



Environmental Public Health Tracking

Can you imagine the possibilities created by having access to rapid and reliable local, state and federal environmental public health data when you need it? Or having the ability to link data sets and utilizing them to proactively plan programs and make effective strategic decisions based on viable health data? The Environmental Public Health Tracking Program (EPHT) could make these possibilities reality.

EPHT is designed to continually collect, integrate, analyze, and disseminate data on environmental hazards, exposures to those hazards, and related health effects. The focus of EPHT is specific to non-infectious health effects that may result from exposure to chemicals, physical agents, biomechanical stressors, or biologic toxins in the environment.

Once established, EPHT will provide information from a nationwide network of integrated environmental monitoring and public health data systems, allowing all sectors to take action in preventing and controlling environmentally related health outcomes. The objectives and benefits of the program include:

- Building a sustainable National Environmental Public Health Tracking Network;
- Increasing environmental public health “tracking” capacity;
- Disseminating credible information;
- Advancing environmental public health science and research;
- Re-integrating the fields of public health and the environment;
- Enabling agencies to work together and inform each other of emerging issues and priorities;
- Raising awareness about environmental public health;
- Increase response time (complement ongoing terrorism and preparedness programs, and the National Electronic Surveillance System (NEDSS)).

Chronic diseases are responsible for four of every five deaths annually in the United States, the Pew Environmental Health Commission at Johns Hopkins School of Public Health concluded in its 2000 report America’s Environmental Health Gap: Why the Country Needs a Nationwide Health Tracking Network. The report found that 100 million people suffer from a chronic disease each year and cost the nation \$325 billion in annual health care and lost productivity. The

Pew Commission noted that due to the nation’s failure to deal with chronic diseases and their potential links to environmental hazards, more than half the states lack ongoing tracking and monitoring of asthma even though it is a rapidly growing national epidemic. The

Pew Commission also found that most states currently fail to track developmental disabilities such as autism and mental retardation despite an estimated 50% rise nationwide in these disabilities in the last decade and research indicating that 25% are related to environmental exposures.

Currently, pollutants in the environment have not been tracked or linked to chronic human disease in a systematic way. EPHT will enable environmental public health professionals to interpret data about persistent organic pollutants which may include: dioxin; heavy metals such as

mercury and lead; pesticides; air contaminants such as toluene and fine particulates; and drinking water contaminants; and the effects of exposure to these chemicals on human health. After implementation, EPHT is expected to reduce and prevent chronic disease by determining what toxins trigger such diseases and what exposure levels result in chronic diseases.

“Many lives can be saved with improved tracking and access to environmental public health data, along with a better understanding of the cause and severity of how different environmental hazards and exposures impact human health.”

-Nelson Fabian, National Environmental Health Association Executive Director

National Partnerships

CDC’s National Center for Environmental Health is working toward building a nationwide EPHT Network that will allow exchange of data within and between local, state and the federal government. The EPHT Network will also allow tiered access, synthesis and packaging of data to address informational needs of diverse audiences. In 2002, Congress first funded this nationwide initiative with \$17.5 million, in 2003 with \$27.5 million and in 2004 with \$27.4 million. This large monetary appropriation from Congress reflects the commitment, support and recognized need for this type of initiative. Multiple national partners are involved in the development and implementation (which begins in 2005) of EPHT, including: the National Environmental Health Association (NEHA); Association of State and Territorial Health Officials; National Association of County and City Health Officials; Environmental Council of the States; Council of State and Territorial Epidemiologists; Association of Public Health Laboratories; and the Physicians for Social Responsibility.

NEHA National Environmental

To learn more about the current level of knowledge and understanding of EPHT, in early 2004 NEHA developed and launched a national survey of the NEHA membership, which includes epidemiologists, sanitarians, researchers, state and local health officials, professors and others. Respondents, numbering 409 or 18% of the membership are from 42 continental states. The majority of respondents serve communities with 25,000 to 100,000 residents. This survey data has provided NEHA and its partners with information that will assist in the development of educational materials and trainings, provide insight and needed direction for this initiative, and more specifically, insight into what is needed to increase interest and involvement by all environmental public health professionals in EPHT.

Survey indicated very little data is currently shared between different levels of government

Data was collected in isolated programmatic areas and in different formats. Drinking water data was listed most often as being collected and shared. The survey stated that 68% of respondents did not analyze both public health and environmental health data together to make environmental public health decisions. A small portion of respondents, 25%, indicated they did analyze health and environmental data together and stated examples such as: drinking water data and health advisories; groundwater data and a cancer cluster issue; blood lead levels for abatement programs; and asthma, indoor/outdoor air quality and emergency room data.

Majority of respondents see value in having EPHT network in place 5-10 years

The survey indicated that 72% of respondents do see the value in EPHT although 26% were undecided and 2% saw no value. This brings awareness for the need to ensure that environmental public health officials understand the EPHT program and network and its value added to society so they remain involved and interested.

