

### Safeguarding Communities from Harmful Chemicals

#### Examples of Environmental Exposures



##### Lead

Common exposure sources include paint in homes built prior to 1978, lead in pipes delivering drinking water, and imported products such as cookware, and cosmetics.



##### Phthalates/Bisphenol A

Chemicals found in plastics and personal care products.



##### Pesticides

Chemicals used both indoor and outdoor for a variety of purposes including weed, insect and rodent control.



##### Mercury

A heavy metal contaminant emitted into the air largely by burning coal, oil, wood, or waste containing mercury. Eating larger predatory fish contaminated with mercury is a common source of exposure. Many consumer products may also contain mercury despite efforts to phase out the use of mercury in household products.

The **Agency for Toxic Substances and Disease Registry** (ATSDR) is a leader in advancing environmental medicine. ATSDR has partnered with primary care providers in pediatrics, obstetrics and gynecology and family medicine to increase environmental exposure assessment, environmental exposure risk reduction, and delivery of appropriate patient assessments for conditions caused by environmental hazards.

ATSDR is committed to integrating environmental health within medical education and throughout the primary health care system. The agency works with medical schools, medical associations, and healthcare payers at the federal, state, and local levels to build capacity within the healthcare system and among primary care provider in order to increase early detection of toxic exposures, provide risk reduction counsel, and improve care to those made ill from exposure to toxic substances in the environment.

#### A Systems Model for Clinical Care Practice Change

##### Medical Education

Curriculum  
Clinical Rotations  
Boards Examines  
Continuing Education



##### Clinical Practice Guidance

Clinic and Clinician Procedures  
Job Aid Tools  
Training and Consultation Networks



##### Healthcare System Structure and Policy

Case Management  
Quality Measure  
Payment Approach  
Economic Impact and Benefit



##### Desired Clinical Practice and Care Delivery

Exposure Assessment  
Risk Reduction  
Treatment

To build this capacity and integrate environmental health into healthcare, ATSDR's Environmental Medicine Branch (EMB) guides and supports networks of experts in environmental medicine training and consultation, develops clinician environmental assessment and risk reduction tools, seeks ways to include environmental health in payment and management systems of health care, and identifies opportunities to include environmental medicine in medical education and primary health care practice. EMB also offers environmental health and medical education. The goal of ATSDR's Environmental Medicine Branch is to prevent or mitigate morbidity and mortality from exposure to toxic environmental hazards among children and families.

# CHILDREN'S VULNERABILITY

Children are especially vulnerable to environmental hazards and toxic substances. ATSDR's priority is to work with reproductive and pediatric care providers because their patients are most often at increased risk of toxic exposure impacts during fetal and early childhood development.

## Risk Factors Affecting a Child's Environment



### Why Children are at Increased Health Risk

Children have a greater vulnerability to toxic environmental exposure than adults as a result of their:

- breathing more air and drinking more fluids per their body weight than adults,
- breathing zone is closer to ground-level exposures,
- immature body defense systems' inability to breakdown toxic substances, and
- behavioral differences, including oral exploratory habits, limited diet choices, and mobility.

Settings both internal and external to the child's home, can influence the impact of environmental exposures - potentially increasing levels of stress and cumulative adverse effects on their health and on their family.



PEHSU address children's health and their vulnerabilities to environmental exposures. Together ATSDR and the Environmental Protection Agency (EPA) fund two national partners, the American Academy of Pediatrics (AAP) and the American College of Medical Toxicology (ACMT), to lead the PESHU Program.

PEHSU represent a national network of environmental health experts in pediatric, reproductive health, neurodevelopment, toxicology, occupational and environmental medicine, nursing, and other specialties.

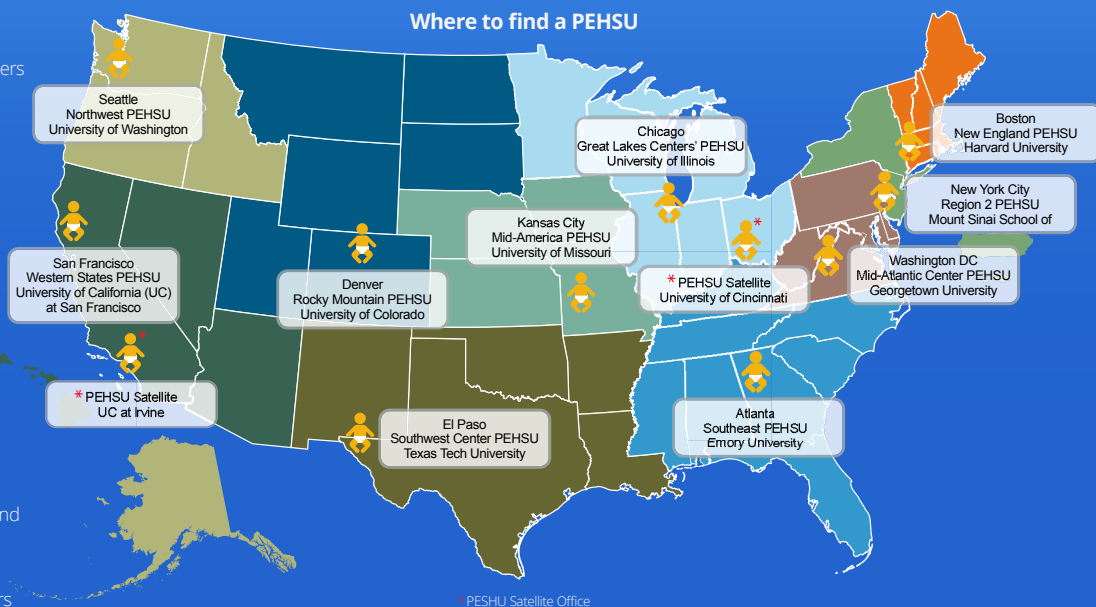
### PEHSU Specialists:

- Offer consultations to health and child care providers
- Educate health care providers
- Inform policy makers about critical environmental health concerns
- Responds with federal and state agencies to children's critical environmental health needs

### Why PESHU Matter they:

- Facilitate early response to environmental public health issues
- Engage in public educational outreach activities
- Participate in clinical assessments and referrals
- Partner with local and state health departments and regional poison control centers to address environmental exposures in communities
- Provide advice to residents and community leaders

### Where to find a PESHU



### ATSDR's Environmental Medicine Resources

ATSDR offers environmental medicine education services and products for health professionals. Competency based tools are available and learning modules that offer continuing education credits. [http://www.atsdr.cdc.gov/emes/health\\_professionals/index.html](http://www.atsdr.cdc.gov/emes/health_professionals/index.html)

ATSDR's Toxicological Profiles share important toxicological information on chemical contaminants. <http://www.atsdr.cdc.gov/toxprofiles/index.asp>

Pediatric Environmental Health Specialty Units offer educational courses, tool kits, events, consultation services and access to a network of environmental health and medicine experts. [www.pehsu.net](http://www.pehsu.net)