Pediatric Environmental Health Specialty Units (PEHSU): Collaboration and Expertise

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Disclaimer

• This presentation was supported by the American College of Medical Toxicology (ACMT) and funded (in part) by the cooperative agreement award number U61TS000238-01 from the Agency for Toxic Substances and Disease Registry (ATSDR).
• Improve the environmental health of children by:
  • Enhancing educational and consultative services to clinicians, health professionals and the community.
  • Providing evidence-based information from a network of experts in environmental health.
PEHSU History

• 1996 ATSDR Child Health Initiative - emphasis on environmental hazards to children’s health.

• The first PEHSU programs were established in 1998 in Seattle and Boston following two, large environmental exposure incidents:
  – 1995 to 1996 mercury exposure factory converted to apartments in New Jersey. 1
What is a PEHSU?

• A PEHSU site is a collaboration between pediatrics, medical toxicology and reproductive medicine funded through a cooperative agreement between ATSDR and ACMT (West) and AAP (East)

• A typical PEHSU staff includes a regional director, dedicated staff, core and regional consultants and a call center.

• The Regional Director must have expertise in pediatric environmental health and board certification in Peds, MT, OB/Gyn, Occ or Prev Med and/or FP
Call Center Requirements

- Each site must have a call center with a toll-free number to receive calls from the public, healthcare providers, and public health officials for information, consultation, and referrals.
- Partnering with a PCC to provide this service is recommended.
PEHSU and PCC Collaboration

- PEHSU staff train PCC staff on initial triage of reproductive and pediatric environmental health related calls
  - Chronic exposures
  - “low-dose effects”
  - Ensure that all documentation is completed
PEHSU vs PCC

Pediatric Environmental Health Specialty Unit

- Staffed with Pediatricians
- Staffed with Occupational Environmental Health Physicians
- Environmental Health Focus

Voluntary Reporting
- Available to health care professionals
- Available to public
- Comprehensive database

American Association of Poison Control Centers

- Staffed by Toxicologists
- 24/7 Coverage
- Real-time surveillance capability
- Pharmaceutical and Non-pharmaceutical exposures

Voluntary Reporting Available to health care professionals Available to public Comprehensive database

Pediatric Environmental Health Specialty Unit

American Association of Poison Control Centers
PEHSU Services

- **Consultation** for clinicians/health professionals regarding children’s environmental health concerns.

- **Education/Outreach** on pediatric environmental health provided to clinicians/health professionals, clinical trainees and the general public.

- **Referral** to appropriate resources for children with environmental health needs.
Funding and Management of

- Agency for Toxic Substances and Disease Registry (ATSDR)
- U.S. Environmental Protection Agency (EPA)
- American College of Medical Toxicology
- American Academy of Pediatrics
PEHSU Site Locations

www.pehsu.net

PEHSU-East (AAP)
- Region 1: Boston, MA
- Region 2: New York, NY
- Region 3: Washington, DC
- Region 4: Atlanta, GA
- Region 5: Chicago, IL and Cincinnati, OH (satellite location)

PEHSU-West (ACMT)
- Region 6: El Paso, TX
- Region 7: Kansas City, MO
- Region 8: Denver, CO
- Region 9: San Francisco, CA
- Region 10: Seattle, WA
# FY 12 - Initial Contacts by Substance - U.S. PEHSU Sites

