



Environmental Health Activities in Louisiana



NCEH in Partnership with Louisiana

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 **Louisiana** collaborate on a variety of environmental health projects throughout the state. In **fiscal years 2001–2004**, NCEH awarded more than **\$1.2 million** in direct funds and services to Louisiana for various projects. These projects include activities related to environmental public health tracking, biomonitoring, and childhood lead poisoning prevention. In addition, Louisiana 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 is an example of such activities that NCEH conducted or supported in **Louisiana**.

- **Environmental Public Health Tracking Projects**—NCEH is funding a cooperative agreement with the **Louisiana Department of Health and Hospitals (LDHH)** to demonstrate and evaluate methods for linking data from ongoing, existing health effects surveillance systems with data from existing surveillance and monitoring systems for human exposure and environmental hazards. LDHH will partner with the **Louisiana Department of Environmental Quality (LDEQ)** to complete program objectives.

One of the primary objectives of the program is to link data on tumors, groundwater contaminants, and drinking water in regions surrounding 33 creosote

hazardous waste sites. Another is to develop and implement communication strategies to disseminate information about public health and the environment to the general public, industry, government agencies, and legislators. The program also will to establish and formalize mechanisms for interagency collaboration and data sharing for an environmental public health tracking network. Funding began in fiscal year 2004 and continues through fiscal year 2006.

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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 **Louisiana**.

Funding

- **Antiterrorism Funding to Increase State Chemical Laboratory Capacity**—In 2003, CDC provided more than \$915,000 to **Louisiana** to help expand 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.

In addition, NCEH continues to fund laboratory development and the purchase of state-of-the-art equipment in Louisiana's public health laboratories to develop a network of chemical laboratories and transfer technology to measure chemical agents.

- **Biomonitoring Grants**—In 2001 and 2002, NCEH awarded planning grants to **LDHH** to develop an implementation plan for a state biomonitoring program. In this way, the department 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 the Louisiana population.

Studies

- **National Heart, Lung, and Blood Institute (NHLBI) Premier Study**—The NHLBI Premier Study, conducted in 1998–2003, was a randomized, multicenter clinical trial to determine the effects of implementing recommended lifestyle interventions on blood pressure (BP). The study was conducted at four clinical centers, including one in **Baton Rouge**. In collaboration with NHLBI, NCEH laboratory scientists measured serum samples for folate, vitamin B12, and vitamin A/E/carotenoids for this intervention trial.

The study's primary outcome measure was the change in systolic BP 6 months after the intervention. The secondary outcome measure was the change in systolic BP 18 months after the intervention and the change in diastolic BP 6 and 18 months after the intervention. Additional health outcomes included incidence of hypertension and levels of fasting lipids, glucose, insulin, and homocysteine. Study results showed that people with above-optimum BP, including those with stage 1 hypertension, can make multiple lifestyle changes that lower BP and reduce their risk for cardiovascular disease.

- **Investigation of Blood Dioxin Levels in Calcasieu Parish**—**Calcasieu Parish** has many companies that produce petroleum-based chemicals, chlorinated hydrocarbon solvents, and other organic chemicals. In 1998, the U.S. Environmental Protection Agency (EPA) asked the Agency for Toxic Substances and Disease Registry (ATSDR) to review the results of blood tests for several residents of the parish. Test results in several samples indicated elevated levels of dioxin-like substances.

ATSDR and the Association of Occupational and Environmental Clinics (AOEC) conducted individualized education sessions with each

community member who participated in the investigation to address the resulting data and community-based environmental issues. In response to test results and community concerns, ATSDR conducted an exposure investigation in 1998. Blood samples were collected from 28 residents of **Mossville**, a small community in Calcasieu Parish. The NCEH laboratory analyzed samples for chlorinated dibenzodioxins, chlorinated dibenzofurans, and co-planar polychlorinated biphenyls. Test results indicated unusual levels of dioxin compounds in some of the samples. As a result of these findings, ATSDR conducted an expanded exposure investigation in Calcasieu Parish in 2002 to determine whether residents had been exposed to unusual levels of dioxin and volatile organic compounds (VOCs). Results indicated that some residents had elevated levels of selected VOCs. Some of these higher levels may be due to cigarette smoking or occupational exposures. Environmental sampling conducted during this investigation will provide results to address the concerns of current exposure to environmental dioxins in participants' homes. Questionnaire data are being analyzed to identify likely sources of exposure. In addition, repeat samples are being taken from several participants for retesting to determine whether measured levels remain high.

Services

- **Newborn Screening Quality Assurance Program**—NCEH provides proficiency-testing services and dried-blood-spot, quality-control materials to monitor and help assure quality screening program operations for newborns in **Louisiana**. 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.
- **Blood Lead Laboratory Reference System (BLLRS)**—Six laboratories in **Louisiana** 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.

- **Lipid Standardization Program (LSP)**—NCEH provides two lipid research laboratories in **Louisiana** 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. These allow program participants to monitor performance over time and thus ensure the accuracy and comparability of study results and findings.

Helping State Public Health Laboratories Respond to Chemical Terrorism—NCEH is working with Louisiana's public health laboratory to prepare state laboratory scientists to measure chemical-terrorism agents or their metabolites in people's blood or urine. NCEH trained state scientists to operate state-of-the-art laboratory instruments and use specific methods to analyze chemical-terrorism agents. In addition, NCEH transferred methods for measuring nerve agents, cyanide, and trace metals to the state laboratory and instituted a proficiency-testing program to measure the comparability of the state's analytic results with results from the NCEH laboratory.

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 **Louisiana**.

- **Childhood Lead Poisoning Prevention Program**—The **Louisiana Childhood Lead Poisoning Prevention Program (LA CLPPP)** has received NCEH funding since 1998. In 2001, the program screened 44,456 children for lead poisoning; 1,060 children under 6 years of age had elevated blood lead levels.

LA CLPPP is using NCEH funds to develop and implement a childhood lead poisoning elimination

plan, increase its targeted screening efforts in identified high-risk areas and populations, improve primary prevention activities, and facilitate comprehensive case management of children with elevated blood lead levels. All of these activities will be strengthened by the involvement of existing partnerships and the use of surveillance data.

- **Public Health Inspections of Cruise Ships**—NCEH established the model Vessel Sanitation Program in 1975 to combine industry cooperation with CDC's ability to aggressively protect the health of travelers. The program helps the industry develop and implement comprehensive sanitation programs to 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. These inspections result in safer vessels and sanitation programs that protect the health of passengers and crew members. In 2003, CDC's Vessel Sanitation Program conducted six inspections of cruise vessels that have stops in **Louisiana**.
- **Distance Learning for Environmental Health Professionals**—NCEH funded a cooperative agreement with the **Tulane University School of Public Health and Tropical Medicine, Center for Applied Environmental Public Health**. This center formed a collaborative partnership with environmental health professionals at the **LDHH Office of Public Health's Center for Environmental Health** to develop distance-learning training modules for entry-level environmental health professionals. Funding began in fiscal year 2001 and continues through fiscal year 2004.

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 studies, safe disposal of chemical weapons, specific health studies, vessel sanitation, and veterans' health.

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.