



The New Reference Level: The Future of Lead Poisoning Prevention in Ohio

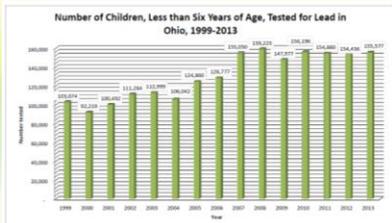
Chris Alexander



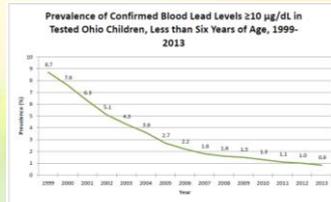
Laboratory Reporting



- All blood lead tests on Ohio residents, both children and adults, must be electronically reported within 7 days of analysis to the Ohio Department of Health.
- Reported test files are stored in the Healthy Housing and Lead Poisoning Surveillance System (HPLPSS).



*Please note: Children tested for lead more than once in a calendar year were counted only once. Estimates were made using data from the Healthy Housing and Lead Poisoning Surveillance System at the Ohio Department of Health.

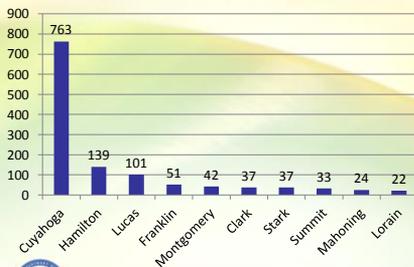


The prevalence of confirmed blood lead levels $\geq 10 \mu\text{g/dL}$ is a measure of the proportion of children tested, less than six years of age, who were identified to have confirmed blood lead levels $\geq 10 \mu\text{g/dL}$ in a calendar year. The figure shows a steady decline in the prevalence of children with blood lead levels $\geq 10 \mu\text{g/dL}$ from 7.8 percent in 1999 to approximately 0.8 percent in 2013.

Please note: Children tested for lead more than once in a calendar year were counted only once. Only the highest confirmed blood lead level was used for a child during the year if a confirmed test existed for the child, or the highest test for the year, otherwise. Estimates were made using data from the Healthy Housing and Lead Poisoning Surveillance System at the Ohio Department of Health.



Ohio Counties with the Highest Number of Lead Tested Children, Less than Six Years of Age, with Confirmed BLLs of $10 \mu\text{g/dL}$ or greater in 2012



Ohio Counties with the Highest Percentage of Lead Tested Children, Less than Six Years of Age, with Confirmed BLLs of $10 \mu\text{g/dL}$ or greater in 2012



Ohio Department of Health
County Data Sheets
Click on the county names below to view the associated Childhood Lead Poisoning Fact Sheets

CDC's "Level of Concern" or "Action Level"

Agency and Year	Blood Lead (ug/dl)
CD 1960	60
CD 1973	40
CD 1975	30
CD 1985	25
WH 1986	20
EPA 1986	15
CDC 1990	10
?	?

Year	Percentage of Children with BLL \geq 10 μ g/dL
1971	~90
1975-1987	~90
1988	~10
1991-1994	~10
1995	~10
1996-2007	~10

ODH and CDC's Stance on BLLs

- No level of lead in humans has been found to be "safe"
- Reference value has nothing to do with a level at which lead has no effect on the human body
- Reference value only determines a lead level at which children testing above the reference value have a blood lead level at or greater than 97.5% of the population

National Health and Nutrition Examination Survey's 97.5th Percentile of Blood Lead Levels

5 μ g/dL

National Health and Nutrition Examination Survey's 97.5th Percentile of Blood Lead Levels

- Will be used to update the reference value every 4 years
- Does not necessarily represent a blood lead level of government action
- Confirmation and retesting at this level and above
- Will be used for determining areas of risk and increased primary prevention



Medical Management Recommendations for Ohio Children Receiving Blood Lead Tests
Ohio Department of Health • Bureau of Child and Family Health Services
www.ohio.gov

There is no safe level of lead in the blood.

All capillary (finger/toe stick) test results ≥ 5 $\mu\text{g}/\text{dL}$ must be confirmed by venous draw by the schedule below. All blood lead test results, by law, are required to be reported to ODH by the analyzing laboratory.

The Ohio Healthy Homes and Lead Poisoning Prevention Program will respond accordingly to all blood lead levels of 5 $\mu\text{g}/\text{dL}$ or greater.

