

Oregon Childhood Lead Poisoning Elimination Plan

**Oregon Department of Human Services
Childhood Lead Poisoning Prevention Program**

**800 NE Oregon St, #827
Portland, OR 97232**

**(503) 731-4025
(503) 872-5398 Fax**

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Background

Childhood Lead Poisoning in Oregon

The purpose of the Oregon Childhood Lead Poisoning Prevention Program (OCLPPP) is to eliminate childhood lead poisoning as a public health problem by 2010. Unfortunately, risk factors for exposure to lead hazards are still relatively common in many parts of the US. Two major factors place children at higher risk for lead poisoning, living in poverty and living in older housing (primarily pre-1950). According to the National Health and Nutrition Examination Survey NHANES III, Part 2, poor children were four times as likely to have elevated blood lead levels (EBLLs) as middle income children and eight times as likely as high income children. In the same survey, children living in pre-1946 housing were five times as likely to have EBLLs as children living in housing built after 1973. To make the problem worse, we know that poor children tend to live in older housing.

Previous studies done in Oregon have documented that children living in older housing are at increased risk for EBLLs. A case-control study done in four Oregon counties during 1992 and 1993 showed that children living in houses built before 1930 had a 2.5 greater odds (95% confidence intervals: 1.3-5.0) of having an EBLL than children living in houses built after 1930. A special project in Multnomah County in 2003 found that 1 year-olds living in pre-1950 housing were more than four times as likely to have EBLLs as 1 year-olds living in newer housing.

In the 2000 U.S. Census, Oregon's population was 3,400,000 of which 267,000 were children under the age of 6 years. In Oregon, where Medicaid eligibility is defined as 170% of poverty or less, in 1999, an average of 79,500 children under 6 years of age were Medicaid eligible in any given month. This is 30% of the under 6 population. The Medicaid status of children is changing constantly as families gain and lose eligibility. In a study of Medicaid eligibles during a 19-month period, a total of 142,000 children under age 6 had eligibility for some period of time; nearly double the number of eligibles in any given month. Recent estimates have also indicated that as many as 14% of Oregon's children are uninsured, representing an additional at-risk group. Of Oregon's children living at or below the poverty level, 33.7% live in census block groups where at least 22% of the housing units were built before 1950. These children are also more likely to live in the older housing units, due to their poverty status.

According to the 2000 U.S. Census, Oregon's share of pre-1950 housing stock (20.6%) closely parallels the national average of 22.2%. The nearly 275,000 pre-1950 housing units are found in all 36 counties, each of which have census block groups and zip codes where at least 22% of the housing stock was built prior to 1950. Although older housing is found throughout the state, the largest concentration is found in Multnomah County which contains 19% of the state's under 6 population and 39% of the state's total pre-1950 housing stock. Thirty-nine percent of the housing in Multnomah County and 46% of the housing in the City of Portland were built prior to 1950.

In a risk prioritization project, the United States Environmental Protection Agency (EPA) ranked each of the 3,141 counties in the country using a targeting formula that incorporated: number of housing units containing lead-based paint (LBP), total number of children \leq 6 years of

age, the percent of children ≤ 5 years of age who are in poverty and the percent of low income housing that contains LBP. Multnomah County ranked 48th in the nation and is one of only two counties in the Pacific Northwest that are ranked in the top 50 high risk counties for childhood lead exposure.

