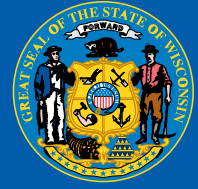




Environmental Health Activities in Wisconsin



NCEH in Partnership With Wisconsin

NCEH is the National Center for Environmental Health (NCEH), a part of the Centers for Disease Control and Prevention (CDC). NCEH's work focuses on three program areas: identifying environmental hazards, measuring exposure to environmental chemicals, and preventing health effects from environmental hazards. NCEH has approximately 450 employees and an annual budget for 2003 of approximately **\$182 million**; its mission is to promote health and quality of life by preventing or controlling those diseases or deaths that result from interactions between people and their environment.

NCEH and partners throughout **Wisconsin** have teamed up on a variety of environmental health projects throughout the state. From **fiscal years 2001 through 2003**, NCEH awarded more than **\$5.4 million** in direct funds and services to Wisconsin for various projects. These projects include activities related to asthma intervention and surveillance, environmental public health tracking, biomonitoring, assessing exposure to methyl tert-butyl ether (MTBE) fuel additive, and childhood lead-poisoning prevention. In addition, Wisconsin also benefits from national-level prevention and response activities conducted by NCEH or NCEH-funded partners.

Identifying Environmental Hazards

NCEH identifies, investigates, and tracks environmental hazards and their effects on people's health. Following are examples of such activities that NCEH has conducted or supported in **Wisconsin**.

Asthma Activities

- **Addressing Asthma From a Public Health Perspective**—NCEH is funding the **Wisconsin Department of Health and Family Services (WDHFS)** to engage in planning activities, begin to implement asthma interventions, and enhance surveillance activities.

WDHFS has formed a community coalition to address asthma across the state. This coalition has

completed the State Asthma Plan, which WDHFS unveiled at its October 31, 2003, kickoff meeting.

Additionally, WDHFS has increased its surveillance activities significantly and is completing a surveillance report that the department plans to disseminate widely during spring 2004.

- **Community-Based Asthma Institute**—NCEH is funding the **Sixteenth Street Community Health Center** in **Milwaukee** to conduct a 1-year project whose goal is to establish a model of care that supports the development of family asthma self-management in partnership with clinical service providers. To that end, the center is institutionalizing its asthma practices and forms, developing and implementing an electronic toolkit for clinic staff, and implementing a case-management and education program for the center's clients, who are primarily Hispanic and of low socioeconomic status.

Environmental Public Health Tracking Activities

- **Data-Linkage Demonstration Project**—NCEH is funding the **WDHFS Division of Public Health** to conduct environmental public health tracking activities. Environmental public health tracking is the ongoing collection, integration, analysis, interpretation, and dissemination of data on environmental hazards, exposures to those hazards, and related health effects.

During fiscal year 2002, WDHFS worked to build its health-tracking capacity. This year, the department is conducting a data-linkage demonstration project. The state has proposed to develop a system to track clinical cases of carbon monoxide and pesticide poisoning, develop a module to track childhood cancer,

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assess methylmercury exposure among men who live in Wisconsin, and continue to collaborate with peers at CDC and Tulane University, which provides support for Wisconsin in the development of a standards-based tracking system.

Water-Related Activities

- **MTBE in Drinking Water**—According to the U.S. Geological Survey, the fuel additive MTBE, which is soluble in water, has become widespread in public drinking-water supplies and private wells across the United States. NCEH and **Wisconsin** conducted a pilot study to determine whether a biological marker exists for exposure to low levels of MTBE in drinking water.

Researchers at NCEH were able to detect MTBE in the blood of people who regularly drink water containing low levels of MTBE. This blood measure may serve as a marker for exposure to this fuel additive.

Measuring Exposure to Environmental Chemicals

NCEH measures environmental chemicals in people to determine how to protect people and improve their health. Following are examples of such activities that NCEH has conducted or supported in **Wisconsin**.

