



Environmental Health Activities in Washington



NCEH in Partnership with Washington

The National Center for Environmental Health (NCEH) is 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 that result from environmental hazards. NCEH has approximately 450 employees and a budget for 2004 of approximately \$189 million; its mission is to promote health and quality of life by preventing or controlling diseases and deaths that result from interactions between people and their environment.

NCEH and partners in **Washington** collaborate on a variety of environmental health projects throughout the state. In **fiscal years 2001–2004**, NCEH awarded more than **\$3.4 million** in direct funds and services to Washington for various projects. These projects include activities related to asthma, the use of global positioning systems (GPS) to characterize children's exposure to pesticides, and lead poisoning prevention. In addition, Washington 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 conducted or supported in Washington.

Asthma

- **Controlling Asthma from a Public Health Perspective**—NCEH is funding the **Washington State Department of Health (WDOH)** to develop asthma-control plans that include disease tracking, intervention, and occupational components. Funding began in fiscal year 2002 and continues through fiscal year 2004.
- **Replication and Implementation of Scientifically Proven Asthma Interventions**—

NCEH is funding grantees to implement scientifically evaluated asthma interventions that decrease

acute-care visits and hospitalizations and increase compliance with asthma-care plans. The **Washington State Chapter** of the Asthma and Allergy Foundation of America is a grantee for the Asthma Care Training for Kids (ACT) intervention. ACT's goals are to increase asthma-control compliance behaviors and decrease emergency department visits and number of days spent in the hospital. Funding began in fiscal year 2001 and continued through fiscal year 2003.

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Environmental Public Health Tracking

- **Infrastructure Enhancement and Data Linkage Demonstration Project for the National Environmental Public Health Tracking (EPHT) Network**—NCEH is funding a cooperative agreement with **WDOH** to develop a blueprint for EPHT, enhance existing surveillance systems for exposure and health effects, and conduct projects aimed at demonstrating data linkage to show the value of electronic reporting and the usefulness of linked data for policy. WDOH developed the Washington Environmental Public Health Tracking Network (WEPHTN) to carry out these objectives. WDOH is enhancing the Washington Electronic Disease Surveillance System's electronic reporting of birth defects, developing population-based exposure data, and enhancing environmental monitoring and data analysis of persistent toxicants such as polychlorinated biphenyls and mercury. WDOH also is expanding the state's electronic hospital reporting to include illness related to pesticide exposure and is partnering with the state education system

and the Office of the Superintendent of Public Instructions to develop a prototype data system for school-based environmental monitoring and illness surveillance.

WDOH also is implementing an application to directly and securely access and analyze fish tissue contamination, fish consumption, human population, and birth defects data from original data sources. Assessment of fish tissue sampling led to a statewide consumption advisory on the basis of mercury concentrations in bass tissue. WDOH is using geographic information system tools to prepare maps that will be used to develop the fish contamination application. WDOH plans to develop a georeferenced database of target populations, develop and deploy methods for estimating fish consumption, evaluate the feasibility and usefulness of fish-contamination-related environmental indicators, and develop and implement electronic reporting of birth defects from sentinel hospitals. Funding began in fiscal year 2003 and continues through fiscal year 2005.

Health Studies

- **An Assessment of Environmental Contamination from Chemicals Used and Produced during Methamphetamine Manufacture**—This pilot study will address chemical environmental hazards associated with the clandestine manufacture of methamphetamine in private homes. NCEH is assessing chemicals that may persist in these homes and residents' possible exposures to those chemicals. A convenience sample will be used for a cross-sectional exposure assessment. The pilot study began in fiscal year 2003 and continues through fiscal year 2005.

In March 2004, a project-planning meeting was held in **Seattle** with Washington state health officials, the principal investigator, and a project co-investigator to discuss the logistic framework of the study and to visit several field sites.

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 conducted or supported in **Washington**.

Funding

- **Antiterrorism Funding to Increase State Chemical Laboratory Capacity**—In fiscal year 2003, CDC provided more than \$930,000 to **Washington** to help the state expand its chemical laboratory capacity to prepare for and respond to chemical-terrorism incidents and other chemical emergencies. This program expansion will allow full participation of chemical-terrorism response laboratories in the Laboratory Response Network. NCEH has begun to fund laboratory development and the purchase of state-of-the-art equipment in Washington's state public health laboratory in support of developing a network of chemical laboratories and of transferring technology to measure chemical agents.
- **Biomonitoring Planning Grant**—In fiscal years 2001 and 2002, NCEH awarded grants to **WDOH** to develop a plan for implementing a biomonitoring program for the state. In this way, WDOH could make decisions about which environmental chemicals within its borders were of health concern and could make plans to measure levels of those chemicals in the Washington population.

Studies

- **Use of GPS to Characterize Children's Exposure to Pesticides**—In collaboration with the **University of Washington**, NCEH examined childhood activity patterns and their relation to exposures. Children were fitted with GPS and their activities at home and school were evaluated. Urine samples also were collected from the children. The NCEH laboratory analyzed the urine samples for presence of the pesticide methamidaphos. These data are being evaluated.