<table>
<thead>
<tr>
<th>Substance</th>
<th>Number of Contacts</th>
<th>Percentage of Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>382</td>
<td>32.8%</td>
</tr>
<tr>
<td>Other*</td>
<td>147</td>
<td>12.6%</td>
</tr>
<tr>
<td>Fungus/Mold</td>
<td>86</td>
<td>7.4%</td>
</tr>
<tr>
<td>Arsenic</td>
<td>49</td>
<td>4.2%</td>
</tr>
<tr>
<td>BPA/Plastics/Phthalates</td>
<td>48</td>
<td>4.1%</td>
</tr>
<tr>
<td>Pesticides</td>
<td>40</td>
<td>3.4%</td>
</tr>
<tr>
<td>Unknown</td>
<td>40</td>
<td>3.4%</td>
</tr>
<tr>
<td>Outdoor Pollutants</td>
<td>39</td>
<td>3.3%</td>
</tr>
<tr>
<td>Mercury</td>
<td>37</td>
<td>3.2%</td>
</tr>
<tr>
<td>Indoor Air Contaminants</td>
<td>32</td>
<td>2.7%</td>
</tr>
<tr>
<td>Gases/Fumes</td>
<td>26</td>
<td>2.2%</td>
</tr>
<tr>
<td>Chemicals (General)</td>
<td>17</td>
<td>1.5%</td>
</tr>
<tr>
<td>Tetrachloroethylene</td>
<td>15</td>
<td>1.3%</td>
</tr>
<tr>
<td>Polychlorinated Biphenyls</td>
<td>14</td>
<td>1.2%</td>
</tr>
<tr>
<td>Carbon Monoxide</td>
<td>13</td>
<td>1.1%</td>
</tr>
<tr>
<td>Contacts without substance concern**</td>
<td>127</td>
<td>10.9%</td>
</tr>
<tr>
<td>Emerging Substances of Concern</td>
<td>Count</td>
<td>Percentage</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>Heavy Metals</td>
<td>24</td>
<td>2.1%</td>
</tr>
<tr>
<td>Water Toxins</td>
<td>10</td>
<td>0.9%</td>
</tr>
<tr>
<td>Electromagnetic Field</td>
<td>9</td>
<td>0.8%</td>
</tr>
<tr>
<td>Artificial Turf</td>
<td>8</td>
<td>0.7%</td>
</tr>
<tr>
<td>Hydraulic Fracturing</td>
<td>3</td>
<td>0.3%</td>
</tr>
</tbody>
</table>
FY 12 – Initial Contacts by Role of Clients – U.S. PEHSU SiteS

- Community: 50%
- Physicians: 29%
- Health Professionals: 13%
- Nurse Practitioners: 2%
- Nurses (RN): 3%
- Other: 3%
- Unknown: 1%
- Clinical Trainees: < 1%
- Physician Assistants: < 1%
### Outreach and Education Activities – FY 12

<table>
<thead>
<tr>
<th>Target Audience</th>
<th>Number of People reached</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire Community</td>
<td>16,081</td>
</tr>
<tr>
<td>School Personnel</td>
<td>1,377</td>
</tr>
<tr>
<td>Students (General)</td>
<td>365</td>
</tr>
<tr>
<td>Parents</td>
<td>204</td>
</tr>
<tr>
<td>Community (Other)</td>
<td>65</td>
</tr>
<tr>
<td>College Students (General)</td>
<td>80</td>
</tr>
<tr>
<td>Media Personnel</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18,075</strong></td>
</tr>
<tr>
<td>Target Audience</td>
<td>Consultations</td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Clinical Trainees</td>
<td>30</td>
</tr>
<tr>
<td>Community</td>
<td>64</td>
</tr>
<tr>
<td>Health Professionals</td>
<td>218</td>
</tr>
<tr>
<td>Health Science Students</td>
<td>14</td>
</tr>
<tr>
<td>Nurse Practitioners</td>
<td>5</td>
</tr>
<tr>
<td>Nurses (RN)</td>
<td>14</td>
</tr>
<tr>
<td>Physician Assistants</td>
<td>1</td>
</tr>
<tr>
<td>Physicians</td>
<td>137</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>483</strong></td>
</tr>
</tbody>
</table>
Welcome to the Pediatric Environmental Health Specialty Units

The Pediatric Environmental Health Specialty Units (PEHSU) form a respected network of experts in children's environmental health. The PEHSU were created to ensure that children and communities have access to, usually at no cost, special medical knowledge and resources for children faced with a health risk due to a natural or human-made environmental hazard. Read more about the Pediatric Environmental Health Specialty Units.

Located throughout the U.S., Canada, and Mexico, PEHSU professionals provide quality medical consultation for health professionals, parents, caregivers, and patients. The PEHSU are also dedicated to increasing environmental medicine knowledge among healthcare professionals around children’s environmental health by providing consultation and training. Finally, the PEHSU provide information and resources to school and community groups to help increase the public’s understanding of children’s environmental health.

The PEHSU Mission:
Improve the environmental health of children by:

- Enhancing educational and consultative services to clinicians, health professionals and the community.
- Providing evidence-based information from a network of experts in environmental health.

Website: www.pehsu.net
PEHSU Factsheets

Pediatric Environment Health Specialty Units (PEHSU) Program Factsheets

This PEHSU Program network of physicians and other health professionaists in pediatric environmental health have created the following educational factsheets based on evidence-based research and recognized clinical and public health standards.