Blood Lead Testing and Surveillance

In 1991, EBLs became a reportable condition under Oregon Administrative Rules (OAR) 333-017-000 (23), 333-018-0005(2)(d) and 333-018-0015. Reportable levels were: ≥ 10 $\mu\text{g}/\text{dl}$ for children under 18 years of age and ≥ 25 $\mu\text{g}/\text{dl}$ for persons 18 years of age and older. At the time that EBLs first became reportable in Oregon, the national recommendations for child blood lead screening was the universal model for all children under the age of 6 with the highest priority given to children of this age group who were found to fit certain high risk characteristics. Oregon's medical community was very much against universal screening, saying that, from their experience, childhood lead poisoning was not a problem in the state. As a result, comparatively little screening was done, except in the pilot area of Multnomah County where CDC funded screening, prevention and surveillance activities for a period of 5 years (1992 to 1997). Because only EBLs were required to be reported, we did not know the total number of children actually screened in a given year. Through the years we gradually increased the number of private laboratories who voluntarily reported all BLLs. Since 1997 we have been receiving voluntary reporting of all BLL test results from all in-state and out-of-state labs.

Since March 2002, all Oregon blood lead test results have been reportable to our program within seven days. Public health reporting rules give specific details on what information must be reported and by whom. Reporting rules require that both providers and laboratories report all test results, regardless of level. Information that is required to be reported by providers includes: provider's name, address and phone number; patient's name, address, telephone number, date of birth, specimen collection date and blood lead level. Laboratories are required to report the same information except patient address and phone number is not required, only county of residence. Since we depend on labs for most reports, the lack of address information creates great difficulty in tracking screening efforts in particular communities or areas.

Since 1992 our program has used a CDC created data management system (STELLAR) as the child-specific relational database that allows us to track multiple tests and multiple addresses for individual children. Our surveillance system currently receives all BLL results for adults and children and stores the information in a database created by our program (Lead Poison). Currently, BLLs are reported in these basic forms: paper, electronic forms such as floppy disks or e-mails and automated reports in standardized reporting formats. The automated reporting is coordinated through the National Electronic Disease Surveillance System – Electronic Lab Reporting (NEDS-ELR) program in the Acute and Communicable Disease (ACD) section of the Office of Disease Prevention and Epidemiology (ODPE).

In 2003, 9,398 Oregon children under age 6 had an initial blood lead test. These numbers indicate that currently in Oregon less than 4% of children under 6 are screened each year and among children at greatest risk, those under age 3, less than 5% were screened in any given year.

Table 1 shows the number of children (under age 6) with confirmed elevated lead levels each year from 1995-2003 and the number of children screened each year.

Table 1.

Children (under age 6) with
Confirmed Elevated Blood Lead Levels (EBLLs)
Oregon 1995-2000

Year	Total Screened	EBLL Cases	% EBLLs
1995	4335	86	2.0
1996	4557	83	1.8
1997	5117	67	1.3
1998	5907	90	1.5
1999	6642	106	1.6
2000	7409	125	1.7
2001	7853	96	1.2
2002	9369	105	1.1
2003	9398	99	1.1

As the data show, Oregon is a state with a relatively low overall prevalence of lead poisoning (<2%) and that prevalence rates have declined through the years. This decline in rates is consistent with national trends. Although the prevalence of childhood lead poisoning in Oregon may sound low, it translates into an estimated 2,000-5,000 children with lead levels ≥ 10 $\mu\text{g}/\text{dl}$. An examination of nearly 200 environmental investigations in lead poisoning cases found that although lead paint was identified as the probable source in 63% of the cases 40% were related to remodeling or renovation and only 23% were attributed to general paint deterioration. This corresponds with the dramatic increase in gentrification that has been seen in recent years in older neighborhoods that were traditionally home to the poor and racial/ethnic minorities. With these changes, middle and upper income families, buying and remodeling older housing are placing their children at increased risk for lead poisoning.

Case Management

The follow-up care and evaluations for all children with EBLLs is a priority activity for our program. Once an EBLL test result has been reported, program staff make initial contact with the medical provider of the child and notifies the local county health department. The county health department has primary responsibility for case management and performs a home evaluation and investigation to determine the likely source of lead exposure and to see if other members of the family are at risk, especially other young children or pregnant women.

