



Activities in Georgia



ATSDR in Partnership With Georgia

The Agency for Toxic Substances and Disease Registry (ATSDR) is the lead public health agency responsible for implementing the health-related provisions of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). ATSDR is an Atlanta-based federal agency with more than 400 employees and a budget for 2004 of approximately \$73 million. ATSDR assesses the presence and nature of health hazards at specific Superfund sites, helps to prevent or reduce further exposure and illnesses resulting from those hazards, and expands the knowledge base about the health effects of exposure to hazardous substances.

ATSDR works closely with state agencies to carry out its mission to serve the public by using the best science, taking responsive public health actions, and providing trusted health information to prevent harmful exposures and disease related to toxic substances. ATSDR provides funding and technical assistance to states and other partners through cooperative agreements and grants to identify and evaluate environmental health threats to communities. These resources enable state and local health departments and other grantees to further investigate environmental health concerns and to educate communities. From **fiscal years 1990 through 2003**, ATSDR awarded more than **\$11.2 million**—more than **\$1.1 million** in the last 2 years—in direct funds and services to **Georgia** for comprehensive support of its environmental health unit. In addition to direct funds and services, ATSDR staff provides technical and administrative guidance for state-conducted site activities.

ATSDR Site-Specific Activities Public Health Assessment-Related Activities

One of the agency's important mandates is to conduct **public health assessments** of all National Priorities List (NPL) sites and of other sites where a significant threat to public health might exist. **Nineteen** sites have

been designated to the NPL in **Georgia**.

A **public health assessment** is a written, comprehensive evaluation of available data and information about the release of hazardous substances into the environment in a specific geographic area. Such releases are assessed for current or future impact on public health. ATSDR, in collaboration with public health and environmental officials from Georgia, has conducted **37** public health assessments in the state, including the following recent example.

- **Terry Creek**—In a public health assessment released in August 2002, ATSDR evaluated the public health importance of the Terry Creek Dredge Spoil Areas/Hercules Outfall in **Brunswick**. The Hercules manufacturing plant produced toxaphene, a polychlorinated camphene (PCC) insecticide. In 1972, discharges of this kind of insecticide were restricted in Hercules wastewater. Since then, PCC concentrations in environmental samples (e.g., sediment and fish) have decreased significantly. Both Terry Creek and nearby Dupree Creek are used for fishing and crabbing.

Seafood consumption is the main source of toxaphene exposure for people at and near the site. Components of technical-grade toxaphene, its breakdown products, or both have been detected in edible fish from Dupree and Terry creeks. Information about quantitative determinations of PCC residues in seafood from the Terry Creek area is needed. Because these data are lacking, ATSDR classified this site as an indeterminate public health hazard.

ATSDR will reevaluate the health hazard at this site when new data become available. New data on fish will be assessed in a health consultation

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scheduled for release after this public health assessment.

ATSDR recommends further evaluation of air quality in the general area of Brunswick, particularly with respect to potential carcinogens and respiratory irritants.

A **health consultation** is a written or oral response from ATSDR to a specific request for information about health risks related to a specific site, chemical release, or hazardous material. A health consultation is a more limited response than a public health assessment is. To date, **131** documented health consultations have been conducted at **70** sites in **Georgia**, including the following recent example.

- **Northside Drive Area Lead Investigation**—The U.S. Environmental Protection Agency (EPA) asked the **Georgia Division of Public Health (GDPH)**, an ATSDR cooperative agreement recipient, to review soil-sampling data to determine whether lead concentrations measured in soil posed a health hazard to residents living in specific neighborhoods near Northside Drive in **Atlanta**. GDPH also was asked to provide health education to residents about potential health effects of exposure to lead in soil, including testing blood lead levels of children and ways to reduce and eliminate exposure to lead in soil and other sources.

In 2001, EPA began to investigate the levels of lead in residential yards within an approximate 1-mile radius of two facilities that have been a source of lead contamination for residents in the surrounding neighborhoods since 1901. Lead levels found in soil in some yards were elevated. However, additional sampling needs to be conducted to characterize the full extent of contamination. Most homes in the area have substantial ground cover that would minimize the potential for direct exposure to contaminated soil; however, repeated exposure to lead-contaminated soil and from other sources could result in higher exposures than what is considered safe.

