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Success Stories From CDC's Safe Water for Community Health Grantees

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 these columns, EHSB and guest authors share insights and information about environmental health programs, trends, issues, and resources. The conclusions in this column are those of the author(s) and do not necessarily represent the official position of CDC.

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In 2015, the Centers for Disease Control and Prevention (CDC) Safe Water for Community Health (Safe WATCH) Program awarded cooperative agreements to 14 state and five county health agencies to improve the efficiency and effectiveness of their safe drinking water programs. The main goal of the program is to prevent exposure to waterborne contaminants and protect health. Safe WATCH grantees are using the 10 Essential Environmental Public Health Services (Figure 1) to strengthen programs that address drinking water systems and sources not covered by the U.S. Environmental Protection Agency's Safe Drinking Water Act (e.g., household wells, springs, cisterns).

Health departments have made considerable progress during the first 1.5 years of the Safe WATCH program. Although health departments have worked on activities related to all the essential services, particular emphasis has been placed on

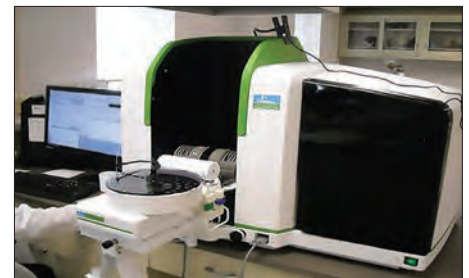
- collecting and organizing household well and water quality data,

- building partnerships with public and private agencies that work on safe drinking water, and
- tailoring outreach and educational materials for well owners.

Here are some of the specific success stories.

Gaston County Health Department (North Carolina) worked in partnership with the University of North Carolina at Charlotte to hire undergraduate students to digitize 7,940 well permits into a database to improve health department efficiency. Using application programming interfaces (APIs) with web-based mapping, they also geocoded 7,763 addresses of the 7,940. These activities have strengthened the county's capacity to monitor, diagnose, and investigate environmental public health problems associated with household wells.

La Crosse County Health Department (Wisconsin) increased well education and testing support to address newly discovered concentrations of metals in the county's well water. In the first year, the program educated



Atomic absorption spectrometer in La Crosse County, Wisconsin.



Broken well cap with mouse nesting material in Madison County, New York.

402 household well owners, which led to 989 water quality tests. The program also purchased an atomic absorption spectrometer (see photo above, top) to measure arsenic in drinking water. The program became the

FIGURE 1

The 10 Essential Environmental Public Health Services Wheel



Additional Resources

- 10 Essential Environmental Public Health Services: Identify the actions necessary to protect and improve environmental public health (www.cdc.gov/nceh/ehs/10-essential-services/index.html)
- Environmental Public Health Performance Standards: Assess and improve how programs and systems provide communities with the 10 Essential Environmental Public Health Services (www.cdc.gov/nceh/ehs/envphps/default.htm)
- Resources Organized by Essential Services: Find tools to help programs fill performance gaps and contribute to larger performance improvement efforts such as voluntary public health accreditation (www.cdc.gov/nceh/ehs/10-essential-services/resources.html)

third public lab in Wisconsin to receive an arsenic certificate and it is currently seeking certification for analysis of lead in drinking water. The spectrometer and additional trained staff have increased the competency of Wisconsin’s environmental public health and laboratory workforce.

Madison County Health Department (New York) conducted over 200 well assessments and collected 219 water samples for analysis in 2016. They found that nearly 40% of the household wells tested positive for bacteriological contamination (see photo page 40, bottom). The program educated owners about their test results and taught them how to properly disinfect and protect their water sources. The program used its strong partnerships with public health stakeholders in the local community to create a diverse advisory work group of soil and water specialists, service providers, codes officials, water system operators, and representatives from

other state and local agencies. The health department created a web page with access to maps of contamination sources and water quality data. They have developed and disseminated outreach and educational materials, conducted promotional events, engaged the local media, and consulted with well owners on water testing results and follow up. The activities have broken down barriers between the health department and well owners, and have led to increased testing of household wells.

Tacoma-Pierce County Health Department (Washington) worked on outreach to educate users and water system managers on the health implications of contaminated water and the importance of routine testing. The program sent notification letters to the owners, managers, and users of 108 out-of-compliance water systems and provided an opportunity to update water system records with current contact information.

It is notable that the state of Washington defines public water systems as “any water system that serves more than one household, or serves a commercial establishment.” Specifically, Washington defines Group B water systems as those with 2–14 service connections. These systems must meet state and local requirements for water quality and operations. After the department’s first year of outreach activities, they achieved close to 70% system compliance and the county has an updated database with water quality data and information on system management. These activities helped to assure compliance with laws and regulations in the county.

CDC’s Environmental Health Services Branch (EHSB) manages the Safe WATCH program. EHSB has also been working with national partner organizations—ChangeLab Solutions (CLS) and the Public Health Foundation (PHF)—to provide guidance to environmental health practitioners based on interactions with Safe WATCH partners. PHF summarized quality improvement technical assistance activities with Safe WATCH partners in the March 2017 *Journal of Environmental Health* (Lamers & Hubbard, 2017). In July 2017, CLS released the guidance document,

Closing the Gap: Using Policy to Improve Drinking Water Quality in Federally-Unregulated Drinking Water Systems (ChangeLab Solutions, 2017). This guidance highlights how policy can be used at local and state levels to ensure access to safe drinking water for people who use private wells.

In the future, EHSB will continue to disseminate new guidance documents as they are developed. The National Center for Environmental Health and National Environmental Health Association plan on developing

a national practice network that addresses federally-unregulated drinking water issues. To learn more about CDC's Safe WATCH program, visit www.cdc.gov/nceh/ehs/safe-watch/index.html.

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References

ChangeLab Solutions. (2017). *Closing the water quality gap: Using policy to improve drinking water in federally-unregulated drinking water systems*. Retrieved from <http://changelabsolutions.org/publications/water-quality>

Lamers, V., & Hubbard, B.C. (2017). What actions are health departments taking to improve safe drinking water programs? *Journal of Environmental Health*, 79(7), 38–40. Retrieved from <https://www.cdc.gov/nceh/ehs/docs/jeh/2017/mar-safe-water.pdf>

ACCREDITED ENVIRONMENTAL HEALTH SCIENCE AND PROTECTION PROGRAMS

The following colleges and universities offer accredited environmental health programs for undergraduate and graduate degrees (where indicated). For more information, please contact the schools directly, visit the National Environmental Health Science and Protection Accreditation Council (EHAC) website at www.ehacoffice.org, or contact EHAC at ehacinfo@eahap.org.

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