

## NEW JERSEY

Keeping Track, Promoting Health

### Building a Network

Many Americans are worried about the impact of environmental contaminants in their communities. According to the American Academy of Pediatrics, environmental hazards rank among parents' top health concerns for their children. Understanding how contaminants and other environmental risks may be linked to adverse health outcomes is essential to disease prevention, and to protecting the health of our families and communities.

The Centers for Disease Control and Prevention (CDC) is leading an initiative to build the National Environmental Public Health Tracking Network. The Tracking Network is being developed in response to calls for a better understanding of how the environment can affect people's health. This web-based network will integrate health and environmental data; and provide information to address public health concerns and educate the public about ways to prevent adverse health outcomes. The Tracking Network will enable and encourage communities, 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 design, pilot-test, and build a national Environmental Public Health Tracking (EPHT) Network.

### Building the Foundation: New Jersey

In 2006, the New Jersey Department of Health and Senior Services (NJDHSS) and the New Jersey Department of Environmental Protection (NJDEP) received funding from the CDC to build a statewide NJ EPHT Network for New Jersey, and to contribute to the building of the National Tracking network. The NJDHSS and NJDEP had received CDC funding in 2003 to collaboratively conduct three EPHT demonstration projects that examined the feasibility and utility of linking New Jersey health outcome datasets (cancer, childhood lead exposure, and birth defects) with environmental datasets (air pollution and water quality).

### Why Tracking Matters to New Jersey

Environmental public health issues are important to New Jersey's citizens, and New Jersey has a well-developed governmental infrastructure for environmental and public health protection. The NJ EPHT Network will serve as a useful information resource for the public, state government officials, health and environmental advocacy organizations, community organizations, and researchers. Environmental public health tracking brings together information on environmental pollution and the health status of populations, and provides an opportunity to evaluate this information by time and geographic region. Tracking data can be used to help understand potential relationships between specific environmental hazards, levels of human exposure, and the burden of disease; and can provide the basis for public health and environmental interventions.



*“A successful tracking system will provide our citizens with critical information on the threats to their health posed by the environment and how well we, as a nation, a state, or a community are dealing with those threats...”*

Michael A. McGeehin  
Director, Division of Environmental Hazards and Health Effects, CDC's National Center for Environmental Health

# Tracking in Action

## What is the problem?

### Understanding Environmental Risk Factors for Cancers

Little is known about whether air and drinking water pollutants may relate to New Jersey's cancer incidence rates.

## What did tracking do?

The New Jersey Tracking Program worked with the state's Cancer Epidemiology Services to evaluate how rates for several types of cancer changed from 1979 to 2002. They also examined geographic patterns of cancer and environmental factors. The project found:

1. Lung cancer incidence decreased in males, but increased in women.
2. Incidence of thyroid cancer and non-Hodgkin lymphoma increased.
3. No link was seen between levels of benzene in outdoor air and leukemia, nor between levels of vinyl chloride in outdoor air and angiosarcoma of the liver or cancers of the brain and nervous system.
4. Bladder cancer incidence was associated with disinfection by-products in drinking water.

## Improved public health

This project showed that linkage methods are useful for examining possible relationships between environmental hazards and cancer incidence. Routine surveillance, or tracking, by New Jersey's Cancer Epidemiology Services group may be expanded to include assessment by estimated environmental exposure gradients. The environment in which a person lives may affect the amount of exposure to a hazard. Environmental exposure gradients estimate the concentration of a contaminant in the environment. These estimates can be used to compare levels of exposure in one geographic region to that in another. Environmental factors such as altitude, temperature, ocean proximity, and moisture can affect the concentration of a contaminant in the environment.

### Tracking the Environmental Risk Factors for Childhood Lead Exposure

Nearly 3% of New Jersey children aged 6 to 29 months have high blood-lead levels. Exposure to high levels of lead may cause lead poisoning. Lead poisoning can cause learning disabilities, behavioral problems, and, at very high levels, seizures, coma, and death.

New Jersey's Tracking Program worked with the state's Childhood Lead Poisoning Prevention Program to analyze blood-lead measurements for more than 300,000 children. The project confirmed clusters in areas that were known to have children with elevated blood lead levels. Poverty level, race, and the age of the home were strong factors in the analysis. These are known risk factors for childhood lead exposure.

When public health officials know where clusters of elevated childhood lead poisoning occur, they can assist persons at greatest risk. The project also showed the importance of reducing all sources of lead in a child's environment.

### Analyzing Birth Defects Data

Every year in New Jersey, nearly 5,000 live births are reported with one or more birth defects. In most cases, the cause for these birth defects is unknown. Environmental factors may play a role in some birth defects.

The New Jersey Tracking Program and the state's Birth Defects Registry analyzed data from 1993 to 2003 for six selected birth defects in New Jersey to understand how they varied over space and time. The yearly rate did not change for most birth defects. For two types of birth defects, researchers found geographic clustering that may be due to regional differences in data reporting.

This project provided an in-depth analysis of patterns for birth defects in New Jersey, which emphasized the burden of this health effect to health department officials. It also highlighted important challenges in interpreting surveillance data for birth defects and other health outcomes. For example, researchers and data analysts must consider differences in diagnostic practices and completeness of data reporting.



Centers for Disease Control and Prevention  
1600 Clifton Rd.  
Atlanta, Georgia 30333, U.S.A.  
Tel: (404) 639-3311  
Public Inquiries: (404) 639-3534 / (800) 311-3435  
Web: [www.cdc.gov](http://www.cdc.gov)

For more information about the National Environmental Public Health Tracking Program please visit: [www.cdc.gov/nceh/tracking](http://www.cdc.gov/nceh/tracking)

