

CHILDREN'S ENVIRONMENTAL HEALTH AND THE NORTH AMERICAN PEDIATRIC ENVIRONMENTAL HEALTH SPECIALTY UNITS: *practical access to pediatric environmental health expertise*

CRITICAL ROLE OF THE ENVIRONMENT IN CHILD DEVELOPMENT NOT WELL UNDERSTOOD

Children breathe more air, drink more water, and eat more food than adults per unit of body weight; this higher rate of intake results in greater exposure to pathogens and pollutants and makes children uniquely vulnerable to environmental toxins. In addition, children's body systems are still developing, often compromising their ability to metabolize or inactivate toxicants.

Worldwide, five million children under age 5 die annually from environmentally-related factors, while many more suffer needlessly and permanently.

Environmental pollution is known to cause many illnesses. For example, some heavy metals, polychlorinated biphenyls (PCBs) and certain pesticides have been shown to cause brain damage, especially when exposure occurs in the pre-natal and perinatal period, contributing to learning disabilities and disruptive behaviors; air pollution contributes to asthma and other respiratory diseases in children; unsafe water leads to diarrhea; untreated and recurrent diarrhea impairs normal childhood growth and development and can cause stunting. All of these toxins and conditions can not only cause diseases and chronic disability, but can be fatal.

Studies show that children who grow up in environments where they are at risk for malnutrition as a result of poverty are more likely to be affected by environmental toxins and are more likely to have more serious effects as a result of limited available health care and education resources.

One affected child is a family issue; a community of children similarly affected is a problem that requires national leadership and benefits from international collaboration.

HEALTH CARE PROVIDERS NEED TRAINING AND RESOURCES TO ADDRESS ENVIRONMENTALLY- RELATED ILLNESSES IN CHILDREN

Most health care professionals, however, are not trained to prevent, recognize, manage and treat environmentally-related conditions, especially for children.

Many of the environmental factors related to ill health can be prevented with proper education and communication; such messages are best delivered by trained health care professionals. These professionals can train others to increase medical literacy on pediatric environmental health and they can teach parents and communities how to protect their children.



NORTH AMERICAN NETWORK OF PEDIATRIC ENVIRONMENTAL HEALTH SPECIALTY UNITS

One practical and concrete approach to these issues in North America is the Pediatric Environmental Health Specialty Units. These Units, first created in 1998, bring together many disciplines, such as occupational and environmental health physicians, pediatric practitioners, medical toxicologists, nurses and other specialists.

PEHSUs increase the number of health care providers trained on children's environmental health and act as a focal point for all issues related to children's environmental health. The Units operate as a network, cutting costs and creating efficiencies of scale.

PEHSUs assist primary health care professionals in a wide range of exposures such as lead, arsenic, carbon monoxide, pesticides, air pollutants, mold, waterborne contaminants, toxic waste, agricultural pollution and household chemicals. They also assist in site specific cases, such as school and day care environments, and deal with diagnostic dilemmas, where the etiology of problems are possibly environmental in nature. Parents and other public health professionals often enlist the aid of PEHSU's directly. Clinical consultation is offered electronically, by phone, and in person. PEHSU's educate health care providers and the general public about children's health issues related to exposure to environmental contaminants.

The environmental health expertise represented by the North American PEHSU network is critical to increasing the number of health care providers who are trained in pediatric environmental health issues. Expanding the PEHSU model to other parts of the world will enhance the network, allow greater collaboration among health care providers and result in greater protections for children.



PEHSUs were first created by the US Agency for Toxic Substances and Disease Registry, and the Environmental Protection Agency. The Association for Occupational and Environmental Clinics, a non-governmental organization, manages the Units. Visit these websites to learn more:

Unidad Pediatrica Ambiental Cuernavaca, Morelos, México
www.upa-pehsu.org

Misericordia Child Health Centre Edmonton, AB, Canada
mchhc.enviro@cha.ab.ca

New England PESHU www.childrenshospital.org/pehc

Mount Sinai Pediatric Environmental Health Unit
www.mssm.edu/cpm/peds_environ.shtml

Mid-Atlantic Center for Children's Health & the Environment www.health-e-kids.org

The Southeast Pediatric Environmental Health Specialty Unit www.sph.emory.edu/PEHSU

Great Lakes Center for Children's Environmental Health
www.uic.edu/sph/glakes/kids

Southwest Center for Pediatric Environmental Health
www.swcpeh.org

Mid-America Pediatric Environmental Health Specialty Unit www2.kumc.edu/mapehsu

Rocky Mountain Regional Pediatric Environmental Health Specialty Unit www.rmrpehsu.org

University of California Pediatric Environmental Health Specialty Unit www.ucsf.edu/ucpehsu or
www.coeh.uci.edu/pehsu

Northwest Pediatric Environmental Health Specialty Unit
www.depts.washington.edu/pehsu

