



Environmental Health Activities in Florida



NCEH in Partnership with Florida

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 **Florida** collaborate on a variety of environmental health projects throughout the state. In **fiscal years 2001–2004**, NCEH awarded more than **\$5.9 million** in direct funds and services to Florida for various projects. These projects include activities related to asthma prevention, biomonitoring, and lead poisoning prevention. In addition, Florida 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 **Florida**.

Asthma

- **Inner-City Asthma Intervention**—NCEH is funding the Health Choice Network of federally qualified community health centers to provide asthma education and individualized asthma control plans to inner-city families in **Miami** (specifically the **Coconut Grove** and **South Miami** areas). Funding began in fiscal year 2001.
- **Population-Based Models to Establish Surveillance for Asthma Incidence in Defined Geographic Areas**—To better estimate asthma rates, NCEH is funding the **Miami-Dade County**

Health Department to develop models for identifying new asthma cases. Funding began in fiscal year 2001.

Environmental Public Health Tracking

- **Environmental Public Health Tracking**—NCEH is funding the **Florida Department of Health's (FDOH's) Division of Environmental Health** to link existing environmental surveillance data with health effects data through geographic information system (GIS) technology. The goal of this project is to identify, demonstrate, and evaluate methods for linking data from existing health effects surveillance data with data from existing environmental monitoring systems. This project also is intended to develop a standards-based, coordinated, and integrated environmental and health-effect-tracking network at the state, regional, and national levels that can be used to guide public health policy and practices. A further goal is to develop methodologies to evaluate the usefulness and effectiveness of health tracking projects. Funding began in fiscal year 2004 and continues through fiscal year 2006.

Health Studies Projects

- **Gastrointestinal Health Effects and Exposure to Disinfection By-Products Associated with Consumption of Conventionally Treated Groundwater**—NCEH is funding an epidemiologic study in collaboration with the U.S. Environmental Protection Agency (EPA), Emory University, and the **University of South Florida**. This study will estimate the risk for endemic gastrointestinal illness associated with drinking conventionally treated groundwater and evaluate exposure to trihalomethanes (THMs) in the same target audience. The NCEH laboratory will analyze blood and serum samples collected

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from a subset of adult household members for THMs. Sample analyses for the pilot phase of the study have been completed; analyses for the full study will begin in 2004. Funding began in fiscal year 2003 and continues through fiscal year 2005.

- **Multistate Surveillance System for Possible Estuary-Associated Syndrome (PEAS) in Six East Coast States**—NCEH is funding **FDOH** to conduct research activities into the nature and possible health effects of *Pfiesteria piscicida* (*P. piscicida*), a microscopic alga that lives in estuaries and has been found near large groups of dead fish. People exposed to water with high concentrations of *P. piscicida* have reported adverse health effects such as headache, confusion, skin rash, and eye irritation. Project goals include providing information to the public by maintaining and expanding the marine and freshwater hotline and a harmful algal blooms Web site, expanding surveillance activities by linking existing environmental monitoring data to surveillance data, and developing GIS applications to link data sets in time and space. Funding began in fiscal year 2000 and continues through fiscal year 2004.

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 **Florida**.

Funding

- **Antiterrorism Funding to Increase State Chemical Laboratory Capacity**—In fiscal year 2003, CDC provided more than \$1 million to **Florida** 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.
- **Biomonitoring Grants**—In 2001 and 2002, NCEH awarded grants to **FDOH** to develop a plan for implementing a biomonitoring program for the state. In this way, Florida 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 Florida population.

Studies

- **Coronet Industries Metals Study in Plant City**—Phosphate mining and processing has been conducted at the Coronet Industries site in **Plant City** for about 100 years. Although the area is not being mined, phosphates are still processed. Groundwater collected from on-site monitoring wells contains high concentrations of fluoride, arsenic, cadmium, lead, and alpha radiation. At the request of the Agency for Toxic Substances and Disease Registry (ATSDR) and **FDOH**, the NCEH laboratory analyzed the urine of 150 people in the area for lead, cadmium, total and speciated arsenic, and uranium. The exposure investigation concluded that the measured exposures to lead, cadmium, uranium, fluoride, arsenic, and boron pose no apparent public health hazard. These contaminants were not detected in the urine samples at concentrations associated with adverse health effects.
- **Biologic and Environmental Monitoring for Organophosphate and Pyrethroid Pesticide Exposures Among Children Living in Jacksonville**—Data on childhood exposures to organophosphate pesticides and pyrethroid pesticides are limited, especially for children living in cities. These data are necessary to help understand the magnitude and scope of exposure to these pesticides among children living in urban and other environments. NCEH analyzed urine levels in a group of 200 children aged 4 to 6 years who lived in urban, rural, and suburban **Jacksonville**. Study results will be correlated with environmental samples taken from their homes.

Most children tested had measurable levels of organophosphorus and pyrethroid metabolites. These levels tended to be higher than reference levels published for older children (aged 6 to 11 years) in CDC's *Second National Report on Human Exposure to Environmental Chemicals*. Pesticide levels in Jacksonville children may be higher than the national average because pesticides are used year-round in Jacksonville's warm climate. A larger scale follow-up study that will identify specific correlates of exposure is planned to begin this fall.

Services

- **Helping State Public Health Laboratories Respond to Chemical Terrorism**—NCEH is working with **Florida'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 Florida. In addition, NCEH has instituted a proficiency-testing program to test the compatibility of the state's analytic results with results from the NCEH laboratory.
- **Blood Lead Laboratory Reference System (BLLRS)**—Eight laboratories in **Florida** 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 provides proficiency-testing services and dried-blood-spot, quality control materials to monitor and help assure quality screening program operations for newborns in **Florida**. 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.
- **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; two of these laboratories are in **Florida**. 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 the 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 **Florida**.

- **Childhood Lead Poisoning Prevention Program**—The **Florida Childhood Lead Poisoning Prevention Program (FL CLPPP)** has received NCEH funding since 1992. In 2001, the program screened 61,788 children for lead poisoning. The number of children under 6 years of age who had elevated blood lead levels decreased from 2,347 in 1997 to 633 in 2001. These decreases in blood lead levels are due to state program efforts funded in part by NCEH.

FL CLPPP is using NCEH funds to develop and implement a childhood lead poisoning elimination plan; to maintain and enhance its statewide surveillance system, targeted screening plan, and case management plan; and to increase primary prevention activities and strategic partnerships.
- **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 85 inspections of cruise vessels that have stops in **Florida**.
- **Swimming Pools and Spas**—NCEH mailed the **Volusia County Health Department's Swimming Pools and Spas Interactive Training CD-ROM** to more than 4,000 of our partners in local and state environmental health programs. This CD-ROM is an excellent and innovative tool for training new environmental health personnel and a good review for experienced staff. The 37 lessons include videos, computer animations,

detailed 3-D graphics, photos, interactive problem-solving exercises and quizzes, and live links to the CDC Healthy Swimming Web site for additional information.

- **Mosquito-Prevention Techniques and Personal Protective Measures**—NCEH is collaborating with the **Volusia County Health Department's Environmental Health Program** on a project to teach effective primary mosquito prevention techniques and personal protective measures to schoolchildren. Techniques include removal of breeding habitat and communitywide control measures; personal protective measures include using appropriate clothing, screening, and repellants. The teaching tool is an age-appropriate, interactive CD-ROM that will be visually appealing and engaging and lead to retention of the public health messages. The training will emphasize things children, their families, and their communities can do to prevent mosquito-borne diseases.

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.