As a result, EPA began excavating contaminated soil from the area in November 2003. GDPH coordinated a blood lead testing program for children in the area, and no elevated blood lead levels have been reported. Blood testing will continue to be offered during the remediation

phase of the EPA investigation. In addition, GDPH continues to provide health education to residents about lead exposure, including ways to reduce and eliminate exposure to lead in soil and other sources.

GDPH concluded that this site poses a past and current public health hazard to children because evidence exists that exposures to lead-contaminated soil have occurred, are occurring, and are likely to occur until remediation is complete. The full extent of lead contamination in soil has not been determined; additional sampling is needed to determine the number of residences affected. Removal of lead-contaminated soil is a prudent public health action and will eliminate a future exposure pathway. In fall 2003, EPA began ongoing removal that will eliminate the potential for future exposure to lead-contaminated soil in the area.

An **exposure investigation** collects information about specific human exposures through biologic sampling, personal monitoring, related environmental assessment, and exposure-dose reconstruction. Following is an example of an exposure investigation conducted in **Georgia**.

- **Newtown Community**—The purpose of this exposure investigation released in October 2000 was to determine whether residents of the Newtown community in **Gainesville** are being exposed to airborne volatile organic compounds (VOCs) at levels of public health concern and whether the soils of the Newtown public park contain heavy metals at levels of public health concern.

Newtown is a residential area in a highly industrialized section in southeastern Gainesville. Within 3 miles of the community are 14 facilities required to report to the EPA Toxic Release Inventory (TRI), and 56 businesses that are regulated by EPA because they handle, store, or use hazardous materials. TRI data reveal that several tons of VOCs are released into the air near the Newtown community.

ATSDR accepted a petition for a public health assessment at this site. To assist with the public health assessment, ATSDR conducted an exposure investigation in the community for VOCs in the air and metals in the soil of the park.

The public health assessment concluded that the concentrations of VOCs detected in ambient air do not pose a public health hazard. In addition, the concentrations of heavy metals detected in the soil of the playground do not pose a public health hazard.

Health Education and Community Activities

Georgia has participated in ATSDR's cooperative agreement program since 1995. Under this program, **GDPH** has received funding and technical assistance to develop community education and activities associated with human exposure to hazardous substances in the environment. During fiscal year 2003, the GDPH **Chemical Hazards Program (CHP)**

- published region-specific brochures to increase knowledge about fish and seafood consumption advisories. This was part of a comprehensive campaign to promote good health practices, such as avoiding excess amounts of contaminated species while encouraging fish consumption through nutrition education. Also, CHP worked with the **Georgia Department of Natural Resources** and the **University of Georgia Cooperative Extension Service** to develop, evaluate, publish, and distribute brochures for women of childbearing age. These brochures contain site-specific consumption guidelines for both sport fish and commercial fish. Before publishing the brochures, an extensive evaluation process was instituted to receive and measure impact of the brochures.
- published the Chemical Hazards Reference Guide for district and county environmental health staff and the public. The 55-page guide contains both general information about CHP as well as specifics about hazardous materials exposures, contact information, and other multiagency resources for sites, fish consumption advisories, chemical facts, and more.
- published and distributed site-specific health education materials in support of the Northside Drive Area Lead Investigation, CSX Signal Shop, VC Chemicals, and Locust Grove Mercury Spill sites. These materials contained information about conducting a health consultation and media/chemical-specific fact sheets that were established as templates. These materials can be customized for health education activities associated with

future health consultations and public health assessments.

Health Studies

Health studies are investigations to determine the relations between exposures to hazardous substances and adverse health effects. Health studies also define health problems that require further investigation through, for example, health surveillance or an epidemiologic study. Following is an example of a health study or investigation that ATSDR conducted or supported in **Georgia**.

- **Case Series Study, Basket Creek**—The Basket Creek Surface Impoundment and Drum Disposal sites are in a rural residential area in **Douglasville**. The impoundment contains an unknown amount of waste oils, solvents, unsaturated amines, glycols, and aromatic compounds that were reportedly dumped into the impoundment between 1975 and 1976. People living adjacent to these two sites had expressed concern that health complaints were related to exposure to these sites. Thirty-seven persons were examined and biological specimens collected. Although some participants had health problems, the examining physicians did not link any of these problems to environmental exposures. However, testing to determine exposures to hazardous chemicals detected higher than expected blood levels of methylene chloride in 20 of the 34 persons who had lived near the site. Also, some other chemicals not usually found in nonoccupationally exposed persons were found among 14 of the 23 persons who still lived near the site. Results were provided to each participant. Residents with any questionable or abnormal test results were counseled or referred to personal doctors for appropriate medical followup. ATSDR also prepared a summary report of this case series.

