‣ USING DATA TO IMPROVE ENVIRONMENTAL HEALTH

Part 1: Informatics—Data Use Made Easy

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What Is Informatics?

Environmental public health informatics is an emerging field that focuses on standardized data collection, sharing, and use. Data, compiled from multiple sources, are brought together to create a broad picture of an environmental health condition. This picture informs environmental health initiatives and allows for improved policies, interventions, and programs. By moving toward the wider adoption and use of informatics systems, data-driven decision making is made possible, which can have positive impacts on population health.

Why Is Informatics Important to Environmental Health?

Local, state, and federal agencies collect environmental health data through many avenues: inspections, complaint investigations, community interactions, monitoring and surveillance, and illness outbreak investigations. Once collected, how are the data being used? Data can play a role in quality improvement, resource allocation, and community outreach, as well as demonstrate impacts and financial needs.

Consider the integration of this environmental health data with other data such as a medical record or crime statistics in a neighborhood. Integrating environmental health data could tell you if there are correlations between lead exposure and crime in a community or if correlations exist between housing quality and the presence of asthma in children. The potential of this integration is evident in the Centers for Disease Control and Prevention's (CDC) National Environmental Public Health Tracking Network. This platform allows users to view jurisdiction specific data on environmental hazards and human health effects.

Examples of the Tracking Network in action include the following.

- The Utah Tracking Program identified highly elevated blood lead levels in children in the city of Eureka. These data were compared with soil sampling data from the U.S. Environmental Protection Agency and the Utah Department of Environmental Quality, which showed elevated levels of lead in the community's soil. In response, an emergency cleanup of the area was conducted, resulting in safer places for children to play.
- The Minnesota Tracking Program analyzed data on heat related illnesses and deaths to identify groups most at risk during extreme heat events. These data were used to develop maps to detect areas that would need support in preparing for heat waves.

When used correctly, informatics can support and paint a complete picture of our communities. It can make us strong partners with industry and it allows us to create programs, policies, and regulations that support environmental health objectives. Los Angeles County, for example, uses restaurant inspection data to create an analysis of chain restaurant inspection reports that are furnished to their parent companies to help identify potential gaps in training around safe food handling procedures.

Access to valid environmental health local data is at an increasing demand, including requirements for local jurisdiction assessment and review of public health programs in support of public health accreditation and process improvement. The Colorado Public Health Act of 2008 requires regular public health assessment and improvement plans from all jurisdictions—assessments that regularly include CDC Tracking Network data, as well as locally collected data. Data collected and reported utilizing standard methods allow for easier comparison and program improvement. Standardized environmental health data play a significant role in the achievement and maintenance of public health accreditation. The ability to provide environmental health data to support the accreditation effort is vital for the acknowledgement and support of environmental health activities.

What Are the Opportunities?

Environmental health is profoundly local, but collecting and using data at the local level can be a challenge, especially for small or rural

communities. Limitations in resources, including personnel, training, and funding for the transition, hinders the adoption of informatics systems. Environmental health data are often collected through pen and paper inspections rather than electronically, which makes review and analysis time consuming. Understanding what the data are saying, identifying trends, and making data-driven decisions also takes time and training to master.

Opportunities exist for expanding informatics use within environmental health programs. Partnerships between environmental health agencies, software technology firms, and the National Environmental Health Association (NEHA) can equip environmental health practitioners and health departments with the resources needed to adopt informatics and provide meaningful environmental health data to inform public health initiatives.

Additional opportunities include
- increased advocacy for resources,
- development of tools and trainings,
- establishment of data standards, and

- easier sharing of data internally and across agencies.
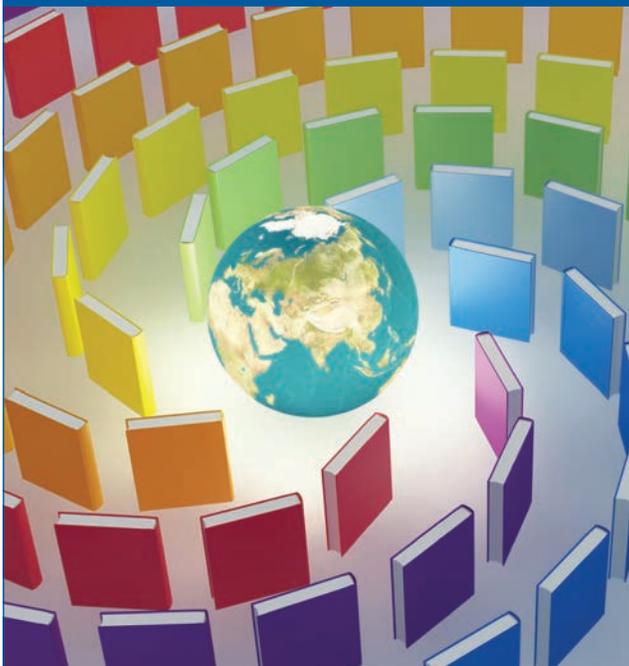
Everyone Has a Role

In January 2016, NEHA convened a group of experts in the fields of environmental health and information technology to identify potential partnerships and various expert perspectives regarding environmental health and informatics. Creating a forum to understand the challenges involved with integrating informatics into environmental health programs was identified as the first step to support environmental health departments in the adoption of informatics systems.

This fall, NEHA reconvened and expanded this group to create the NEHA Informatics Committee, a group that includes local, state, federal, and industry professionals. This committee will work to identify needs, develop tools and trainings, and provide expertise. These resources will enable the creation and improvement of informatics activities within your programs and allow you to make mean-

ingful data-driven decisions that will improve the health of your communities.

A concerted effort is needed in this area to ensure that developed resources are relevant and usable. In the coming months, you can expect an informatics virtual conference, the compilation of existing tools and trainings, the development of new resources, and a strong informatics presence at the NEHA 2018 Annual Educational Conference & Exhibition. This three-part series in the *Journal* will share progress and success stories as we work to expand environmental health data utilization. Please make sure to visit www.neha.org for up-to-date information in this area. If you have questions, comments, want to share your story, or would like to get involved, please e-mail Solly Poprish at spoprish@neha.org.

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