**DEPARTMENT OF HEALTH SERVICES**

**FY2017 Highlights**

- In 2016, two local public health agencies (LPHAs) completed projects related to contaminants in drinking water with mini-grants from the Wisconsin Environmental Public Health Tracking (EPHT) Program. Along with providing funding, EPHT staff connected mini-grantees to subject matter experts and provided technical assistance related to epidemiology, communications and evaluation.

- DHS provides technical support for LPHA efforts to respond to flooding and other natural disasters that may affect private well water quality. In July 2016, DHS facilitated private well testing and the development of public health guidance and messaging materials in support of LPHAs and tribal health clinics addressing widespread flooding that occurred in northern Wisconsin.
Overview

Wisconsin Stat. ch. 160 directs the Department of Health Services (DHS) to recommend health-based enforcement standards for substances found in groundwater and specifies the protocol for developing the recommendations. Recommended standards are sent to the Wisconsin Department of Natural Resources (DNR) and are submitted through the rule-making process as amendments to Wis. Admin. Code ch. NR 140. When requested, DHS develops health-based drinking water advisories for substances that do not have an enforcement standard.

DHS serves as a primary resource for information about the health risks posed by drinking water contaminants, and is charged with investigating suspected cases of waterborne illness. Toxicologists, public health educators, and epidemiologists employed in the DHS Division of Public Health work together to:

- Present water quality information and human health implications of groundwater and drinking water issues to the public through town meetings and conferences, as well as a wide variety of informational materials.
- Provide direct assistance to families via home visits, letters to well owners and telephone consultations.
- Educate residents with contaminated water supplies on the health effects of specific contaminants and suggest strategies for reducing exposure until a safe water supply can be established.
- Provide supplemental advice and assistance in cases of organic vapor intrusion, when shallow groundwater is contaminated with volatile substances such as benzene and vinyl chloride and the contaminants are released as vapors from groundwater directly into buildings through the building foundation.
- Improve understanding of current and potential groundwater and drinking water issues related to human health in Wisconsin through exposure biomonitoring, disease surveillance, health assessment, and capacity and vulnerability assessment. Information from these activities assists project development, focus area prioritization, and research project support for academic work. This information also aids local and state agency work on groundwater-related public health issues.

Detail

Reviewing Scientific Information to Develop Public Health Recommendations for Groundwater Contaminants

At the request of DNR or LPHAs, DHS reviews technical information on substances that may be found in groundwater to determine whether health-based drinking water advisories or other public health recommendations should be considered. These reviews are typically conducted by the DHS Groundwater Standards Development program. In FY 2017, at the request of DNR, DHS completed a review of the scientific literature on 12 substances potentially associated with several contaminated sites in Wisconsin. As a result of these reviews, DHS recommended non-regulatory health advisory levels that can be used to provide public health advice to residents should these substances be found in drinking water wells.

Providing Public Health Support for Manure Contamination Events that Impact Drinking Water

Every year, microbial contamination of drinking water wells occurs as a result of agricultural landspreading or accidental discharge of animal waste. Problems can occur when there are spills of stored or transported waste, when there is waste runoff due to excessive rain or snowmelt or when
waste is improperly applied. Such incidents often generate public interest, especially with respect to the immediate local public health response.

Responding to problems related to landspreading livestock waste is a focus area for federal, state and local agencies that have a regulatory role in agricultural practices. DHS does not have a defined regulatory role for agricultural activities, but environmental health experts from DHS are frequently invited participants on multi-stakeholder workgroups that examine agricultural practices related to manure storage, handling, and landspreading. Past and ongoing partnerships include the University of Wisconsin-Extension; the Department of Agriculture, Trade and Consumer Protection (DATCP) (Livestock Siting Review Committee); and DNR ad hoc groups. As a participant, DHS contributes public health expertise and perspectives during workgroup discussions.

In addition, through its Groundwater Standards Development program and On-call Chemical and Natural Disasters Emergency Response Team, DHS provides support to LPHAs responding to a broad range of groundwater contamination events, including those related to manure contamination. Such responses may include:

- Determining appropriate public health recommendations for users of affected drinking water wells.
- Developing and implementing health outreach efforts (through advisory letters, public meetings, fact sheets, etc.).
- Providing technical assistance to LPHAs that are responding to issues of groundwater and drinking water contamination.
- Facilitating communication between LPHAs and various state partners (e.g., DNR and DATCP).
- Providing well water testing capacity through the Basic Agreement with the Wisconsin State Laboratory of Hygiene for LPHAs conducting public health investigations in affected communities.

**Responding to Private Citizen Calls, Questions, Concerns, and Complaints**

DHS receives hundreds of inquiries each year regarding various environmental health concerns. Many of these calls from the public are specifically about groundwater and drinking water concerns. Some of the inquiries are related to concerns at individual residences while others are related to concerns regarding active environmental cleanup projects. Those related to environmental cleanup projects can result in DHS conducting or supporting a comprehensive public health response for the site. These responses are often carried out by the DHS APPL ETREE (Agency for Toxic Substance and Disease Registry’s Partnership to Promote Localized Efforts toReduce Environmental Exposures) program, which provides site-specific technical assistance to state and local agencies for testing, health assessment, and outreach on groundwater and drinking water contamination from present or past commercial or industrial practices and/or accidents.