Currently, with grant funds from CDC, we reimburse counties health departments for conducting on-site environmental investigations on all confirmed cases ≥ 15 $\mu\text{g}/\text{dl}$. Upon completion of an investigation, counties are reimbursed \$200. Grant funds cover the cost of environmental investigation and sampling. If counties are unable to provide staff for investigations, staff from our program or the Lead-Based Paint Program of Oregon Public Health is able to perform the environmental investigation.

Recently, our case management and investigative guidelines were revised in accordance with recommendations from the CDC “Managing Elevated Blood Lead Levels Among Young Children”. We have also provided a case management and investigation training for 20 county health department nurses and environmental health specialists, and will soon post this training and the case management guidelines on our web site.

Lead Screening Plan

Shortly after CDC published new screening guidelines in 1997, Oregon issued preliminary guidelines that closely followed the CDC recommendations. Oregon’s recommendations included universal screening of children under age six receiving Medicaid or other governmental assistance, other children living in zip codes with more than 27% pre-1950 housing and individual risk questions for children who did not meet either of these criteria. In late 2001 a Task Force was created to begin the process of creating Oregon specific targeted screening guidelines. The Task Force represented a broad range of stakeholders; including physicians, managed care organizations, state Medicaid, county health departments, housing agencies, and community-based organizations. The Task Force reviewed national and Oregon specific surveillance data in developing its recommendations.

In the spring of 2004 the Screening Plan was finalized and the implementation process began with a presentation of the plan at the annual meeting of county epidemiologists from around the state. The lead-screening plan recommends that providers use a lead risk assessment questionnaire consisting of eight questions to target screening efforts. All children should be assessed for risk of lead exposure by administration of the questionnaire at 1 and 2 years of age and between 3 and 5 if not previously assessed. If the answer to any question is “yes” or “don’t know” a blood lead test is recommended. In June, the plan was presented in the [CD Summary](#), the bi-weekly newsletter of Oregon Public Health that is mailed to over 15,000 medical providers throughout the state. As a result of the [CD Summary](#) article, more than 50 provider groups have requested copies of the screening plan and questions via phone and the screening questionnaire in the provider section on the web received over 450 visits. Copies of the risk questions and accompanying guidance are available on our web site (<http://www.healthoregon.org/lead>). The screening plan and guidance, posters and educational materials have been mailed to approximately 450 medical clinics throughout the state including migrant and rural health clinics. State Medicaid officials have incorporated the screening plan and questions into guidance documents and forms used by providers serving Medicaid children through the Oregon Health Plan. The risk questions have also been translated into Spanish, Russian and Vietnamese.

In anticipation of the plan, a pre-implementation survey was sent to more than 1,500 pediatric providers throughout the state. The survey was sent to a sample of providers in each of the

following pediatric specialties (medical, osteopathic, and naturopathic physicians; nurse practitioners; physician assistants and medical residents). The purpose of the survey was to determine current screening and medical practices related to lead, barriers to screening and current knowledge of lead risk factors. The information will be used to develop and implement lead screening trainings for providers around the state. It will also be used as a baseline measure that is part of our program evaluation plan.

Development of the Elimination Plan

In 2003, the U.S. Centers for Disease Control and Prevention (CDC) directed its Childhood Lead Poisoning Prevention Program (CLPPP) grantees to develop a plan to eliminate statewide (and therefore, national) childhood lead poisoning by 2010. This activity became a program requirement for the CDC 's Childhood Lead Poisoning Prevention Programs. The Oregon CLPPP, as a recipient of the CDC award, therefore assumed responsibility for developing and implementing a statewide lead elimination plan.

