

# Your Environment: Your Health

Environmental factors account for an estimated 24% of the global disease burden and 23% of all deaths.

— World Health Organization (WHO)

The air we breathe. The water we drink. The food we eat. The ground below us. The communities in which we live. The chemicals we encounter. All are part of our environment. And all can affect our health.

National Center for Environmental Health  
Agency for Toxic Substances and Disease Registry



ATSDR

# Your Environment: Your Health



## CDC in Your Neighborhood

There are tens of thousands of hazardous waste sites in communities across the United States. Other communities experience spills of hazardous substances.

ATSDR works to reduce people's exposures to poisonous substances in the environment. We look at the effects of environmental exposures and suggest ways to protect people's health. We get communities involved in public health activities and supply health education materials to those communities. And we give technical help to communities, states, tribes, and other agencies.

**Sites.** ATSDR staff may become involved in a specific community if

- it is listed on EPA's National Priorities List—a list of the most serious uncontrolled or abandoned hazardous waste sites,
- a community member petitions ATSDR to do a public health assessment of a site, or
- a local, state, federal, or tribal government asks ATSDR for help in evaluating releases of hazardous substances into the environment.

**APPLETREE.** This ATSDR program ("Partnership to Promote Localized Efforts To Reduce Environmental Exposure") helps states build their capacity to assess and respond to site-specific issues involving human exposure to hazardous substances in the environment.



## Water & Air

**Water** is essential to our very existence. In the United States, danger from chemical or biological contaminants, resistant pathogens, and aging public water systems stand between citizens and safe drinking water.

NCEH/ATSDR protects health by working with state and local officials to

- Find, investigate, and track health hazards associated with water consumption
- Measure people's exposure to pollutants and work to prevent negative health effects from that exposure
- Craft emergency preparedness and response protocols

Breathing **clean air** is also vital to human health. Air pollution in the United States potentially threatens the health of millions of people. It is associated with increases in illnesses such as pneumonia and bronchitis, as well as increased emergency room visits and hospital stays for breathing and heart problems.

NCEH/ATSDR works with many partners to provide education, resources, training, monitoring, and more to protect people from the effects of unhealthy air.

- Mold
- Air pollution
- Carbon monoxide
- Volcanic emissions and smoke from wildfires or burning debris



## Hazardous Chemicals

Americans are exposed to chemicals every day. In fact, 1 in 4 of all Americans lives within 4 miles of an uncontrolled hazardous waste site. Highways and railways carry hazardous materials through towns and cities, increasing the potential for exposure. NCEH/ATSDR confronts these challenges.

**Assessments.** ATSDR assesses health hazards at specific sites to help prevent or reduce further exposure and illnesses. Each year, ATSDR conducts more than 100 health assessments and 200 consultations in connection with hazardous exposures. More than 80% of their recommendations are implemented.

**Education.** Education helps health care professionals and the public make informed decisions if they should be exposed to hazardous materials. ATSDR develops some of the nation's finest resources about harmful chemicals.

- Toxicological Profiles and ToxFAQs
- Case Studies in Environmental Medicine

**Science.** ATSDR makes scientific knowledge more accessible to help prepare and protect people from hazardous substances. Toxicology experts at ATSDR develop information for scientists so they can base informed decisions on the most accurate data available.



## People at Risk

**Children.** NCEH has been in the forefront of one of the greatest public health success stories of modern times: the reduction of childhood lead poisoning in America. NCEH educates people and their doctors about the dangers of lead. ATSDR also helped create 11 Pediatric Environmental Health Specialty Units to offer immediate, on-call expertise in diagnosing and treating chemical poisoning in children.

**International Communities.** NCEH scientists have helped protect children from lead poisoning in villages in Nigeria. They have discovered and helped prevent the cause of toxic liver disease in Ethiopia. They have helped set up emergency public health and hospital plans in the Pacific Islands.

**Environmental Justice.** NCEH programs, such as health tracking in hospitals, are on the leading edge of new methods to identify which populations are affected and what actions will benefit at-risk populations the most. ATSDR's community involvement helps at-risk communities understand potential dangers posed by their environments.

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## Healthy Places

Housing conditions touch almost every aspect of public health. Yet the United States has more than 6 million substandard housing units that pose health threats like toxic chemicals, carbon monoxide, rodents, mold, and lead poisoning. NCEH/ATSDR confronts these challenges with programs that keep our homes safe and secure.

**Healthy Homes.** NCEH provides reference tools to help public health and housing professionals mitigate or prevent housing deficiencies that can cause health problems. NCEH also promotes research on the relationship between housing and health.