Services

- **Helping State Public Health Laboratories Respond to Chemical Terrorism**—NCEH is working with **Washington's** public health laboratory to prepare state laboratory scientists to measure chemical terrorism agents or their metabolites in people's blood or urine. NCEH is transferring analytic methods for measuring chemical terrorism agents (including cyanide-based compounds and other chemicals) to Washington. In addition, NCEH has instituted

a proficiency-testing program to measure the compatibility of the state's analytic results with results from the NCEH laboratory.

- **Blood Lead Laboratory Reference System (BLLRS)**—Three laboratories in **Washington** participate in NCEH's standardization program to improve the overall quality of laboratory measurements of blood lead levels. This program helps laboratories nationwide evaluate their performance on these critical laboratory tests. NCEH provides BLLRS materials to the laboratories four times a year without charge.
- **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 screening program operations for newborns in **Washington**. 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.
- **Lipid Standardization Program (LSP)**—NCEH provides two lipid research laboratories in **Washington** with accuracy-based standardization support for analytic measurement. These laboratories are involved in one or more ongoing lipid-metabolism longitudinal studies or clinical trials that investigate risk factors and complications associated with cardiovascular disease. The LSP, supported by NCEH's Lipid Reference Laboratory, provides quarterly analytic performance challenges and statistical assessment reports that allow program participants to monitor performance over time and thus ensure the accuracy and comparability of study results and findings.
- **Cholesterol Reference Method Laboratory Network (CRMLN)**—Working with manufacturers of in-vitro diagnostic products is the most effective means to improve and standardize these measurements in clinical laboratories and to achieve the National Cholesterol Education Program's goals for laboratory performance. NCEH established CRMLN to help manufacturers

calibrate diagnostic products used for lipid and lipoprotein testing. The **Northwest Lipid Research Laboratories** of the **University of Washington Department of Medicine** and **Pacific Biometrics Research Foundation** are two of three U.S. laboratories in CRMLN.

These laboratories use CDC reference methods or designated comparison methods that are closely linked to CDC reference methods. This ensures that diagnostic products are properly calibrated and traceable to the accuracy base maintained at CDC. More than 95% of participants in proficiency-testing surveys of the College of American Pathologists have been certified through CRMLN.

- **Diabetes Autoantibody Standardization Program (DASP)**—In 2000, in collaboration with the Immunology of Diabetes Society, NCEH established DASP to improve autoantibody measurements worldwide. Fifty-five laboratories from 17 countries participate in DASP; three of these laboratories are in **Washington**. Biochemical analyses of Type 1 diabetes autoantibodies are crucial for predicting disease onset. These analyses provide the most sensitive and meaningful measures for accurately targeting program interventions and thus are central to efforts to prevent and delay onset of diabetes.

Preventing Health Effects That Result 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 conducted or supported in **Washington**.

- **Lead Poisoning Prevention**—The **Washington Childhood Lead Poisoning Prevention Program (WA CLPPP)** received NCEH funding from 1995 to June 2003. In 2001, the program screened 3,487 children under 6 years of age for lead; 32 of these children had elevated blood lead levels. Using NCEH funding, WA CLPPP established several mechanisms to ensure proper monitoring and tracking of childhood lead poisoning cases: state screening guidelines, a law requiring reporting of all blood lead levels to the state, and

a comprehensive surveillance system that tracks childhood lead poisoning cases and monitors case-management activities.

- **Building Environmental Public Health Capacity**—NCEH funds two projects in **Washington** to support the building of environmental public health capacity. NCEH funds **Island County** to improve public understanding of environmental health, to assess and prioritize environmental health needs based on data, and to develop solutions for environmental health issues. NCEH funds the **University of Washington School of Public Health and Community Medicine** to develop a training module that will help local and state public agencies integrate the 10 essential services of environmental health into their practices.
- **Public Health Inspections of Cruise Ships**—NCEH established the model Vessel Sanitation Program in 1975 to combine cooperation of the cruise ship industry with CDC's ability to aggressively protect the health of travelers. The program helps the industry develop and implement comprehensive sanitation programs that minimize risks for gastrointestinal diseases. Every vessel that has a foreign itinerary and carries 13 or more passengers is subject to two unannounced inspections each year. In 2003, the Vessel Sanitation Program conducted two inspections of cruise vessels that have stops in **Washington**.

studies, safe disposal of chemical weapons, 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 environmental hazards that threaten 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 poisoning, and mold exposures), biomonitoring to determine whether selected chemicals in the environment get into people and how much, childhood lead poisoning, emergency preparedness for and response to chemicals and radiation, environmental health services, environmental public health tracking, international emergency and refugee health, laboratory sciences as applied to environmental health, radiation

For more information about NCEH programs, activities, and publications as well as 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.