

PENNSYLVANIA

Keeping Track, Promoting Health

Building a Network

Without question environmental contaminants are affecting people's health. Environmental hazards are among parents' top health concerns for their children, according to the American Academy of Pediatrics. Understanding how these contaminants and other environmental factors are linked to chronic disease is essential to disease prevention—and to protecting the health of our communities.

The Centers for Disease Control and Prevention (CDC) is leading the initiative to build the National Environmental Public Health Tracking Network. The Tracking Network is being developed in response to calls for better understanding of how the environment can affect people's health. This Web-based system will integrate health and environmental data and provide information to address public health concerns, educating the public about ways to protect themselves from possible contamination and disease.

States and communities can act upon data generated through tracking. Today, because of tracking, public health officials in Washington State can do more than determine mercury levels in fish. They can also compile information from many sources and use the data to educate citizens about healthy fish choices with greater speed and accuracy. In Maine, tracking has allowed researchers to examine high arsenic levels in well water and its effects on reproduction. Consequently, state public health officials can now warn well users about the hazards of exposure to arsenic during pregnancy.

The Tracking Network will enable and encourage communities, health care providers, state and local health departments and others to take control of their health.

The building blocks of this network are grants to state and local health departments and universities around the country to build capacity and demonstrate just what tracking can do.

Building the Foundation: Pennsylvania (2002 — 2006)

In 2002, the Pennsylvania Department of Health received funding from CDC to plan for a statewide Environmental Public Health Tracking Network that will be part of the national tracking network. Pennsylvania used the funding to build capacity, enhance infrastructure, and complete data linkage projects. The results range from improving surveillance to faster responses to environmental public health questions.

Why Tracking Matters to Pennsylvania

At present, the Allegheny County Health Department learns of a chronic disease in an individual only when it is listed on a death certificate. The department cannot look at asthma hospitalizations and emergency room visits to see if the patients live near known sources of air pollution. Under a CDC tracking grant, Allegheny County is working with the Pennsylvania Department of Health, the University of Pittsburgh, and Drexel University of Philadelphia to develop a standardized asthma reporting system. The two universities will use their combined expertise in managing and linking large databases to synchronize the flow of information. This collaboration will enhance the real-time information about episodes of asthma, clarify the role of environmental hazards and exposures, and eventually reduce the burden of asthma among people living with this chronic disease in Allegheny County.



"Capacity building may not sound exciting, but it has been one of the most rewarding aspects of this Program," says Judith R. Qualters, Ph.D., chief of CDC's Tracking Branch. "When we started, capacity varied widely in the health departments. But in just three short years, people were doing projects above and beyond what we originally envisioned."

Tracking in Action

What is the problem?

What did tracking do?

Improved public health

Asthma School Project (2004-2005 School Year)

Analysis showed that the Bradford Area and Oley Valley school districts had the highest prevalence of reported asthma for six school years between 1997 and 2003.

School nurses tracked asthma cases at all 501 public school districts in Pennsylvania. The project then tracked all students with asthma in the two districts that had the highest prevalence of asthma cases. The project also evaluated environmental factors at the schools but no unusual patterns or links to the schools were identified.

Pennsylvania's Tracking Program uses information from this school-based asthma surveillance project to target prevention strategies. They provided prevention strategies and educational materials on asthma and asthma triggers to the public, schools and communities. People can use these materials to reduce exposure to potential environmental risks and triggers and increase their knowledge and awareness regarding asthma.

Allegheny County Asthma Reporting

At present, the Allegheny County Health Department cannot look at asthma hospitalizations and emergency room visits to see if the patients live near known sources of air pollution.

The Tracking Program is working with the Allegheny County Department of Health,, the University of Pittsburgh, and Drexel University of Philadelphia to develop a standardized asthma reporting system for the county.

This collaboration will enhance the real-time information of asthma episodes in Allegheny County, clarify the role of environmental hazards and exposures, and eventually reduce the burden of asthma among people living with this chronic disease in Allegheny County.

Arsenic Concentrations in Groundwater

Pennsylvania has a large rural population dependent on private wells for drinking water. Some of these wells pull groundwater that contains high levels of arsenic. Several studies have suggested that long-term exposure to arsenic contamination in groundwater increases the risk of developing bladder, kidney, liver, bronchus and lung, and prostate cancer.

In order to better evaluate distribution of arsenic in the state's ground water, USGS, Pennsylvania Department of Health, and Pennsylvania Department of Environmental Protection began surveillance in 2005 to relate arsenic concentrations in major aquifers. Of 169 domestic wells and springs tested, arsenic was detected in 18. Of these, 10 wells had total arsenic levels greater than the United State's Environmental Protection Agency (EPA) maximum containment level.

Pennsylvania's Tracking Program counseled families in high risk areas to use bottled water and referred one person to physician because of extremely high arsenic levels. Also, physicians were advised to provide arsenic tests to residents in areas where severely elevated arsenic concentration has been identified.

Documenting Elevated Blood Lead Levels

Studies have shown Pennsylvania to have elevated blood lead level (BLLs) prevalence rates for adults and children that are higher than the national average.

Pennsylvania's Tracking Program began using the state's National Electronic Disease Surveillance System (PA-NEDSS) to analyze 123 clusters of family members, containing 268 people with elevated BLLs.

Tracking elevated BLLs is of particular interest because biomonitoring for the disease can be accomplished. The surveillance showed that the PA-NEDSS database could provide an extensive resource of those individuals showing high levels of a serious environmental toxin, and that through tracking collaborative efforts, a more complete and thorough surveillance system could be established, linking the environmental hazards, exposures, and adverse health effects of lead.



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