Funding

- **Antiterrorism Funding to Increase State Chemical Laboratory Capacity**—In fiscal year 2003, CDC provided \$882,310 to **Wisconsin** to assist the state in expanding its chemical laboratory capacity to prepare and respond to chemical terrorism incidents and other chemical emergencies. This program expansion will allow for full participation of chemical terrorism response laboratories in the Laboratory Response Network.
- **Biomonitoring Planning Grant**—In fiscal year 2001, NCEH awarded a grant to **Wisconsin** to develop a plan for implementing a biomonitoring program for the state. In this way, the state could make decisions about which environmental chemicals within its borders were of health concern and could make plans for measuring levels of those chemicals in Wisconsin's population.

Studies

- **Assessing Exposure to MTBE**—Because of the leakage of underground fuel storage tanks, some water systems in **Wisconsin** are being contaminated by the fuel additive MTBE. The MTBE levels in water are relatively low, and it is unclear whether these levels will result in elevated internal-dose concentrations of MTBE in people who use this water. This study examined the blood of people who used wells that contained parts-per-billion levels of MTBE. NCEH lab results showed that these individuals had elevated levels of MTBE in their blood.
- **Assessing Exposure to Volatile Organic Compounds (VOCs) at a Chemical-Drum Reclamation Facility**—During the mid 1960s, a 16-acre site in **Wisconsin** was used as a chemical-drum reclamation facility. Chemical waste in drums was brought to the site; the chemicals consequently were dumped into two pits, and the drums were removed for reuse. In 2000, when the U.S. Environmental Protection Agency began cleaning up the site, residents of a 200-unit apartment complex within 100 yards of the property were concerned that the clean-up process would release VOCs into the air. **WDHFS** asked NCEH to evaluate internal-dose levels of VOCs in these residents. Analyses showed elevated levels of specific VOCs in the blood of the residents; these levels were related to changes in wind patterns across the site. This finding aided the state health department in preventing exposure to residents as the cleanup proceeded.
- **Great Lakes Research Project**—In collaboration with the Agency for Toxic Substances and Disease Registry (ATSDR) and the **University of Wisconsin at Superior**, NCEH is measuring levels of organochlorine pesticides and polychlorinated biphenyls (PCBs) in the indigenous **Ojibwa Tribe**. NCEH is also collaborating with **WDHFS** and ATSDR's Great Lakes Research Program on an exposure assessment of charter-boat captains, who consume large quantities of fish (in this study, fish from Lakes Michigan, Huron, and Erie). Laboratory scientists measured levels of several persistent organic pollutants (POPs), including

dioxins, furans, organochlorine pesticides, and PCBs, as well as trace metals and urinary metabolites of nonpersistent pesticides found in the boat captains. Levels of trace metals and nonpersistent pesticides were similar to levels in the general population. In general, however, levels of POPs found in those people who consume large quantities of fish were highly correlated with levels in the lake fish.

Services

- **Cholesterol Reference Method Laboratory Network**—The **Wisconsin State Laboratory of Hygiene** is one of four U.S. laboratories in CDC's Cholesterol Reference Method Laboratory Network (CRMLN). This network assists manufacturers in calibrating diagnostic products used for lipid and lipoprotein testing. Doctors need to be able to rely on the accuracy of testing for total cholesterol and related lipids to identify people at risk for cardiovascular disease and to support efforts to reduce cholesterol levels in the population. CDC believes that working with manufacturers of in-vitro diagnostic products is the most effective means of improving and standardizing these measurements in clinical laboratories and of achieving the National Cholesterol Education Program's goals for laboratory performance. Currently, more than 95% of the participants in the proficiency testing surveys of the College of American Pathologists have been certified through the CRMLN and are in agreement with the CDC reference values.
- **Newborn Screening Quality Assurance Program**—NCEH provided proficiency-testing services and dried blood-spot quality control materials to monitor and help assure the quality of newborn screening program operations in the state. The importance of accurate screening tests for genetic metabolic diseases cannot be overestimated. Testing of blood spots collected from newborns is mandated by law in almost every state to promote early intervention that can prevent mental retardation, severe illness, and premature death.