All the factsheets are available for download on www.pehsu.net

Carbon Monoxide Poisoning in Children: Natural disasters often lead to electric power losses where gas-powered equipment and tools are used as alternative ways to heat, cool, and power homes. Carbon monoxide poisoning is therefore, a predictable public health hazard during disaster events. This document provides basic guidance for healthcare providers to assist with the recognition, initial management, and prevention of carbon monoxide poisoning. Important carbon monoxide prevention tips for families are also included.

Recommendations on Medical Management of Childhood Lead Exposure and Poisoning: In 2013, the CDC established a new "reference value" for blood lead levels (5 mcg/dL), thereby lowering the level at which evaluation and intervention are recommended. This is an outline of recommended action steps to manage childhood lead exposure and poisoning at different blood lead levels.

Information on Arsenic in Food: Recent reports have described concern about arsenic levels in a variety of foods. This factsheet defines arsenic as a naturally occurring element, its potential health effects, and suggestions for decreasing exposure to arsenic. Also discussed is the presence of arsenic in foods and drinking water along with recommended regulatory levels.

Chelation Therapy - Guidance for the General Public: The use of this chelation therapy, and particularly over the counter products for chelation therapy is a growing concern. This factsheet provides basic information concerning when chelation therapy is useful or not, and about the potential harm to children in using these products and popular herbal remedies.

Advisory about Chinese Drywall: The factsheet provides an overview of the health concerns of Chinese drywall for families and provides steps to limit exposure to this type of material. Furthermore, this factsheet provides a general public health approach to addressing Chinese drywall exposures.

Advisory about Return of Children After Floods/Hurricanes for health professionals: This factsheet highlights recommendations for the return of children to flood/hurricane impacted areas. Along with recommendations, a basic checklist of precautionary items is also provided that should ensure optimal health of children returning to these affected areas. (Updated 8-2011)

Advisory about Gulf Oil Spill for health professionals: This factsheet provides background information related to children potentially affected by oil spills. Additional resources for information about environmental testing and health effects are included. The factsheet identifies four steps needed to protect children from potential hazards and answers frequently asked questions about children and oil contamination.

Advisory about Gulf Oil Spill, for health professionals, Vietnamese

Advisory about Gulf Oil Spill for patients: This factsheet targeted for the general public provides background information related to children potentially affected by an oil spill. The factsheet identifies steps needed to protect children from exposure.

Advisory about Gulf Oil Spill, for patients, Vietnamese

Advisory about PCBs for health professionals: This factsheet provides background information on PCBs and their potential health effects. Additional information on other sources of PCBs, including the potential health effects of PCBs in children, is also discussed.

Advisory about Perfluorinated Compounds for health professionals: This factsheet provides background information on perfluorinated compounds and their potential health effects. Additional information on other sources of perfluorinated compounds, including the potential health effects of these chemicals, is also included.

Advisory about Phthalates and Bisphenol A (BPA) for health professionals: This factsheet provides background information on phthalates and BPA and their potential health effects. Additional information on other sources of phthalates and BPA, including the potential health effects of these chemicals, is also included.

Advisory about Phthalates and Bisphenol A (BPA), for patients (Spanish)

Advisory about Phthalates and Bisphenol A (BPA), for patients (Spanish)

Advisory about Phthalates and Bisphenol A (BPA), for health professionals: The factsheet provides a guide to choosing safer plastics in order to decrease phthalates and BPA exposure. It also includes related current peer reviewed literature and the potential health effects of these chemicals.

Advisory about Phthalates and Bisphenol A (BPA), for health professionals (Spanish)

Advisory about Wildfires in the Acute Stage, for health professionals: This factsheet discusses the susceptibility of children to acute environmental hazards from wildfire exposure. Smoke is pinpointed as the main cause of adverse health effects to children and outlines recommendations to reduce smoke exposure to children during wildfire situations. (Updated 8-2011)

Advisory about Wildfires in the Acute Stage, for parents and community members

Advisory about Wildfires in the Aftermath/Recovery Stage, for parents and community members: This factsheet provides information to the public on what to expect when returning with children to areas that have suffered wildfires. It also explains the type of environmental hazards that will be encountered after wildfires and why they may pose health risks to children. (Updated 8-2011)

Advisory about Wildfires in the Aftermath/Recovery Stage, for health professionals

This document was developed by the Association of Occupational and Environmental Clinics (AOEC) and funded under the cooperative agreement award number 1U60ES000118-02 from the Agency for Toxic Substances and Disease Registry (ATSDR).

Acknowledgement: The U.S. Environmental Protection Agency (EPA) supports the PEHSU by providing funds to ATSDR under Inter-Agency.