During 2004, the Oregon CLPPP invited potential work group members to participate in the planning process. Work group members were specifically recruited who could make decisions and commit resources for the agencies or organizations they represented. OCLPPP recruited members representing a broad range of perspectives including agencies and groups that deal with: child health, medical and case management, housing, lead remediation and community involvement. Regional EPA, local HUD lead programs and state Medicaid are committed to the process. Several members of the Lead Screening Task Force have also been asked to participate in the new advisory group, including providers, county health department representatives and community based organizations. The agencies and organizations committed to date are:

HUD Region X
EPA Region X
Oregon Department of Housing and Community Services
Oregon Occupational Safety and Health Administration
Oregon Health Plan
Oregon Lead-Based Paint Program
Construction Contractor's Board
Multnomah County Health Department
City of Portland Housing and Community Development
City of Portland Water Bureau
City of Portland Neighborhoods Bureau
City of Salem Housing and Community Development
City of Corvallis Housing and Community Development
Portland Housing Authority
Portland Development Commission
Children's Pediatric Clinic
Oregon Remodelers Association
Community Energy Project
Community Alliance of Tenants
Josiah Hill III Clinic
Oregon Child Development Coalition

The first meeting of the advisory group was held May 11, 2004. During the first meeting the advisory work group reviewed the CDC elimination plan components and the OCLPPP draft mission statement. Ground rules for all future meetings were established at the initial meeting.

Since the initial meeting, two separate groups, the Housing and Medical/Health subcommittees have been established and they meet on a regular basis. Both subcommittees developed strategies designed to eliminate lead poisoning in children based on their particular focus. Gaps in subcommittee membership have been identified, and OCLPPP is currently recruiting members from banking, insurance and real estate. The EPA funded Oregon Lead-Based Paint Program is committed to the process and is working with OCLPPP by providing resources to facilitate and implement the elimination plan process.

Statutory and Administrative Infrastructure

As noted above, EBLL's became a reportable condition under Oregon Administrative Rules (OAR) 333-017-000 (23), 333-018-0005(2)(d) and 333-018-0015 in 1991. Reportable levels are: ≥ 10 $\mu\text{g}/\text{dl}$ for children under 18 years of age and ≥ 25 $\mu\text{g}/\text{dl}$ for persons 18 years of age and older. Since March 2002, all Oregon blood lead test results have been reportable to our program within seven days. Public health reporting rules give specific details on what information must be reported and by whom.

OAR 33-019-0252 states that "each report of a childhood or non-occupational EBLL shall be investigated by the local health department to confirm diagnosis and to provide information to the individual's physician, to help identify the environmental source of lead exposure and to prevent further exposures." OCLPPP provides consultation and assistance to the local health department in conducting these investigations and follow-up.

OCLPPP refers all childhood and non-occupational EBLL reports directly to the local county health department for follow-up. Time frame for beginning case management or providing environmental investigations begins as soon as confirmatory EBLL results are received. Case management duties are outlined in the Lead Poisoning Disease Guidelines.

Oregon Revised Statute 431.920 was enacted into law by the Legislative Assembly giving authority to the Department of Human Services to develop accreditation programs to train and certify individuals and firms engaged in lead-based paint activities and to assess penalties when an individual or firm fails to comply with prescribed work standards. The Department of Human Services, Office of Public Health Systems is the state agency authorized by the U.S. Environmental Protection Agency (EPA) to implement the Oregon Lead-Based Paint Program (LBPP). The Lead-Based Paint Program has a Lead Enforcement and Training and Certification Grant for the administration and enforcement of a state Certification and Accreditation program under Section 404 of Title X. The LBPP conducts oversight and investigations of lead-based paint activities involving abatement, inspections, risk assessments, paint removal and stabilization; and responds to complaints. The LBPP certifies contractors for lead-based paint activities, accredits training providers, provides lead-safe work practices training and consultations and performs education and outreach to communities and the construction industry.

The Oregon Revised Statutes and Administrative Rules have established work practice standards for the performance of lead-based paint inspection, risk assessment, and paint removal and stabilization activities for individuals and firms performing lead-based paint activities. These rules apply expect for persons who perform these activities within residential dwellings that they own and occupy at the time of the lead-based paint activity.

