Pediatric Environmental Health

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Acknowledgements

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Children’s Vulnerability

- Porous blood-brain barrier until 4 years old; Sensitive forming brain tissue
- Immature immune system
- Immature, thin skin
- Immature lungs until 8 years old
- Breathing zone closer to ground
- Rely on others for safety, protection or escape
- Immature detox: liver, kidneys, lungs
- Breast feeding
- Nutritional differences
- Smaller size and wt; Longer life spans
- Poor cognitive discrimination
- Oral exploratory habits
- Pica
- Mimicry
- Curiosity

Mobility: crawling, cruising, toddler gait

Nutritional differences

Breast feeding

Porous blood-brain barrier until 4 years old; Sensitive forming brain tissue

Immature, thin skin

Smaller size and wt; Longer life spans

Poor cognitive discrimination
Children’s Cumulative Risks & Disparities

- Poverty
- Poor Nutrition
- Stressed Mother
- Squalid Neighborhood
- Lead
- Noise
- Allergens
- No Parks
PEHSU’s Mission

PEHSUs have a vision of a healthier world for children and pregnant women through the provision of expanded educational outreach, consultative, and referral services, using their expertise in pediatric environmental health, to the public, public health personnel, and primary care practitioners.
### PEHSUs Academic Affiliations

<table>
<thead>
<tr>
<th>Health Professionals</th>
<th>Health Professions Trainees</th>
<th>Public</th>
<th>Federal, State, Local Govt Staffs</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>298,936</td>
<td>61,947</td>
<td>323,817</td>
<td>17,806</td>
<td>702,506</td>
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</table>
## PEHSUs Academic Affiliations

<table>
<thead>
<tr>
<th>Substance of Concern</th>
<th>TOTALS</th>
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</thead>
<tbody>
<tr>
<td>Lead Poisoning</td>
<td>2576</td>
</tr>
<tr>
<td>Fungus/Mold</td>
<td>762</td>
</tr>
<tr>
<td>Phthalates/Bisphenol A</td>
<td>399</td>
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<tr>
<td>Pesticides</td>
<td>389</td>
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<tr>
<td>Mercury</td>
<td>367</td>
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</table>

*Woolf AD, Sibrizzi C, Kirkland K: Academic Pediatrics 2015*
**PEHSU Impacts**

<table>
<thead>
<tr>
<th>Support need for <em>specific</em> clinical information on environmental toxins</th>
<th>Facilitate <em>early</em> response to public health issues</th>
<th>Engage in public educational outreach activities</th>
<th>Participate in clinical assessments and referrals as needed</th>
</tr>
</thead>
</table>

**Partner** with local and state health departments and regional poison control centers

Give *advice* to residents and community leaders

Provide health care provider *education* and training opportunities
PEHSU Community-Level Involvement

July 2014 Pease Tradeport Perfluoroalkyl Substances Water Contamination Investigation Portsmouth, NH
ATSDR Resources: Where To Go For More Information

Environmental Medicine
www.atsdr.cdc.gov/csem

Toxicological profiles—Tox FAQs
www.atsdr.cdc.gov/toxprofiles

Pediatric Environmental Health Specialty Units
www.pehsu.net