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And That Is How the Story Goes: CDC's National Environmental Health Tracking Network

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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.

Mr. Wall earned his BS in computer science from the University of Georgia and began his career in 1996 as the lead information technologist in CDC's Radiation Studies Branch. In 2002, he joined the CDC's Environmental Health Tracking Branch and currently works on informatics activities related to the development of the Environmental Public Health Tracking Network.

In the summer of 2009, I was excited to finally show my wife exactly what I had been working on every day for the last few years. The National Environmental Public Health Tracking Network (Tracking Network) had officially launched (Figure 1). She had been primed over many dinner conversations about the challenges of integrating health and environmental information that was originally collected, stored, and maintained for different purposes. She had listened patiently as I explained a geeky triangle of metadata, Extensible Markup Language (XML), and user interface design. But I was anxious to see if she would perceive CDC's vision for a robust environmental health information system to help people learn about the health status of their communities, environmental factors that may affect them, and what they can do to stay healthy.

Because our oldest son struggles with asthma-related conditions, my wife went directly to the section of the Tracking Network that provides public health messages on asthma and followed the link to query and view data. We live in Atlanta, so she wanted to see the number of asthma hospitalizations for Georgia counties. Rather sheepishly, I had to explain that our home state was not one of the partners funded to provide standardized rates of asthma hospitalizations. By the puzzled look on her face, I knew a little more explanation was in order. Congress and CDC set the stage for the Tracking Network in 2002 with the first of a series of grants. These grants funded states and major cities to conduct pilot projects that would lay the groundwork for a nationwide tracking network. These projects involved obtaining integrated health and environmental data and using it to provide information to support actions that help improve the health of communities. After the successful completion of pilot projects, capacity building, and planning activities, 2006 ushered in a new era—an era focused on building the technical pieces of this Tracking Network.

The Tracking Program finally had to face those difficult questions that had to be answered to make the Tracking Network a reality. How exactly would the network function? What specific data would be on the network? What are the best ways to display all of this data? The answers would ultimately come from the collaborative development process that had been established by CDC years before. Beginning with the first round of grants, the Tracking Program established work groups around areas critical to the development of the

Home Screen for National Environmental Public Health Tracking Network

Network. The work group members, a collection of grantees, CDC, and other federal staff developed formal recommendations regarding content, outreach materials, and the technical architecture of the system.

As a result, network architecture recommendations called for a system comprised of secure and public web portals at the state and national level that allow different types of users to interact with environmental health data. Data recommendations established standards for environmental and health indicators and measures. When the Tracking Network launched in 2009, it contained standardized environmental public health data and health messages related to asthma, heart attacks, carbon monoxide hospitalizations, cancer, childhood lead poisonings, air quality, and water quality. Data on the Tracking Network come from a variety of state and national sources. For example, county-level data related to hospitalizations of asthma are provided by Tracking Program grantees.

"OK, I see. Let's pretend we are moving to Florida," my wife said. She executed her previous query choosing Florida instead of Georgia. The results screen displayed a color bar chart depicting the annual number of asthma hospitalizations for each of Florida's counties. It was easy to see that one of the counties showed a significantly higher number of asthma hospitalizations than the others. "If we were looking to move to this area," she began, "I would want to know more about what was going on with asthma. Let's check other years and then look at the air quality data."

What I was able to show my wife in 2009 was the initial building blocks of a nationwide Environmental Public Health Tracking Network. It was a defining moment for me to see her use the system as we had envisioned: providing people the information they need to learn about the health status of their communities.

Since the launch, we have worked with grantees and other partners to enrich

the data available on the network, and 2011 will bring many new additions. For example, more states will launch local tracking networks and begin contributing to the national network, a new data query/results interface with easier-to-use features will be implemented, and additional content areas will be added. These steps will continue the progress towards a nationwide environmental health tracking system to provide our citizens with critical information on the threats posed by the environment and how to proactively deal with those threats. We hope you will explore www.cdc.gov/ephtracking and use it to understand and advance environmental health in your community.

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