### Healthy Community Design.

NCEH advances healthy communities by

- Identifying links between health and the built environment
- Educating professionals, decision makers, developers, and students
- Building partnerships with planners, architects, and others who create the built environment

**Brownfields.** The United States has about 450,000 former industrial or commercial sites where there is real or suspected contamination. Communities sometimes want to redevelop these “brownfields.” ATSDR has worked with more than 400 communities to deal with health risks at these sites. ATSDR’s action model and other tools help communities redevelop in a way that protects and promotes good health.



## Emergencies

Environmental emergencies threaten our well-being in many different ways. Chemical emergencies can happen at any time, accidentally or intentionally. Natural disasters—earthquakes, hurricanes, flooding, tornados, tsunamis, volcanoes, harsh winter weather, and blistering summer heat—wreak havoc on emergency response efforts.

**Chemical Emergencies.** ATSDR helps governments, doctors, and residents when the unexpected occurs. Using its National Toxic Substance Incidents Program to collect and analyze information, ATSDR supports first responders in reducing death and injury from hazardous chemical events. Public health and medical professionals call ATSDR for advice from toxicologists and emergency management experts. ATSDR publishes critical resources for chemical emergencies.

- Medical Management Guidelines
- Managing Hazardous Materials Incidents Guidelines
- ToxFAQs

**Natural Disasters.** When natural disasters strike, NCEH has primary responsibility for protecting public health. NCEH helps train first responders and public health professionals before disaster strikes. NCEH’s website gives health officials, responders, and residents accurate, easy-to-use information on dealing with the health consequences of natural disasters.



## Around You & Inside You

NCEH/ATSDR monitors health information using health registries and environmental public health tracking.

**Health Registries.** A health registry contains information on people with similar backgrounds, such as people with the same illness or people who were exposed to the same chemicals. ATSDR registries track long-term health effects and help study risk factors for diseases.

- The [World Trade Center Health Registry](#) monitors the health of people who lived or worked at or near the disaster site.
- The [Tremolite Asbestos Registry](#) lists persons with or at high risk of developing asbestos-related disease.
- The [ALS Registry](#), for people with amyotrophic lateral sclerosis (also known as Lou Gehrig’s disease), will lead to a better understanding of health factors associated with ALS.

### Environmental Public Health Tracking.

NCEH’s tracking program combines environmental and public health data to make it easy to examine national, state, and local environmental and health concerns. With NCEH funding, many state and local health departments developed tracking programs that report data to the national tracking network. Information can be viewed by location and over time, which helps people study trends, identify areas of concern, and assess the effectiveness of policies.



## Good Science

Air and water pollution, hazardous materials in the environment, adverse climate changes. All of these things can have negative effects on people’s health. NCEH/ATSDR tackles the difficult challenge of linking environmental factors to health consequences that make people sick—or even cause death.

### Computational Toxicology.

ATSDR’s computational toxicology laboratory uses mathematical and scientific modeling techniques to estimate the toxicity of poorly characterized substances and to predict a health end point based on chemical structure. Computational techniques can also help in developing health guidance values.

### Environmental Health Laboratory.

NCEH uses innovative techniques and advanced laboratory science to help medical professionals form a better picture of how environmental factors affect people. NCEH uses biomonitoring—measuring chemicals in blood or urine—to determine which environmental chemicals people have been exposed to and how much of those chemicals actually gets into their bodies. NCEH also improves and standardizes laboratory techniques to help diagnose and prevent disease, helps identify at-risk populations, and provides expertise and information.

# Your Environment: Your Health

## Agency for Toxic Substances and Disease Registry (ATSDR)

ATSDR investigates how people in a community might be exposed to hazardous substances in the environment, and it assesses exposures to determine if they will harm human health.

ATSDR produces

- Public health assessments of waste sites
- Health consultations concerning specific hazardous substances
- Health surveillance and registries to track diseases and chemical exposures
- Response to emergency releases of hazardous substances
- Education and training concerning hazardous substances

ATSDR writes the most-used toxicology reference in the world: Toxicological Profiles. ATSDR also conducts environmental health research.

## National Center for Environmental Health (NCEH)

NCEH directs a national program to protect people from premature death and avoidable illness and disability caused by factors related to the places they live, work, study, and play.

NCEH tracks health effects caused by the environment (surveillance); conducts research; develops standards, guidelines, and recommendations to improve health and decisions about health; and provides expert assistance to other public health agencies and organizations.

NCEH helps reduce environmental hazards and their adverse health effects through programs that address issues such as lead poisoning among children, the adverse health effects of natural disasters, air pollution and passive smoking, and nuclear radiation. NCEH laboratory services focus on quality-control and standardization, National Health and Nutrition Examination Surveys, studies of exposure to heavy metals and volatile organic compounds, and improvements of tests and measuring instruments. Other NCEH programs include the Vessel Sanitation Program and demilitarization of chemical weapons.



**For more information, please contact  
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