**Increasing the Availability and Accessibility of Data and Information on Private Well Water Quality**

As a state partner in the Centers for Disease Control and Prevention’s (CDC) Environmental Public Health Tracking (EPHT) network, DHS continually seeks to expand the availability and accessibility of data on environmental exposures and environmentally related diseases. To this end, the Wisconsin EPHT program has worked with the University of Wisconsin–Stevens Point (UWSP) and the Wisconsin Association of Local Health Departments and Boards (WALHD AB) to support expansion of UWSP’s Private Well Water Viewer to summarize and visualize data from LPHA water testing laboratories. Partnership with UWSP and WALHDAB has resulted in the addition of data from the Eau Claire City-County Health Department on the UWSP data portal. It is anticipated that other local laboratories will make their data available on this platform to support interventions such as well testing and community health assessment.
During FY 2017, Wisconsin EPHT worked with partners to produce a surveillance brief on private well water entitled, *What’s in Your Water: A Look at Private Well Water Quality in Wisconsin*. The brief, which can be found at [https://www.dhs.wisconsin.gov/publications/p01830.pdf](https://www.dhs.wisconsin.gov/publications/p01830.pdf), was developed to provide a public health audience with a look into the basics of well water testing in Wisconsin.

**Taking Action with Data: Use of the Environmental County Health Profiles to Improve Environmental Health in a Community**

DHS continually seeks to provide data and resources to LPHAs and assist them in making positive public health improvements in their communities. As a state partner in the Centers for Disease Control and Prevention’s (CDC) Environmental Public Health Tracking (EPHT) network, the Wisconsin EPHT Program continued its successful mini-grant program and issued a request for applications (RFA) for LPHAs and tribal health clinics in 2016. Funds were used by grantees to explore data from the Environmental County Health Profiles and identify an environmental health concern in their jurisdiction. LPHAs developed and implemented a local initiative related to environmental health in their communities.

The Wisconsin EPHT Program and DHS staff provided ongoing support, technical assistance, and guidance to LPHAs on epidemiology, communications, and evaluation throughout the project period. Regular conference calls and frequent emails with the LPHAs led to a positive collaboration: LPHAs were empowered to carry out their projects but still had support and assistance from the EPHT Program as needed. Some examples of technical assistance the EPHT Program provided LPHAs include: sharing examples of work completed by grantees working on water topics during 2016, providing guidance on surveys and data visualization, and assisting in writing up success stories.

Two LPHAs conducted projects related to contaminants in groundwater that are described below. Results from each were shared at the annual Wisconsin Public Health Association Conference.

- **Burnett County: Education and Arsenic Testing**
  Burnett County worked to increase arsenic and well water knowledge among the public in addition to enhancing surveillance data for Burnett County. As of June 2017, over 100 arsenic well tests were returned, with at least three from each of the County’s 21 townships. Staff used town hall meetings as a resource for sharing outreach information and recruiting well testers.

- **Rock County: Implementing a Web-Based Nitrate Risk Tracking Tool**
  Rock County was a grantee during the first cycle of Taking Action with Data grants and used this year’s funding to build upon their project. In 2016, staff worked to identify and characterize nitrate sources in their community using multiple resources (e.g., National Land Cover Database, U.S. Department of Agriculture Crop Data Layers, and Rock County Land Use Maps). During 2017, they are transferring the data layers created in 2016 to an online Groundwater Nitrate Risk Tracking Tool that will help educate well users, nitrogen source contributors, well professionals, and policymakers about the cause and effect relationship of the well water nitrate issue in Rock County.

During 2017, the Wisconsin EPHT Program also published several success stories from grantees working on water projects in 2016:

- Florence and Marinette Counties – [Simplifying Well Water Test Results](#)
- Florence and Marinette Counties – [Increasing Arsenic Testing in Private Wells](#)
- Rock County – [Increasing Well Water Testing](#)
- Eau Claire County – [Overcoming Communication Challenges to Improve Well Testing](#)
- Eau Claire County – [A New Sampling Strategy: Using Partnerships to Improve Well Water Testing](#)
Climate and Extreme Weather Vulnerability Assessment

The DHS Climate and Health Program (CHP), funded by CDC, works to enhance statewide capacity to prepare for and respond to the public health impacts of extreme weather events, including impacts to private wells from heavy rainfall events.

Gaps identified previously by the Climate and Health Profile Report assessment have led to the development of several flood-related projects, with the goal of enhancing understanding of flood risk in specific watersheds and populations vulnerable to flooding events. Flooding events can have profoundly negative effects on groundwater quality and public health, such as well contamination, impacts to aquifers from flood runoff and chemical releases. These projects involve partnerships between DHS, the University of Wisconsin Center for Climatic Research, Wisconsin Emergency Management (WEM) and a number of LPHAs. The findings from these flood-related projects have helped inform the CHP Wisconsin Climate and Health Adaptation Plan, WEM’s Wisconsin Hazard Mitigation plan, and LPHA and local emergency management planning processes.

As an example, in 2016, CHP completed a geospatial analysis of the socioeconomic vulnerability and economic impacts of flooding in the Upper Fox River Valley. Study findings and applications of the information were summarized and disseminated to local public health and emergency management personnel.

CHP is currently working on two flood-related vulnerability intervention strategies to assist local public health departments, tribal health agencies, local emergency management, tribal emergency management and municipal government officials and planners in better understanding flood vulnerability in Wisconsin:

- The Flood Vulnerability Index (FVI), currently in development, includes 18 different data layers that measure population density, health factors, demographic and socioeconomic factors, and environmental factors. This tool, once completed, will help inform future educational dissemination projects designed for private well owners in vulnerable areas.
- A four-part comprehensive green infrastructure scorecard is being created to aid communities in flood vulnerability assessment. The scorecard identifies institutional, social, environmental and infrastructure vulnerabilities that could hinder a municipality’s ability to prepare for and respond to flood events. The scorecard will provide recommendations for infrastructure improvement that will reduce the negative health impacts from flooding events.

In addition to these activities, CHP continues to investigate climate and extreme weather impacts on groundwater resources, including changes to groundwater quality and quantity, climate indicators related to water supplies, and climate-related health impacts on residents who rely on groundwater resources for drinking water.

For more information
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