



Activities in Arkansas



ATSDR in Partnership With Arkansas

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 an annual budget for 2002 of \$78 million. ATSDR is responsible for assessing the presence and nature of health hazards at specific Superfund sites, helping to prevent or reduce further exposure and illnesses resulting from those hazards, and expanding the knowledge base about the health effects of exposure to hazardous substances.

ATSDR works closely with state agencies to carry out its mission of preventing exposure to contaminants at hazardous waste sites and preventing adverse health effects. 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 to further investigate environmental health concerns and to educate communities. ATSDR has cooperative agreements or grants with 31 states, 1 American Indian nation (the Gila River Indian Community), and 1 commonwealth (the Puerto Rico Department of Health). From **fiscal years 1989 through 2002**, ATSDR awarded more than **\$3.9 million** in direct funds and services to the state of **Arkansas**. In addition to direct funds and services, ATSDR 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. **Sixteen** sites have

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

A **public health assessment** is a written, comprehensive evaluation of available data and information on 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 **Arkansas**, has conducted **20** health assessments in the state. Following is a recent example of a public health assessment in **Arkansas**:

From fiscal years 1989 through 2002, ATSDR awarded more than \$3.9 million in direct funds and services to the state of Arkansas.

- **Mountain Pine Pressure Treating**—The Mountain Pine Pressure Treating, Inc. site is a former wood-treating facility on the western border of **Plainview**. At the site, lumber was treated with solutions of pentachlorophenol and chromated copper arsenate. The **Arkansas Department of Health (ADH)** evaluated soil, sediment, water, and fish data to determine whether a public health hazard existed at the site.

Exposure situations evaluated for the site included possible contact with site contaminants in the soil, sediment, groundwater, surface water, and fish. Off-site soil was considered the primary pathway of concern because it was a known completed exposure pathway. Because insufficient off-site data were available, the off-site soil pathway was categorized as an indeterminate public health hazard. Also, because of limited fish sampling, the fish ingestion pathway was categorized as an indeterminate public health hazard. Because of potential exposure to on-site soils, this site was categorized as a public health hazard.

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. It is a more limited response than a public health assessment is. To date, **58** documented health consultations have been conducted at **31** sites in **Arkansas**. Following are recent examples of health consultations conducted in the state:

■ **Mountain Pine Pressure Treating, Inc.**—A

health consultation released in January 2003 for this site evaluated sampling conducted to evaluate levels of pentachlorophenol and arsenic in and around two buildings on 8.57 acres of the site proposed for reuse. The 8.57 acres will remain industrial, and the two buildings will be used temporarily until two new metal buildings are constructed.

The existing buildings will then be demolished.

The health consultation concluded that under present site conditions, arsenic exposure to surfaces inside the buildings is an indeterminate public health hazard. Pentachlorophenol concentrations inside the buildings are lower than adverse effect levels and do not pose a public health hazard. Arsenic concentrations in soil do not pose a public health hazard. Once the new buildings are constructed, the site will pose no public health hazard because the potential for exposure to surfaces in the old buildings will be eliminated.

- **Transitech, Inc.**—The Transitech facility in **Fordyce** sandblasts, paints, repairs, and recycles railroad cars. Stacks of sand from sandblasting can potentially run off into storm water ditches. Other unknown waste materials and drums are also on the site. A resident living next to the site contacted **ADH** because he was concerned that his drinking water was being contaminated by the Transitech operation.

The resident's private drinking water well was sampled for volatile and semivolatile organic compounds, polychlorinated biphenyls, and

metals. Routine sample results from the Fordyce Municipal public drinking water system were also reviewed. No NPDWS were exceeded in either system.

A health consultation released in April 2003 con-

cluded that no exposure could be documented because the NPDWS were not exceeded, so the private and public water systems do not pose a public health hazard. However, access to the site is unrestricted with many physical hazards that could be a public health concern to anyone who enters the site.