All EPA and HUD approved techniques must be utilized for preparation, cleanup, disposal, and clearance testing activities following an abatement project. Only certified individuals and legally registered firms may conduct abatement activities. Abatement does not include renovation, remodeling, landscaping or other activities when such activities are not designed to permanently eliminate lead-based paint hazards. Clearance testing is required upon completion of abatement projects in targeted housing.

Oregon Administrative Rule (OAR) 333-069 requires that any person removing or stabilizing one square foot or more of paint on housing or child care facilities built before 1978 must obtain a Lead-Based Paint Permit from the Lead-Based Paint Program. Warning signs must be posted warning the public of possible lead-based paint hazards and painters or contractors must follow federal law and notify customers of possible lead hazards before beginning work on pre-1978 housing. Remodeling and painting contractors are urged to follow lead-safe work practices and avoid using traditional paint prep, such as dry scraping and power sanding, that create and spread large amounts of paint dust and debris. The Lead-Based Paint Program provides free Lead-Safe Work Practices Trainings throughout the state to encourage contractors to work lead-safe. Clearance testing is recommended after remodeling and painting of pre-1978 housing, but is not required under the current rules.

Program Evaluation

In 2003 a draft Evaluation Work Plan OCLPPP was developed by an independent evaluator, John A. Dougherty, PhD. John is a Principal Investigator with the Multnomah County Health Department, and a member of Program Design and Evaluation Services (PDES), an interagency, interdisciplinary evaluation and research group. The work plan proposed seven evaluation goals, many of which are directly related to the Elimination Plan:

- Goal 1: Develop OCLPPP Evaluation Strategy/Plan with Advisory Committee
- Goal 2: Assess Changes in Public Policy and Effectiveness of Strategic Partnering
- Goal 3: Evaluate Process and Outcomes of Targeted Screening
- Goal 4: Evaluate Surveillance According to Guidelines Working Group
- Goal 5: Evaluate Case Management
- Goal 6: Evaluate Primary Prevention
- Goal 7: Evaluate Process and Outcomes of Overall CLPPP

Unfortunately funding was not available to implement this evaluation plan. We are in the process of reviewing this draft plan in an effort to focus it specifically on elements of the elimination plan, reduce its scope and identify funding sources to implement it. The proposed plan will include both process and outcome evaluation elements. See Appendix 6 for a copy of the original draft work plan.

Oregon Lead Elimination Plan - Health

Mission: To eliminate childhood lead poisoning as a major public health problem in Oregon by 2010.

Goal I-Health

Assure that all at-risk children are screened for lead poisoning and that children with identified EBLLs receive appropriate follow-up care.

Objective A

Develop strategies to identify populations and areas at greatest risk by linking information on at-risk children and children with EBLLs with other data sources.

Implementation Activities:

1. Geocode all current surveillance records to include census block level identifiers (10/2004).
2. Geocode new lead surveillance records on a quarterly basis.
3. Geocode new Medicaid eligibility records on a quarterly basis.
4. Continue to merge lead surveillance and Medicaid eligibility records on a quarterly basis (Ongoing).
5. Annually merge WIC enrollment data with Medicaid eligibility and lead surveillance data to evaluate risk characteristics.
6. Develop risk models that link geocoded child, demographic and housing data (6/2005).
7. Adjust lead screening recommendations based on the results of periodic risk model analysis.
8. Facilitate collaboration with WIC and investigate possibility of blood lead testing through WIC clinics (2/2005).

9. Identify funding resources to continue surveillance of blood lead testing in Oregon.
(6/2006).

Objective B

Develop lead education and outreach strategies targeting at-risk populations and medical providers.

