Activities in Utah

ATSDR in Partnership With Utah

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. In **fiscal years 1989–2003**, ATSDR awarded more than **$1.4 million**—more than **$467,000** in the last 2 years—in direct funds and services to **Utah** 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 ATSDR'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. 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 **Utah**, has conducted **28** public health assessments in the state, including the following recent examples.

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- **Eureka Mills**—The Eureka Mills site is in **Eureka City**, approximately 70 miles south of **Salt Lake City**. Mining and limited milling activities conducted in this area from 1870 to 1965 resulted in elevated levels of metals in the soil. Much of the impacted area is residential. The site is a current public health hazard.

  Interest in the site began in July 2000 when the **Utah Department of Environmental Quality** (**UDEQ**) discovered elevated levels of metals in residential soil. Subsequent sampling programs by UDEQ and the U.S. Environmental Protection Agency (EPA) found 25,000 parts per million (ppm) lead in residential areas and 51,000 ppm lead in the nonresidential areas surrounding Eureka City. Elevated levels of arsenic and thallium also were discovered. EPA and UDEQ identified preliminary remediation goals of 231 ppm lead in soil from residential areas and 735 ppm in soil from nonresidential areas. Cleanup of lead to these levels is expected to remove the hazards posed by the other metals.

  After the discovery of elevated lead in residential soils in Eureka City, an ATSDR exposure investigation was conducted. The investigation began in August 2000 and ended in September 2001. The investigation concluded that children living in Eureka City are 10 times more likely than other Utah children to have elevated blood lead

levels. Prevalence of elevated blood lead levels were high for both young children and teenagers, and exposure dose estimates for children living in Eureka City exceed health guidelines for arsenic, lead, and thallium.

The **Utah Department of Health** (**UDOH**), in coordination with the **Central Utah Public Health Department**, is providing free blood lead testing for children aged 6 months to 18 years living in Eureka City. During the blood lead testing sessions, copies of the public health assessment and other sources of information are made available to the public. UDOH also is monitoring the Utah Blood Lead Registry for children with elevated blood lead levels in areas near the site to ensure adequate case management and environmental follow-up.

- **Davenport and Flagstaff Smelters Site**—The Davenport and Flagstaff Smelters Site is approximately 15 miles southeast of **Salt Lake City**. Smelting activities conducted in this area during 1872–1875 resulted in elevated levels of lead and arsenic in the soil. Parts of the area are now residential.

  EPA and **UDEQ** found up to 123,000 ppm lead and up to 4,690 ppm arsenic in soil in the residential areas. EPA and UDEQ identified 600 ppm lead and 126 ppm arsenic as the health-based cleanup levels for the residential areas.

  The main source of lead and arsenic in the Davenport and Flagstaff area is soil and dust associated with former smelting activities. Most of the soil with high concentrations of lead and arsenic is near the former smelters in an area where an estimated 87 adults and 43 children live. Dust from some of the homes in the Davenport and Flagstaff area has elevated levels of lead and arsenic.

  The public health assessment, released in September 2003 for public comment, classified exposure to contaminants at the site as a current public health hazard. The **UDOH Environmental Epidemiology Program** (**EEP**) designed a public health action plan to mitigate and prevent adverse human health effects from exposure to lead and arsenic in soil and dust associated with the site. Public health action activities include blood lead testing and a health education needs assessment.

  EEP and the **Salt Lake Valley Health Department** encourage parents and guardians to have their children 6 months to 17 years of age tested for lead levels in their blood. Pregnant women living near the former smelters also should consider being tested. EEP continues to monitor the Utah Blood Lead Registry for children with elevated blood lead levels living near the site to ensure adequate case management and environmental follow-up.

  EEP conducted a health education needs assessment to determine the environmental health education needs and concerns of the community. The needs assessment will be used to direct future health education activities in the community impacted by this site.

- **Intermountain Waste Oil Refinery**—The final public health assessment for the Intermountain Waste Oil Refinery site in **Bountiful** was released in September 2003. Thirty-six years of refining waste oils from facilities in Utah and neighboring states has resulted in soil and groundwater contamination on-site. Under a cooperative agreement with **UDEQ**, site owners proceeded with remediation activities. However, because of a lack of funds, remediation was left incomplete.

  The likelihood of exposure to site contaminants is low because the site is fenced at its perimeter, the entrance gates are locked, and shallow groundwater is not a source of drinking water. Much of the problem surface soil and subsurface soil has been removed.

  Trichloroethene and 1,2-dichloroethene are the chemicals of concern at the site. These contaminants were detected in the on-site monitoring well at levels that exceed the EPA standards for public drinking water supplies.

  EEP created a public health action plan to mitigate and prevent adverse human health effects resulting from exposure to hazardous substances at the site. Public meetings have taken place and a pamphlet has been created to educate the surrounding community. The site is not a current 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. A health consultation is a more limited response than a public health assessment is. **Twenty-five** health consultations have been developed at **15** sites in **Utah**, including the following recent example.

