

Impact of environmental exposures in Oregon: Childhood lead poisoning



Why are we concerned about lead?

Lead poisoning is a significant environmental health problem, yet it is **entirely preventable**. Despite great successes from regulations to decrease lead exposure, lead poisoning is far from being eliminated and **still poses a threat to Oregonians**.¹

Facts about lead:

- Lead is a heavy metal that occurs naturally in the earth's crust, and has been used extensively throughout recorded history because of its resistance to corrosion and because it is easy to melt, mold and shape into nearly any form.
- Lead affects almost all systems of a child's body, particularly the nervous system. The Centers for Disease Control and Prevention (CDC) recommends public health actions be initiated at blood lead levels (BLLs) of 10 ug/dl or greater, although evidence now shows developmental and behavioral effects at levels much lower than this. An estimated average of 6 IQ points may be lost due to lead poisoning with BLLs in the range of 1–9.9 ug/dl.²
- Although leaded gasoline is no longer used in the United States, lead still enters the environment from several industries. Once lead is released into the air, it can travel long distances before being deposited by rain to land or water. Once lead is in soils, it sticks strongly to particles in the upper layers of the soil and does not degrade nor is it removed easily by water runoff, leading to continued potential exposure over long periods of time.
- The primary source of lead exposure for most Oregon children is from exposure to lead-based paint particles either inside or outside of older homes where lead-based paint may be chipping, or where renovation deposits lead-based paint dust. Lead-based paint can be found in homes built before 1978, with homes built before 1950 posing the greatest risk. The only way to know for certain is to test each kind of paint.

Who may be at risk in Oregon?

- Although Oregon has a relatively low overall prevalence of lead poisoning, an estimated 1,000-2,000 children have elevated blood lead levels (EBLLs), defined as a lead level ≥ 10 ug/dl.
- In the last 5 years, about 60,000 blood lead tests were performed on children under the age of 6. More than 64 percent of these were found to have BLLs less than 2 ug/dl, and 35 percent were 2-10 ug/dl. Although they make up less than 1 percent of children tested, there were 91 tests in the 15-19 ug/dl range, 79 in the 20-44 ug/dl range, 7 in the 45-69 ug/dl range, and one greater than 70.
- Unfortunately, **only about 4 percent of Oregon's population under the age of 6 is tested for lead poisoning annually** despite many more than this being at risk.³
- In the 2000 U.S. Census, there were 267,000 children under the age of 6 in Oregon. Thirty percent were Medicaid-eligible in any given month and as many as 14 percent of Oregon's children are uninsured. These groups have a higher risk for lead poisoning.
- Of Oregon's children living at or below the poverty level, 34 percent live in areas where at least 22 percent of the housing units were built before 1950.
- The United States Environmental Protection Agency (EPA) has ranked each of the 3,141 counties in the country as to their lead exposure risk. Multnomah County ranked 48th in the nation.³

Cost of childhood lead poisoning in Oregon:

- Based on national lead data, it is estimated that **\$17 to \$221 would be returned to the American economy for each dollar spent on lead hazard control.**⁴
- Direct health care costs are estimated at about **\$600,000** per year for screening, and follow up and treatment for elevated BLLs.
- An estimated **\$552 to \$878 million in lifetime earnings are lost for children born each year due to decreased IQ from lead exposure in Oregon.**⁵

What is the Oregon Public Health Division doing?

- Within the Oregon Health Authority, the Public Health Division's Office of Environmental Public Health (OEPH) oversees the **Oregon's Childhood Lead Poisoning Prevention Program (OCLPPP)**, which was established in 1992 with funding from CDC. The objectives of Oregon's childhood lead programs are to:
 - » Provide education to increase awareness of lead poisoning;
 - » Monitor blood lead levels in children throughout Oregon;
 - » Identify children with lead poisoning and determine how they are being exposed to lead;

- » Ensure that children with elevated blood lead levels receive appropriate care;
- » Provide technical assistance to community members, medical providers and county health departments;
- » Develop strategies to prevent childhood exposure to lead.
- A priority of OCLPPP is to ensure children with identified EBLLs receive appropriate medical, environmental and case management follow-up care in coordination with local health departments. With current funding, this and basic surveillance of Oregon BLLs are the extent of what OCLPPP is able to perform.