Lack of Awareness and Need for Training and Education

The NEHA survey revealed that 87% of respondents rated their current level of knowledge of the EPHT program as “none” to “very little”.

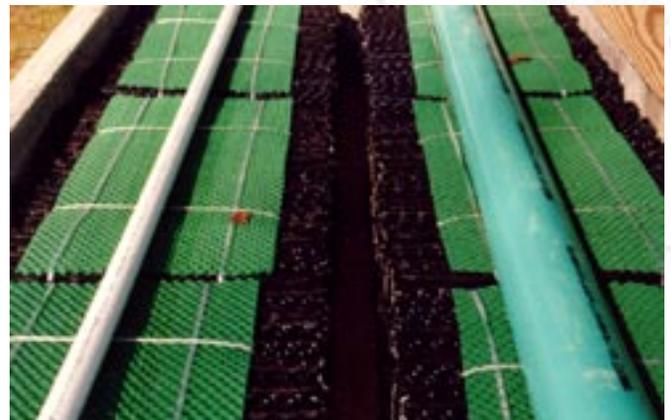
The majority of respondents stated that they had a high amount of knowledge in epidemiology but were least knowledgeable about GIS. And when asked about the need for more training and education, epidemiology and environmental public health surveillance were the top two responses.

Only 5% of NEHA membership knew about three EPHT Academic Centers for Excellence

The Centers service eastern, mid western and western regions of the US and hence some environmental public health officials are missing out on research & resources they develop. EPHT Academic Centers for Excellence are funded by CDC within School's of Public Health at Tulane University in New Orleans, University of California, Berkeley, and Johns Hopkins University in Baltimore.

77% of respondents were “not sure” whether their state had received a CDC grant

Twenty-one states have received funding from CDC for planning capacity building or for enhancement and demonstration projects. The funded states are: Washington; California; Oregon; Connecticut; New Hampshire; New Jersey; Florida; Nevada; Oklahoma; Louisiana; Utah; Montana; New Mexico; Wisconsin; Illinois; Missouri; Pennsylvania; New York; Maine; New York; Massachusetts; and Maryland. Additionally, three local public health agencies were funded (New York City, Washington D.C., and Houston). State officials need to do more effective outreach and communicate more with local public health agencies and specifically with environmental health staff about EPHT.



Public Health Tracking Survey

Additional Barriers identified in the survey and partner organization's discussion groups:

- Expectations by the community and state and local officials that might not be met;
- Limited workforce (# of people) and capacity;
- Need to protect privacy;
- Absence of link to state data system;
- Lack of qualified employees;
- Limited utility and availability of data;
- Data points might be scattered at the local level, making it difficult to capture data;
- Limited reliability and compatibility of data;
- Inability to complete statistical analysis if the population size is too small;
- Inconsistency in methods for analyzing data collected;
- Difficulty in determining what problem the data might actually address; and
- Difficulty in promoting the program to the community and boards of health.

Future Directions for EPHT

To address the issues raised in the NEHA survey and ensure the success of EPHT, the CDC plans to (if additional funding becomes available):

- Fund additional state and local health departments to increase their capacity building and demonstration projects;
- Fund additional schools of public health to develop Centers of Excellence in environmental public health tracking;
- Fund technical development activities required to support a national network;
- Expand training and education activities in collaboration with national and professional organizations; and
- Begin to implement the EPHT network in 2005.

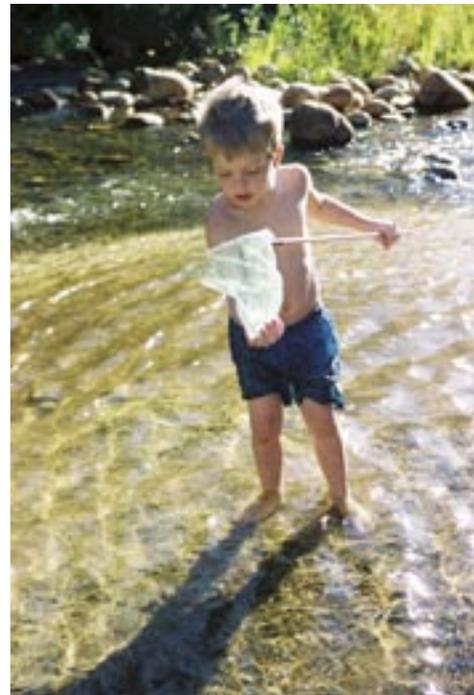
NEHA and partners plan to:

- Conduct trainings, specifically on epidemiology, surveillance/tracking, GIS, data collection, data analysis, and overall workforce development;
- Identify environmental public health professionals' needs related to EPHT;
- Identify possible changes in data collection, reporting and quality control practices;
- Identify and develop strategies to communicate with and engage local communities on these issues;
- Provide educational materials and updates on what has been accomplished to date in developing a national environmental public health tracking network and activities of the partners (ASTHO, ECOS, NACCHO, CDC, EPA, etc.) and integrating with bioterrorism efforts;
- Share challenges/successes of implemented tracking systems and early results; and
- Provide examples of surveillance systems that are now linking health and environmental data.