Association of Occupational and Environmental Clinics

Through a national cooperative agreement with the Association of Occupational and Environmental Clinics (AOEC), ATSDR supports an occupational and environmental health program in **Georgia**. This support is provided to improve education and communication related to surveillance, diagnosis, treatment, and prevention of illness or injury related to exposure to hazardous substances. The member institution in

Georgia is the **Center for Rehabilitation Medicine** in **Atlanta**. Eight staff physicians with specialties in five areas provide a broad range of services to patients and to other physicians throughout the southeastern United States.

Since 1998, ATSDR has funded AOEC to support a project establishing Pediatric Environmental Health Specialty Units (PEHSUs) as a national resource for pediatricians, other health care providers, federal staff, and the public. The PEHSUs develop materials and train health professionals and public health officials on environmental health issues and their impact on children's health.

The PEHSU for Alabama, Florida, **Georgia**, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee is the **Southeast Pediatric Environmental Health Specialty Unit** at **Emory University** in **Atlanta**. The PEHSU provides medical education and training, telephone consultation, and clinical specialty referral for children who may have been exposed to environmental hazards. Established in 1999 as a regional center for pediatric environmental health, the unit links the **Department of Environmental and Occupational Health** in the **Rollins School of Public Health**, the **Department of Pediatrics in the School of Medicine**, the **Georgia Poison Control Center**, the **Marcus Institute**, and a variety of other Emory-affiliated clinical facilities, including **Children's Health Care of Atlanta** and the **Hughes Spalding Children's Hospital**.

Minority Health Professions Foundation Research Program

The Minority Health Professions Foundation (MHPF) Program supplements the substance-specific information needs of the public and the scientific community and supplies necessary information for conducting comprehensive public health assessments of hazardous waste sites. The program addresses ATSDR's goals to ascertain the relations between exposure to toxic substances and disease and to build and enhance effective partnerships. The purpose of the MHPF Program is to initiate research to fill ATSDR-identified data needs for priority hazardous substances and to enhance existing disciplinary capacities to conduct research in environmental health at MHPF member institutions, one of which is the **Morehouse School of Medicine** in **Atlanta**.

Morehouse participates in ATSDR's Environmental Medicine and Toxicology Rotation Program. This program is a health education project to implement and evaluate a didactic research and practice program for physicians in training to promote the initial recognition, control, and prevention of toxic exposures and environmental hazards to humans. The program also will provide Morehouse physician consulting for ATSDR activities related to health disparities.

- **Poisoning From Maternal-Infant Relationship Through Early Childhood**—A prevalence study was conducted to determine the distribution of blood lead levels in minority children in **Atlanta**. The relation between the blood lead levels in the children tested and lead levels in the soil, water, paint, and dust in and around their households was examined. A second study, which is hospital based, was designed to determine whether harmful effects result from the long-term exposures to lead at the low levels now present in the environment.

Results from these studies indicated that approximately two thirds of homes tested have at least one environmental medium that exceeds the acceptable limits for lead. Children living in these homes tended to have higher blood lead levels than did children in homes without elevated levels of environmental lead. Blood lead levels in children from this subset of homes generally ranged between 4 and 10 micrograms of lead per deciliter of blood ($\mu\text{g}/\text{dL}$). These levels are below levels believed to indicate lead poisoning; however, infant behavioral studies have shown that infants born to mothers with prenatal blood lead levels 2.5–10 $\mu\text{g}/\text{dL}$ demonstrated differences in neonatal behavior in the areas of motor maturity, general tonus, and hand-to-mouth activities. These infants also demonstrated more tremors and defensive movements than did infants born to mothers with prenatal blood lead levels below 2.5 $\mu\text{g}/\text{dL}$.

For more information, contact ATSDR toll-free at 1-888-42ATSDR (1-888-422-8737) or visit the ATSDR Web site at www.atsdr.cdc.gov.