How can we decrease this costly public health risk?

- One of the most important ways to decrease lead poisoning is to decrease risk before children are ever exposed. Increased education and outreach are needed to focus on primary prevention of lead poisoning in Oregon.
- The average cost of remediation of an identified lead hazard is \$10,000 per housing unit. Multnomah, Washington and Clackamas counties have funding through a grant from the Department of Housing and Urban Development to offset costs for lead abatement for homeowners who meet certain financial need requirements. There is no available assistance for the rest of the state.

How much does the Oregon Childhood Lead Poisoning Prevention Program cost?

- Oregon's childhood lead programs currently receives federal CDC funding for blood lead testing surveillance; however, funding after 2011 is uncertain. There are no longer funds to provide blood lead testing resources, education and outreach, or primary prevention activities.
- In Oregon, EBLL case management and environmental investigations are an unfunded mandate, and many counties are unable to fulfill this role.
- The EPA funded Lead-Based Paint Program (also an OEPH program) is currently providing funding for environmental sampling supplies and lab analysis. If counties are unable to provide staff for investigations, OCLPPP or the Lead-Based Paint Program staff will perform the environmental investigation.
- Starting Jan. 1, 2010, the Division of Medical Assistance Programs has agreed to provide financial reimbursement for environmental investigations and case management for Medicaid-eligible children with confirmed elevated blood lead levels.
- The program is staffed with one full-time employee.
- There are no state tax or fee dollars for lead poisoning prevention at this time.

What priority actions could the OCLPPP take if more funding were available?

- Increase lead screening among at-risk populations throughout Oregon;
- Improve research on the true risks and prevalence of lead poisoning in Oregon;
- Reinstate education and outreach programs that have been eliminated for local public health departments and for medical providers around the state;
- Provide education about reducing lead exposure risk to all Oregonians;
- Improve the quality of environmental evaluations for known elevated blood lead levels by reimbursing local public health agencies for their services;
- Increase financial assistance to home and property owners to offset costs of remediation of lead hazards.

Sources

1. *Centers for Disease Control and Prevention. Preventing Lead Poisoning in Young Children. Atlanta, GA : CDC, 2005.*
2. *Very low lead exposures and children's neurodevelopment. Bellinger, David C. 2, April 2008, Current Opinion in Pediatrics, Vol. 20, pp. 172-177.*
3. *OCLPPP. State of Oregon Childhood Lead Poisoning Elimination Plan Update. Portland, OR : Oregon Department of Human Services, 2010.*
4. *Childhood Lead Poisoning: Conservative Estimates of the Social and Economic Benefits of Lead Hazard Control. Gould, Elise. 7, July 2009, Environmental Health Perspectives, Vol. 117, pp. 1162-1167.*
5. *Hackenmiller-Paradis, Renee. The Price of Pollution; Cost Estimates of Environmentally-Related Disease. Portland, OR: Oregon Environmental Council, 2008.*

For more information:

For questions about lead poisoning or the source document for this fact sheet, contact:

**Oregon Public Health Division
Office of Environmental Public Health
Healthy Homes and Schools Program**

800 NE Oregon, Suite 640
Portland, OR 97232
Phone: 971-673-0440
Toll free: 1-877-290-6767
Fax: 971-673-0457
www.healthoregon.org/lead

Additional childhood lead poisoning resources:

U.S. Environmental Protection Agency:

www.epa.gov/iaq/lead.html

U.S. Centers for Disease Control and Prevention—Lead:

www.cdc.gov/nceh/lead/about/program.htm

Office of Healthy Homes and Lead Hazard Control,
U.S. Department of Housing and Urban Development:

www.hud.gov/offices/lead/index.cfm

Lead Poisoning Prevention, Multnomah County:

web.multco.us/health/lead-poisoning-prevention

**Oregon
Health
Authority**

OREGON PUBLIC HEALTH DIVISION
Office of Environmental Public Health

This document can be provided upon request in alternative formats for individuals with disabilities. Other formats may include (but are not limited to) large print, Braille, audio recordings, Web-based communications and other electronic formats. Call 971-673-0440 (voice) or go to public.health.oregon.gov/PHD/OEPH/RES/LEAD/Pages/index.aspx for contact information to arrange for the alternative format that will work best for you.