■ **First Baptist Church**—

Piles of abrasive blasting grit containing lead-based paints were dumped next to the parking lot at the First Baptist Church in

Pocahontas. The waste was allegedly generated during the paint stripping of a nearby bridge and dumped on the church property. In July 2002, the piles were sampled for lead. **ADH** evaluated the analytical results of the samples to determine whether the piles of grit posed a public health hazard. Lead concentrations in the samples ranged from 585 to 2,020 parts per million. At these concentrations, **ADH** considers the piles of blasting grit a public health hazard, especially to children who play on or with the piles.

An **exposure investigation** collects information on specific human exposures through biologic sampling, personal monitoring, related environmental assessment, and exposure-dose reconstruction. Since 1994, **ATSDR** staff members have conducted **two** exposure investigations in **Arkansas**. Following is an example of such an investigation:

- In January 1998, **ADH** and **ATSDR** conducted an exposure investigation to identify individuals in a Texarkana community who had been exposed to mercury. Two teenagers removed 23 pounds of elemental mercury from an abandoned factory and distributed it to other people in the community. **ADOH** tested blood and urine specimens from 63 persons for



Sign posted next to the lead grit pile adjacent to the First Baptist Church site in Pocahontas.

mercury; 30 showed elevated mercury levels. ATSDR provided test results to the state health department and the participants. Through a cooperative agreement between ATSDR and the Association of Occupational and Environmental Clinics, those persons with elevated mercury levels were referred for medical evaluations. Persons with elevated urine mercury levels were monitored for several weeks to ensure that levels were decreasing and that no further exposure occurred. In addition, health education activities specifically targeted at high school students were conducted in the community. An ATSDR physician participated in these meetings to answer any questions about human exposure to elemental mercury.

Health Education and Community Activities

Under the state cooperative agreement program, **ADH** has received funding as well as technical assistance for community health education activities dealing with health issues associated with toxic substances in the environment. Since October 2001, **86** educational activities have been conducted at **nine** sites in **Arkansas**. Activities included 21 public meetings or training sessions and the development of 51 educational tools.

Recent health education activity conducted by **ADH** with support from ATSDR includes work at the Koppers Industries site. Attention on the Koppers site was first raised through petition by a local neighborhood association concerned about odors and contaminated soil and groundwater associated with the wood-treatment facility. After numerous public meetings, **ADH** helped form a community assistance panel to help inform community members of site activities. **ADH** developed chemical fact sheets as well as the *Arkansas Citizens Handbook on Superfund Sites* and the *Resource Directory for Health Professions and Community Residents*.

Through a national cooperative agreement with the Migrant Clinicians Network (MCN), ATSDR provides assistance to health care providers working with migrant and seasonal farm workers. MCN, the second largest clinical network in the nation, brings together clinicians from various professions to meet the needs of migrant and seasonal farm workers. **CABUN Rural Health Services, Community**

Health Centers of Arkansas, and Mainline Health Systems are local members of MCN.

Through a national cooperative agreement with the Association of Occupational and Environmental Clinics (AOEC), ATSDR supports the Center for Preventive, Occupational and Environmental Medicine at the **University of Arkansas for Medical Sciences**. With the establishment of the center in September 2001, occupational and environmental medicine (OEM) represents a new area of specialty for the university. The center's director is one of only seven board-certified OEM physicians in the state. The center became a member of AOEC in November 2002, and community health education has been one of the center's main focuses.

Health Studies

Health studies are investigations conducted to determine the relationships between exposures to hazardous substances and adverse health effects. They also define health problems that require further investigation through, for example, health surveillance or an epidemiologic study. Following are examples of health studies and investigations that ATSDR conducted or supported in the state of Arkansas.