- **American Fork Canyon**—The North Fork of the American Fork Canyon is in the Wasatch Mountains approximately 40 miles southeast of **Salt Lake City**. During the spring and summer, an average of 2,600 vehicles per day visit the canyon-Alpine Loop Recreation Area. Fishing is a common recreational activity in these areas.

  Hatchery-reared rainbow trout are stocked yearly in the American Fork River, the Tibble Fork Reservoir, and the Silver Lake Flat Reservoir. In addition to these stocked fish, cutthroat and brown trout are native to the American Fork River.

  A 1999 analysis of metals in fish from the North Fork revealed a higher than average concentration of total arsenic. Therefore, a fish consumption advisory was issued in June 2002.

  As a continuation of a monitoring program to assess the potential impacts from abandoned mining operations in the canyon, the **Utah Division of Wildlife Resources** collected three species of fish (cutthroat, brown, and rainbow trout) for tissue sampling from the North Fork in August 2002. These fish were analyzed for total arsenic and inorganic arsenic. In a health consultation released in October 2003, **EEP** recommended removal of the 2002 fish consumption advisory for the North Fork of the canyon.

  EEP also recommended that concentrations of total and inorganic arsenic continue to be monitored, as well as levels of chromium, copper, mercury, selenium, and thallium.

  EEP continues to work with **UDEQ**, the **Utah County Health Department**, **Utah Division of Wildlife Resources**, **Utah Department of Natural Resources**, and ATSDR to notify the public of the findings of this revised health consultation.

Health Education and Community Activities

Utah has participated in ATSDR's cooperative agreement program since 1998. Under this program, **UDOH** has received funding and technical assistance for development of community education and activities associated with human exposure to hazardous substances in the environment.

The state has conducted several activities in relation to the **Eureka Mills** site, including an open house to solicit comments for the public health assessment, free **EEP** blood lead testing and health education materials in conjunction with the Parent Teacher Organization's annual fair at the high school, and a lead poisoning prevention curriculum in the elementary and high school. Blood lead testing sessions have been held quarterly in 2003 in accordance with the health education plan. Participation incentives included T-shirts, pens, sponges, and a drawing for free gasoline. Display tables presented information about lead, and food with vitamin C, iron, and calcium was given to participants as an educational tool.

In addition, pamphlets on blood lead poisoning prevention were distributed to the parents of all Eureka children who have been tested for blood lead. After each of the blood lead tests, a letter with the blood lead test results was sent to the parent or guardian. If the results showed an elevated blood lead level, the parent or guardian was contacted by phone to discuss prevention measures. Letters included additional lead prevention material and any other information the parent or guardian requested during the phone call. Health practitioners were given the blood lead test results for their patients and a contact name and number for more information.

Health Studies

Health studies are investigations to determine the relations 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 or investigations that ATSDR conducted or supported in **Utah**.

- **Hazardous Substances Emergency Events Surveillance (HSEES) System**—HSEES was established by ATSDR in 1990 to collect and analyze information about releases of hazardous substances that need to be cleaned up or neutralized according to federal, state, or local law, as well as threatened releases that result in a public health action, such as an evacuation. The goal of HSEES is to reduce the morbidity and mortality of

first responders, employees, and the general public resulting from hazardous substances emergencies. Fifteen state health departments, including **Utah**, participate in HSEES. HSEES captures data on more than 8,000 events annually. Of these events, 80% occur at fixed facilities, and 20% are transportation-related events. Most events occur between 8:00 AM and 5:00 PM, Monday through Friday. People most often injured are employees.

- **Exposure to Tremolite Asbestos in Vermiculite Ore**—In 2001, **UDOH** was awarded funding to conduct a statistical review of state cancer registry data and analyze existing health outcome data of select asbestos-related diseases, such as mesothelioma. Exposures to tremolite asbestos have occurred among people working at, living near, and otherwise in contact with, vermiculite mined and processed in Libby, Montana. Exposures also have occurred at facilities that processed vermiculite ore from Libby and at other U.S. vermiculite mining and processing facilities, such as Intermountain Insulation in **Salt Lake City**.
- **Analysis of Childhood Asthma and Hazardous Sites**—In 1999, **UDOH** was awarded funding to examine the relation of childhood asthma in four urban counties (**Weber**, **Davis**, **Salt Lake**, and **Utah**) to the proximity of hazardous waste sites and other industrial sources. This purpose of this project is to identify and quantify environmental hazards and evaluate the spatial and temporal relations between childhood asthma and environmental exposures in Utah. Study results are being reviewed.

Resource Materials

ATSDR develops materials for public health professionals and medical care providers to use to assess the public health impacts of chemical exposures. These 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 50 chemicals. These guidelines were designed to aid emergency department physicians and other emergency health care professionals, such as first responders, who manage acute exposures resulting from chemical incidents. 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. The toxicological profiles primarily are used as a comprehensive resource by health professionals at all levels. 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 **Utah**. ATSDR also has 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 site at www.atsdr.cdc.gov.