Lead poisoning is a public health problem.
Health Effects of Lead

**ADULTS**

- **Brain**
  - Memory loss, lack of concentration, headaches, irritability, depression

- **Body**
  - Fatigue, joint and muscle pain

- **Cardiovascular**
  - High blood pressure

- **Digestive system**
  - Constipation, nausea and poor appetite

- **Kidneys**
  - Abnormal function and damage

- **Nervous system**
  - Damage including numbness and pain in the extremities

- **Reproductive system**
  - Men: Decreased sex drive and sperm count, and sperm abnormalities.
  - Women: Spontaneous miscarriage

**CHILDREN**

- **Brain**
  - Behavior problems, lower IQ, hearing loss, learning disabilities

- **Body**
  - Decreased bone and muscle growth

- **Kidneys**
  - Damage

- **Blood**
  - Anemia
Lead Exposures and Pathways

HOME
- Paint
- Lead pipes
- Lead solder
- Consumer products
- Hobbies
- Imported cosmetics
- Traditional remedies

OUTDOOR
- Soil
- Job take-home
- Leaded gas residue
- Industrial emissions
- Ammunitions
- Aircraft

Flowchart:
- DUST
- SOIL
- WATER

Pathways:
- Ingestion
- Inhalation
Lead in House Paint
Washington ranks 17th in U.S. in number of homes built before 1950

<table>
<thead>
<tr>
<th>Age of Housing</th>
<th>Lead-Based Paint</th>
<th>Lead Hazards</th>
<th>Number of Housing Units in WA</th>
<th>Number of Housing Units in WA with Lead Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Housing</td>
<td>40%</td>
<td>25%</td>
<td>2,451,075</td>
<td>472,035</td>
</tr>
<tr>
<td>Pre-1940</td>
<td>87%</td>
<td>68%</td>
<td>307,078</td>
<td>208,813</td>
</tr>
<tr>
<td>1940-1959</td>
<td>69%</td>
<td>43%</td>
<td>414,555</td>
<td>178,259</td>
</tr>
<tr>
<td>1960-1977</td>
<td>24%</td>
<td>8%</td>
<td>661,598</td>
<td>52,928</td>
</tr>
</tbody>
</table>

Source: Washington Lead CAP, 2009
Lead in Soils—Legacies In the United States

Ref. Smith et al. 2014
Lead Service Lines—By State

Childhood Lead Poisoning Prevention Program

- Surveillance—Child Blood Lead Registry
- Test children at high risk for lead poisoning
- Provide public health services to children with lead poisoning, including identifying the sources of lead exposure
- Safely remove lead from homes and the environment
Washington: Among children under 6 who are tested, percentage who have elevated blood lead levels ≥ 5 µg/dL
2015 tests showed lead in Reed, Mann school water

Lead levels fall to safe levels after goosenecks replaced

School water screening still on shelf across state

New standard results in more high lead levels
Childhood Lead Poisoning Prevention Program

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Governor’s Directive to DOH on childhood lead poisoning
find all lead service lines and components within 2 years... remove them within 15 years...
..assess the feasibility of inspecting rental homes for lead hazards...
...evaluate child care providers for sources of lead exposure, including the testing of drinking water...
...implement the “School Rule,” which requires schools to monitor environmental health risks such as lead...
...improve efficiency of the state’s blood-level monitoring system with electronic lab reporting...
...improve lead screening rates among children at highest risk, and provide case management services to children with elevated blood lead levels...
# One time funding from legislature to:

<table>
<thead>
<tr>
<th><strong>Child Blood Lead Registry</strong></th>
<th>Improve our surveillance system</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Test kids at highest risk</strong></td>
<td>Increase testing of kids at highest risk</td>
</tr>
<tr>
<td><strong>Identify sources of lead in the environment</strong></td>
<td>Partner with the Washington Health Care Authority (HCA) to provide adequate case management and identify sources of lead in the environment</td>
</tr>
<tr>
<td><strong>Remove lead from the environment</strong></td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Test drinking water in elementary schools for lead</td>
</tr>
</tbody>
</table>
Challenge

Evidence-based decision making in the context of outrage
Chemical Action Plans
Stakeholders

Inst. Of Neurotoxicology and Neurological Disorders
Solutions for Humanity, Community, and the Environment
Phillips Medical Systems
People for Puget Sound
Washington Toxics Coalition
Association of Washington Business
Independent Business Association
Pacific Northwest Paint Council and Washington Apartment Association
Inst. for Real Estate Mgmt
IRS Environmental
Total Reclaim, Inc.
Northwest Mining Association
Washington State Hospital Association
Occupational Health & Environmental Nursing
Northwest Product Stewardship Council
Tacoma-Pierce County Health Department
Puget Sound Anglers
All Battery Sales & Service
State and Federal Agencies
Policy Recommendations

• Invest in the Environmental Public Health Tracking Network
• Modernize our lead screening tools and response
• Adopt Chemical Action Plans
• Invest in community infrastructure
Contact Information

Clark Halvorson
Assistant Secretary
Environmental Public Health
Washington State Department of Health
Clark.Halvorson@doh.wa.gov