

▶ USING DATA TO IMPROVE ENVIRONMENTAL HEALTH

Part 2: Available Informatics Resources

What Is Informatics and Why Is It Important to Environmental Health?

The Centers for Disease Control and Prevention (CDC) define public health informatics as the “systematic application of information, computer science, and technology to public health practice, research, and learning” (CDC, 2017). At the National Environmental Health Association (NEHA), we are focusing on environmental health data standardization, collection, sharing, and use. Local, state, and federal agencies collect environmental health data through many avenues: inspections, complaint investigations, community interactions, monitoring and surveillance, and illness outbreak investigations. When these data are collected, it creates a broad picture of an environmental health condition and can be used to inform environmental health initiatives and improve policies, interventions, and programs. By moving toward the wider adoption of informatics and data-driven decision making, we can expect positive impacts on population health.

What Is NEHA Doing?

Environmental health is profoundly local, however, collecting and using data at the local level can be a challenge. At NEHA, we’ve identified the limitation of resources as a key hinderance to meaningful data use and informatics systems adoption. As a response, this year we are working to identify and develop

resources, tools, and success stories that you can reference and adopt to improve the policies, interventions, programs, and health of residents in your jurisdiction.

To kick-start our work, we developed the Informatics Committee that includes local, state, federal, and industry professionals who provide expertise and support by identifying data related needs and existing tools, and developing new resources. With the assistance of the committee and our partners, NEHA hosted the Integrating Data to Empower Advancement: Environmental Health (IDEA EH) Virtual Conference in February 2018. This conference brought together professionals from across the country in a virtual environment to exchange information and explore resources, innovative solutions, and programs in data-driven decision making.

Available Resources

IDEA EH included over 20 presentations from passionate professionals who recognize the value and importance of environmental health data. Each presenter has taken steps within their organization to develop innovative tools, partnerships, and programs to push environmental health data utilization with the mission of improving community health. Presentations covered topics from food safety and aquatic facility inspections to health equity, and included accomplishments from federal, state, local and industry levels. We’d like to share a few of these initiatives that highlight

Editor’s Note: The National Environmental Health Association is publishing a three-part series that describes the development and application of tools, trainings, and resources available in informatics. This series will serve as a guide for identifying new and existing resources that can be adopted at the local environmental health level. 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.

Solly Poprish
Christl Tate
*National Environmental
Health Association*

the collaboration, forward thinking, and creativity necessary for the development of data-driven projects and programs.

Project REVIVE

April Merrill, lead attorney and founder of Project Restoring Equality and Vitality in Vulnerable Environments (REVIVE) in Tulsa, Oklahoma, developed a model that can be used to identify and map hotspots in the community where environmental health and other social risk factors are correlated with health diagnoses. For example, confirmed housing code violations are positively correlated with pediatric asthma diagnoses; however, they are negatively correlated with “good intention” calls to 911 (calls made when individuals observe something suspicious they think an authority needs to check out). The purpose of mapping these data are to visualize the physical spaces in the community where resources should be more intentionally targeted to address the convergence of known risk factors. REVIVE staff are using public data to inform practice on the ground. “The key to this initiative,” says Merrill, “is that it’s a community effort to address a community problem.”

Healthy Wells

Samantha Dye of North Carolina’s Gaston County Department of Health and Human Services Environmental Health (DHHS EH) presented on Healthy Wells, a project led

by DHHS EH in collaboration with the University of North Carolina at Charlotte. This project aims to upgrade the high performing DHHS EH's small drinking water program by digitizing and securing latitude/longitude coordinates for its paper archive of over 8,000 well records to enable the installation of these data on the county's GIS. The private well GIS data layer will describe wells that have been installed, repaired, and abandoned since 1989. DHHS EH will also plot state data on groundwater contamination to create a groundwater GIS layer. With these resources, DHHS EH will conduct analyses, provide data to the state and/or U.S. Environmental Protection Agency (U.S. EPA) for modeling contamination, and present these data to the public on the county website. Furthermore, DHHS EH will use its GIS analyses to develop information and education programs for the community and well drillers, promote periodic user initiated voluntary water testing, establish the Gaston Groundwater Council to advise on program activities, derive and describe insights for preservice and continuing education for environmental health specialists, and share program insights with the environmental health profession.

Local Environmental Public Health Reporting Tool

Eric Brown of the Colorado Department of Public Health and Environment discussed their recently launched Local Environmental Public Health Reporting Tool (LEHRT). LEHRT is an online data visualization tool that provides a look at environmental health conditions at a local or state level. The data behind the tool comes from several standardized sources including CDC's Environmental Public Health Tracking Network, U.S. EPA's Exchange Network, the Environmental Council of the States Results Project, and internal program data that follow accepted data standardization methodologies as set forth by national and state workgroups and statutes. The measures on the dashboard are queryable at the county level and might supplement statutory health reporting data at the local level in Colorado. While most data sets in the dashboard are standardized, additional measures such as private well water sample results or individual sewage disposal system permits lack known data standards. These measures will be developed by referencing other state and local program data standards.

If interested in learning more about these resources or viewing presentations from IDEA EH, you can access these presentations on NEHA's learning management system in the coming months. You can also anticipate monthly webinars, success stories, and additional resources available on NEHA's website at www.neha.org.

We'd also like to hear your data use stories. Do you have a success story you'd like to share? Are you familiar with tools similar to those shared during IDEA EH? What obstacles have you discovered in using data differently? Let us know! If you have questions, please contact Solly Poprish at spoprish@neha.org.

Corresponding Author: Solly Poprish, Program Coordinator, Program and Partnership Development, National Environmental Health Association, 720 South Colorado Boulevard, Suite 1000-N, Denver, CO 80246. E-mail: spoprish@neha.org.

Reference

Centers for Disease Control and Prevention. (2017). *Introduction to public health informatics*. Retrieved from <https://www.cdc.gov/publichealth101/informatics.html>



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