Implementation Activities:

1. Develop educational materials and outreach strategies to inform parents of lead screening recommendations (Ongoing).
2. Develop educational materials and outreach strategies to inform pregnant women of potential lead risks (6/2005).
3. Inform medical providers of screening guidelines through articles in the *CD Summary* and medical newsletters. (Ongoing). Develop web-based medical provider training if funding source can be identified (6/2005).
4. Disseminate the screening guidelines to all WIC, migrant and rural health clinics in Oregon (10/2004).
5. Implement recommendations of the pediatric provider survey, including: (1) introducing lead education into residency programs and (2) assisting pediatric and family medicine clinics in incorporating lead screening recommendations into their practice protocols (Some of these activities have been met, others will be completed by 10/2005).
6. Conduct follow-up pediatric provider survey if funding resources can be identified (4/2005).
7. Develop culturally sensitive educational materials and outreach implementation strategies for non-housing lead hazards (6/2005 and ongoing).

Objective C

Assure children with EBLs receive appropriate medical, environmental and case management services.

Implementation Activities:

1. Work with Medicaid to develop an expedited Medicaid eligibility review process for uninsured EBL cases (6/2005).
2. Identify resources to fund environmental investigations for Medicaid and non-Medicaid EBL cases (6/2006).
3. Identify lead hazard remediation resources and link with EBL children (Ongoing).
4. Assure siblings and other potentially exposed individuals (including adults) are referred for testing, as appropriate (Ongoing).
5. Provide periodic training to county health departments on case management and environmental investigation protocols. Provide training on an annual basis (3/2005).
6. Identify case management initiatives that require legislative action (2/2005).
7. Identify funding resources to continue monitoring and follow-up of EBL cases in Oregon (6/2006).

Objective D

Develop strategies to mobilize and support community partners.

1. Identify and collaborate with community groups in at-risk communities and populations (Ongoing).
2. Assist community partners in developing capacity and identifying internal and external sources of funding (Ongoing).

Oregon Lead Elimination Plan - Housing

Mission: To eliminate childhood lead poisoning as a major public health problem in Oregon by 2010.

Goal II-Housing

Prevent childhood exposure to lead-based paint hazards.

Objective A

Develop strategies to link information on at-risk children and children with EBLs with housing data.

Implementation Activities:

1. Identify and characterize individual housing units with multiple EBL cases (10/2004).
2. Geocode records from tax assessors that currently contain age of housing information and incorporate census block level identifiers (6/2005).
3. Encourage additional tax assessors and housing agencies to provide age of housing information on individual properties for geocoding.
4. Develop risk models that link child data with geocoded housing data.

Objective B

Develop strategies for identifying and implementing regulatory and legislative changes necessary to control exposure to lead-based paint hazards.

Implementation Activities:

1. Identify regulatory, statutory and systemic barriers to reaching the goal of elimination (2/2005).
2. Develop strategies to implement identified changes (4/2005).
3. Urge regulatory agencies to develop lead-safe work practice requirements (6/2005 and ongoing).
4. Identify housing related initiatives that require legislative action (2/2005).

Objective C

Develop strategies for mobilizing housing resources for primary prevention.

Implementation Activities:

1. Identify barriers and opportunities for collaboration with all segments of the housing industry (4/2005).
2. Urge cities and counties health departments to refer lead hazard situations to HUD Lead Hazard Control and Healthy Home programs (Ongoing).
3. Urge cities and county health departments to utilize other HUD funded programs such as weatherization and emergency housing repair programs to address lead hazard situations (Ongoing).

Objective D

Develop lead education and outreach strategies targeting at-risk populations. Identify training needs and assist partners in building capacity for lead poisoning prevention.

Implementation Activities:

1. Develop educational materials and outreach strategies to inform residents of older housing of lead-based paint hazards and how to eliminate these hazards (Ongoing).
2. Develop educational materials and outreach strategies to inform child care providers of lead-based paint hazards and how to eliminate these hazards (Ongoing).
3. Utilize existing resources and develop new resources to train housing contractors: including remodelers, painters and maintenance personnel in lead-safe work practices (Ongoing).
4. Utilize existing resources and develop new resources to train homeowners in lead-safe work practices (Ongoing).