Wisconsin is one of only a few states currently conducting an expanded newborn screening program that involves testing for additional genetic metabolic diseases using state-of-the-art

technology known as tandem mass spectrometry. To make certain that the results of these tests are accurate as well, Wisconsin participates in CDC's mass spectrometry proficiency-testing program.

- **Blood Lead Laboratory Reference System (BLLRS)**—BLLRS is a CDC standardization program designed to improve the overall quality of laboratory measurements of lead in blood. In **Wisconsin**, six laboratories participate in BLLRS. This program allows these laboratories to evaluate their performance on laboratory tests. CDC provides BLLRS materials free of charge to these laboratories four times a year.
- **Proficiency Testing Program for Filter Paper Used to Measure Blood Lead Levels**—NCEH is evaluating the accuracy of a novel technique that uses filter paper for measuring lead levels in blood. Currently, methods for measuring these levels using filter paper are offered by six commercial laboratories. However, no independent evaluation of these methods exists. Verifying the accuracy of these tests is essential for properly diagnosing and treating lead poisoning. The program in **Wisconsin** is ongoing.

Preventing Health Effects From Environmental Hazards

NCEH promotes safe environmental public health practices to minimize exposure to environmental hazards and prevent adverse health effects. Following are examples of such activities that NCEH has conducted or supported in **Wisconsin**.

- **Childhood Lead-Poisoning Prevention**—The **WDHFS Childhood Lead-Poisoning Prevention Program** has received NCEH funding since 1992. In Wisconsin, the number of children younger than 6 years of age who have been screened for lead increased 16% from 1997 to 2001—from 68,620 to 79,467, respectively. In addition to more children being tested, the number of children younger than 6 years of age with elevated blood lead levels has decreased 48%—from 7,032 in 1997 to 3,658 in 2001. Wisconsin is a leader in ensuring property is lead-safe by enacting the lead-safe registry for property owners. Wisconsin also has an outstanding partnership with the Wisconsin Women, Infants, and Children (WIC) programs.

More than 75% of the WIC programs established blood-lead screening programs, which is a model for all states. Wisconsin's lead-abatement program is a national leader.

- **Building Communities of Excellence Through Environmental Health Capacity-Building**—In fiscal year 2001, NCEH established a 3-year cooperative agreement with **WDHFS**. In Wisconsin, cooperative agreement funds for environmental health services capacity-building have yielded direct and tangible results. A large portion of the funds was moved directly to local public health departments, resulting in new health departments; an increased number of environmental health consortia; equipment purchases; training and work-force development; and research projects for environmental health programmatic innovation. To develop the work force, a new distance-learning curricula and environmental health research projects were initiated at two of the **University of Wisconsin** system campuses. Wisconsin directed capacity-building efforts toward improving the use of the Public Health Information Network (PHIN) for the environmental health community. PHIN includes model health hazard ordinances, environmental health research projects, an environmental health needs assessment survey, and a geographic information system.

disposal, specific health studies, vessel sanitation, and veterans' health.

Resources

NCEH develops materials that public health professionals, medical care providers, emergency responders, decision makers, and the public can use to identify and track hazards in the environment that pose a threat to human health and to prevent or mitigate exposure to those hazards. NCEH's resources cover a range of environmental public health issues, including air pollution and respiratory health (e.g., asthma, carbon monoxide, and mold issues), biomonitoring to determine whether and how much of substances in the environment are getting into people, childhood lead poisoning, emergency preparedness and response for chemicals and radiation, environmental health services, environmental public health tracking, international emergency and refugee health, laboratory sciences as applied to environmental health, radiation studies, safe chemical weapons

For more information about NCEH programs, activities, and publications and other resources, contact the NCEH Health Line toll-free at 1-888-232-6789, e-mail NCEHinfo@cdc.gov, or visit the NCEH Web site at www.cdc.gov/nceh.