Imagine the Possibilities

In time, EPHT will be able to track data to better evaluate interventions, successes, improvements in programs and new policies, and ultimately promote a coordinated network of regional, state, and local tracking programs. This program will lead to prevention or control of chronic and acute diseases that can be linked to hazards and exposures in the environment.

The broader environmental public health workforce within local, state, and federal agencies, universities and hospitals must understand the importance of and have a mechanism to collect, store, share and cross analyze different types of data. Environmental public health professionals need to understand the importance not only of possessing extensive data within their jurisdiction or state or neighboring jurisdictions, but how their data relates to data collected at a national level. Doing so will ensure a more complete, nationwide and comprehensive picture to improve the overall health status of our nation.



For more information

please contact NEHA staff at: 303-756-9090
or visit http://www.neha.org/research/enviro_public_health_tracking_program.html

For more information from CDC visit www.CDC.gov/NCEH/tracking

-Written by Association of State & Territorial Health Officials (ASTHO)

New York State: Creating an automated data exchange system

The New York state EPHT program is working to: 1) increase their understanding of the environment's impact on health; 2) support Healthy People 2010 objectives by collecting baseline measurements and tracking progress towards improved health outcomes, and; 3) provide reliable and timely data to support public health and environmental regulatory programs. Prior to receiving an EPHT grant, New York had identified pediatric asthma as a priority environmental health concern. However, an enhanced surveillance system is needed in order to track patterns and trends of disease across both time and space.

New York's first EPHT demonstration project aims to link data from the state's hospital discharge database with air monitoring data. A new data exchange system will allow for real-time data flow between the Department of Health (DOH) and Department of Environmental Conservation (DEC). Information technology (IT) staff from DOH and DEC are working with CDC's Public Health Information Network Messaging System (PHIN-MS) software to securely transmit public health information over the internet to DEC and local health agencies. Data from DEC will be shared with DOH through the Environmental Protection Agency's National Environmental Information Exchange Network (Exchange Network). IT staff are also developing technical specifications and a system architecture for the data exchange systems based on the standards, technical infrastructures, and business requirements of both PHIN and the Exchange Network.

In the pilot phase of the data exchange system, air monitoring data will automatically flow from DEC to DOH. The air monitoring data will be linked with pediatric asthma data and analyzed for trends across both space and time. Staff also plans to explore and evaluate the interoperability between the Exchange Network and PHIN, and ultimately extend the data flows between DOH and DEC.

Written by Association of State & Territorial Health Officials (ASTHO)

New Mexico: One year of planning results in a new grant for a tracking demonstration project

Environmental public health tracking has provided the New Mexico Department of Health (DOH) with an opportunity to increase communications and collaborative work with the state Environment Department; governments and environmental health staff in the Indian Sovereign Nations; the Indian Health Service; and numerous community groups. Unlike many of the other tracking grantees, New Mexico must create an EPHT Network that includes input and data from the 15 Indian Sovereign Nations, which have their own public health and environmental agencies and confidentiality rules.

Tracking has provided DOH with its first real opportunity to bring state public health and environmental professionals together. The tracking planning consortium has met to discuss the vision of the EPHT Network, costs and barriers to creating the network, and confidentiality issues. Members of the consortium include representatives from the state health and environmental agencies, local health agencies, the Indian Health Service, environmental health staff from the Indian Sovereign Nations, the National Indian Council on Aging, and several community groups. DOH staff has also been working with the Mexican government to identify specific border issues that should be part of the EPHT network.

In addition to a tracking planning consortium, DOH has established a tracking advisory committee. The advisory committee is a smaller group of professionals tasked with helping to guide the tracking staff in the development of the EPHT system. Members of the advisory committee include the chief information officers from the state public health and environmental agencies and public health and environmental experts from across the state. The cabinet-level secretaries of the DOH and Environment Department have also been involved in the work of the advisory committee.

Both the planning consortium and advisory committee have worked to identify environmental hazard, exposure, and health data sets that could be used in the development of the EPHT network. Additionally, DOH staff has developed a curriculum and conducted three day-long trainings to assess local environmental health priorities.

The work of the planning consortium and advisory committee and results of the community environmental health assessments resulted in New Mexico completing an inventory of all the data sets available and positioned New Mexico to apply for a second tracking grant during the summer of 2003, which they were awarded in October 2003. The second grant provides funding for DOH to begin demonstration projects linking health, environmental hazard, and exposure data. New Mexico is currently working to link arsenic levels in drinking water with tumor registries, air quality data with asthma prevalence data, and levels of volatile organic compounds in drinking water with vital statistics, specifically low birth weights.