- **Biological Indicators of Exposure; Health Outcomes; and Fetal Loss Study: Jacksonville**—In 1991, ATSDR awarded a grant to **ADH** to determine whether persons who lived near the Vertac site for more than 15 years have a higher concentration of dioxin, furans, chlorophenols, chlorophenol acids, and pesticides in their bodies than did persons living in a remote comparison area. The study also determined whether the concentration of the tested chemicals increased during the period of waste incineration containing pesticides. Initial biological samples were obtained in 1991 to determine historic background levels before the incineration started.

In 1992, the study was expanded to encompass three specific activities: (1) completion of the exposure study, which included collection of blood and urine specimens and interviews of participants in the postincineration phase; (2) a health outcomes study using standardized questionnaires and collection of additional laboratory specimens to look at differences in self-reported diseases, biomarker values, and self-reported reproductive outcomes; and (3) a study

using vital records and geographic information system technology to determine fetal loss and developmental disabilities in **Pulaski County**. The study determined that the increased fetal loss rates observed in the **Jacksonville** area in the early 1980s were not associated with proximity to the Vertac site. Further, no indication of an association of fetal loss, birth defects, or developmental disabilities with the passage of time was demonstrated. The final report was issued in 1998.

- **Jacksonville Historical Dioxin Exposure Study, Vertac Site**—Because of community concern about human exposures to site-related toxic chemicals, **ADH** and **ATSDR** conducted the **Jacksonville** Historical Dioxin Exposure Study, a cross-sectional study of adults aged 18 through 65 years. The study compared blood lipid levels of dioxin and 21 other dioxin-like compounds in persons living within 1,300 yards of the site with the levels of residents in a control community in **Mabelvale**. The study determined that some residents living near the site had experienced excess exposures to dioxin. Dioxin was elevated in blood lipid of residents who lived within 1,300 yards of the site for more than 15 years. Furthermore, urinary levels of 2,4-dichlorophenoxyacetic acid and 2,4-dichlorophenol were higher in the residents living in the target area for more than 15 years than the levels in residents of the comparison area. The final report was published in 1998.
- **National Exposure Registry: Dioxin Subregistry**—Dioxin is a manufactured chemical. Most of the direct knowledge of the effects of dioxin exposure on human health has been obtained from the study of workers exposed to dioxin during the production or subsequent handling of pesticides or other compounds in the production process. A variety of health effects can be the result of dioxin exposure, or of exposure to the chemicals of which dioxin is a contaminant, or to the solvents in which these compounds are normally dissolved.

ATSDR selected dioxin as a target substance for one of its exposure subregistries and selected sites throughout the nation where exposures have occurred. At these sites, initial (or baseline)

and follow-up interviews have been conducted; 2,280 people from six areas associated with hazardous waste sites in two states have been enrolled in the Dioxin Subregistry.

The site in Arkansas included in the Dioxin Subregistry is the Vertac Chemical Corporation site in **Jacksonville**. Baseline interviews were conducted in 1999; the first follow-up interview was conducted in 2000.

- **Arkansas Medical Verification Project**—In the Dioxin Subregistry, health condition questions administered to registrants specified that the source of diagnosis must have come from a physician (“...has a physician or other health care provider told you that you had or treated you for a [specific condition]?”). Despite this, one criticism of the registry is that health condition data are self-reported and are subsequently subject to registrant bias. The purpose of this project is to verify health conditions reported by registrants at the Vertac site in Arkansas by having their physicians verify those conditions.

Resource Materials

ATSDR develops materials that public health professionals and medical care providers can use to assess the public health impacts of chemical exposures. Resources are available in print, on the ATSDR Web site, and on CD-ROM. For example, medical management guidelines are available for acute chemical exposures to more than 40 chemicals. ATSDR’s toxicological profiles comprehensively describe health effects; pathways of human exposure; and the behavior of more than 250 hazardous substances in air, soil, and water at hazardous waste sites. In the last 5 years, more than **2,900** of these profiles have been sent to requesters, including representatives of federal, state, and local health and environmental departments; academic institutions; private industries; and nonprofit organizations in **Arkansas**. ATSDR has also developed extensive resources for community members.

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