

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: Utah (2002—2006)

In 2002, the Utah Department of Health (UDOH) received funding from CDC to begin development of a statewide Environmental Public Health Tracking Network that will be part of the national tracking network. Shortly after, program participants started laying the foundation of the state tracking network by fostering collaboration between organizations and agencies able to exchange critical data important to Utah's population. The results range from building workforce capacity to improving health surveillance.

Why Tracking Matters to Utah

Residents living near Utah's Hill Air Force Base have expressed concern about groundwater plumes contaminated with trichloroethylene (TCE) emanating from the base. TCE is a chemical that is mainly used as a solvent to remove grease from metal parts, but it is also an ingredient in adhesives, paint removers, typewriter correction fluids, and spot removers. A previous study attempted to address those concerns by doing a cancer rate investigation of the community. However, the study could not link cancer rates to exposure to contaminated groundwater. Therefore, residents requested additional studies.

The Utah Tracking Program worked on enhancing existing health data and conducted a follow-up investigation to address community concerns. Using a mapping and analysis tool created by the Imperial College London that was enhanced for the Utah Tracking Program, staff confirmed that no biologically relevant cancer rates were elevated for the potentially exposed population. This example shows how tracking can be used to supplement previous projects and provide location-specific environmental health information.



"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

Getting Closer to Understanding Birth Defects

Approximately 1,000 babies are born with a birth defect in Utah each year. A major role of the Utah Birth Defects Network (UBDN) is to conduct statistical studies of the rates of birth defects throughout the state. Those studies are used to develop targeted education and services for children with birth defects and their families. However, UBDN is a small organization and lacked the staff and resources to conduct those studies.

The Utah Tracking Program collaborated with UBDN and the Office of Vital Records and Statistics on a project about birth defects clustering and hazardous release/waste sites. Birth defect cases were geocoded from 1997 through 2002. In addition, the tracking program conducted a more in-depth study of the occurrence of oral and facial clefts in proximity to hazardous release/waste sites.

UBDN now has analytical results to support its recommendations to public health policy makers for targeted programs within the state. Some programs and services include child health assessment; service coordination among providers, programs, and agencies; occupational and physical therapy; and speech and language therapy.

Clarifying Community Misconceptions about Cancer Investigations

The Utah Department of Health has conducted numerous cancer investigations. The average time for a cancer investigation was approximately 6 months to 1 year. Much of that time was spent acquiring and formatting data so it could be used for investigation. The long study time resulted in misconceptions among the communities who requested investigations. Comments ranged from "government cover-up" to "incompetence."

To make epidemiologic investigations more efficient, the Utah Tracking Program organized and geocoded previously existing data. In addition, analytical tracking tools, such as Utah Indicator-Based Information System for Public Health (UIBIS-PH), provided quick analysis of those data. UIBIS-PH is an active public Web portal that allows users to access information about more than 140 indicators (including cancer) to find out if their community is affected. The tracking program also worked with UIBIS-PH to add a cancer query module in the UIBIS-SECURE, a portal specifically for local health officials. This tool allowed health officials to quickly calculate observed and expected incidence cancers rates for small geographic areas, such as a zip code or census tract.

By reorganizing data and providing access to analytical tools, the Utah Tracking Program decreased the time needed to perform these investigations. This effort also provides a substantial decrease in the cost and resources required for cancer investigations.

Blood Lead Testing of Children Based on Tracking Data

The Eureka Valley was heavily mined from the 1880s to the 1950s. Several large mine waste rock piles (known as mine tailing piles) are located on the south side of town next to residences and businesses. Mine waste has been distributed throughout the town of Eureka during mining activity and subsequent housing construction. Because of this distribution, current residents may have been exposed to lead from the Eureka Mills Superfund site

The Utah Tracking Program collaborated with the Central Utah Public Health Department, UDOH, and the Health Hazard Assessment Team (HHA) to provide continued blood lead testing to children living in Eureka.

Based on the highly elevated blood lead data available to the tracking program, and subsequent elevated lead found in soil sampling by the U.S. Environmental Protection Agency and Utah Department of Environmental Quality, emergency cleanup ensued. Throughout the remediation period, HHA and the Blood Lead Poisoning Prevention Program conducted free quarterly blood lead testing and provided health education to the Eureka community.

