choose to or must obtain their drinking water from private wells and other small systems (U.S. Census Bureau, 2009). These drinking water sources are not regulated, are typically not tested, and may contain contaminants, including chemicals, radionuclides, and microbes hazardous

to consumers' health (DeSimone, 2009; Embrey & Runkle, 2006; Nolan, Ruddy, Hitt, & Helsel, 1997). Relatively little is known comprehensively about the locations of unregulated drinking water sources (UDWS), the populations served by these sources, and potential contaminants that might be present. The lack of this information makes assessing the types and magnitude of current and future public health risks associated with UDWS a significant challenge.

Some resources are available for UDWS owners to help them know whether to test, contaminants to test for, treatments available, and interventions to prevent exposure to contaminants. Examples of resources include the following:

- New England Private Well Initiative (U.S. Department of Agriculture, 2010) teaching well owners to test and correctly treat their well water to protect drinking water wells from contamination;
- Centers for Disease Control and Prevention (CDC) Healthy Water Web site (CDC, 2010) with relevant links to water, including drinking water; and
- state-supported well testing programs focused on enforcing basic water quality standards, such as New Jersey's 2009 law (New Jersey Department of Environmental Protection, 2009) requiring private well testing as part of some real estate transactions.

Despite these programs devoted to ensuring the safety of UDWS, action remains primarily the responsibility of the individual owner, and the full extent of public health impacts remains unknown. Comprehensive public health action focused on ensuring the safety of UDWS through surveillance, inter-

vention, education, and evaluation would contribute to ensuring the health of all Americans. To that end, the National Center for Environmental Health (NCEH) at CDC is collaborating with federal, state, tribal, and local partners to develop the Unregulated Drinking Water Initiative for Environmental Surveillance and Public Health (UDWI).

Unregulated Drinking Water Initiative (UDWI)

NCEH initiated the UDWI in late 2009 through formation of a national workgroup to address the challenges outlined above. The national workgroup has stated a vision that the 37 million Americans relying on UDWS will drink clean, safe water. The workgroup has identified the following four goals as a path to address this vision:

- develop and organize data, information, and knowledge about current status and conditions of UDWS;
- develop means to inform public health practitioners and the public on issues associated with UDWS;
- identify and recommend interventions to address public health issues associated with UDWS; and
- explore opportunities and approaches to continue to track UDWS safety and implement the identified interventions.

The workgroup has launched activities to tackle these goals, focusing initially on the first goal above as a foundation for subsequent goals. The workgroup is interested in identifying answers to the following questions.

- Where are the UDWS in the U.S.?
- What data exist describing these UDWS?
- How accessible are the data?

Activities underway that begin to address these questions are as follows:

- identify data that exist on UDWS to understand their format and quality, the number of UDWS included, and the geographic area represented;

- identify roadblocks to accessing or using the data, including issues of legal or policy constraints, privacy, and technical challenges; and
- develop an approach to provide access to the data to improve their availability for public and environmental health surveillance and to support relevant public health decision making. Such decisions could include targeting drinking water testing to areas of greatest public health concern, providing input for local and regional development, and identifying vulnerable drinking water sources and communities. The availability of data would also be improved to support public health research.

NCEH has provided limited funding for seven states to begin statewide inventories as described in the first activity above. Projects include creating an inventory of available private well construction and water quality data; conducting pilots with counties to determine the feasibility of acquiring, automating, and transferring UDWS data; and evaluating the data collection and data quality processes.

Summary

The critical public health need to assess and protect the drinking water used by 37 million Americans requires attention and resources. NCEH, in partnership with states, has begun the process to identify information available on unregulated drinking water sources to improve the availability of data to support decisive public health actions and resource allocation. Far more attention and resources are needed to complete this process. 🚧

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