Blood Lead Level (BLL)	Confirm using Venous Blood within:	Medical Management Recommendations for BLL:	Venous Retest Recommended Actions:
< 5 $\mu\text{g}/\text{dL}$	Not required	<ul style="list-style-type: none"> Explain that there is no safe level of lead in the blood, what the child's BLL means, and how the family can reduce exposure. For reference, the geometric mean blood lead level for children 1-5 years is 1.3 $\mu\text{g}/\text{dL}$. Monitor the child's neurologic, psychosocial, and language development. 	<ul style="list-style-type: none"> Test again at age 2 if first test is at age 1. Lead testing should be considered if the child moves to a different home, daycare, school, etc. that was built before 1978.
5-9 $\mu\text{g}/\text{dL}$	1-3 months	<ul style="list-style-type: none"> In addition to medical management actions listed above: Provide lead education: potential environmental sources, effect of diet on exposure, potential health effects, and hazards associated with renovating pre-1978 homes. Monitor subsequent increases/decreases in blood lead levels until the BLL remains < 5 $\mu\text{g}/\text{dL}$ for at least six months and lead exposures are controlled. Complete child history and physical exam. Assess iron status. Also consider status of hemoglobin or hematocrit. Children with low iron levels are more likely to have high blood lead levels. Follow AAP guidelines for prevention of iron deficiency. Obtain an abdominal X-ray if particulate lead ingestion is suspected. Bowel decontamination should be performed if particulate lead ingestion is indicated. Refer to the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) for other nutritional counseling. Refer to Help Me Grow program within 7 days if a potential delay in development has been identified. Refer to the Children with Medical Handicaps program (RCMH). 	<ul style="list-style-type: none"> Every 3 months for first 2-4 tests After 4 tests, every 6-9 months until BLLs drop to below 5 $\mu\text{g}/\text{dL}$.
10-44 $\mu\text{g}/\text{dL}$	Within 1 month	<ul style="list-style-type: none"> Lab work for hemoglobin or hematocrit and free erythrocyte protoporphyrin are indicated. Immediately remove child from exposure source (dilatation could have negative effects if not moved to lead safe environment). Hospitalization and chelation therapy should be considered with consultation from a medical toxicologist or pediatric environmental health specialist. 	<ul style="list-style-type: none"> As soon as possible Consultation with expert

Ohio Healthy Homes and Lead Poisoning Prevention Program: 1-877-LEAD-5476
Help Me Grow Helpline: 1-800-765-6276
Medical Toxicology Helpline: 1-888-688-1116
Womens, Infants and Children (WIC): 814-644-0571
Children with Medical Handicaps (RCMH): 614-644-1116
Early Intervention Services (EIS): 614-644-8388
Program Control: 1-800-333-7333



Medical Management Recommendations for Ohio Children Receiving Blood Lead Tests
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There is no safe level of lead in the blood.

- All capillary (finger/toe stick) test results ≥ 5 $\mu\text{g}/\text{dL}$ must be confirmed by venous draw by the schedule below.
- Any confirmed level of lead in the blood is a reliable indicator that the child has been exposed to lead.
- All blood lead test results, by law, are required to be reported to ODH by the analyzing laboratory.
- The Ohio Healthy Homes and Lead Poisoning Prevention Program will respond accordingly to all blood lead levels of 5 $\mu\text{g}/\text{dL}$ or greater.



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< 5 $\mu\text{g}/\text{dL}$	Not required	<ul style="list-style-type: none"> Explain that there is no safe level of lead in the blood, what the child's BLL means, and how the family can reduce exposure. For reference, the geometric mean blood lead level for children 1-5 years is 1.3 $\mu\text{g}/\text{dL}$. Monitor the child's neurologic, psychosocial, and language development. 	<ul style="list-style-type: none"> Test again at age 2 if first test is at age 1. Lead testing should be considered if the child moves to a different home, daycare, school, etc. that was built before 1978.



Blood Lead Level (BLL)	Confirm using Venous Blood within:	Medical Management Recommendations for BLL:	Venous Retest Intervals after Recommended Actions:
5-9 $\mu\text{g}/\text{dL}$	1-3 months	<ul style="list-style-type: none"> In addition to medical management actions listed above: Provide lead education: potential environmental sources, effect of diet on exposure, potential health effects, and hazards associated with renovating pre-1978 homes. Monitor subsequent increases/decreases in blood lead levels until the BLL remains < 5 $\mu\text{g}/\text{dL}$ for at least six months and lead exposures are controlled. Complete child history and physical exam. Assess iron status. Also consider status of hemoglobin or hematocrit. Children with low iron levels are more likely to have high blood lead levels. Follow AAP guidelines for prevention of iron deficiency. Obtain an abdominal X-ray if particulate lead ingestion is suspected. Bowel decontamination should be performed if particulate lead ingestion is indicated. Refer to the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) for other nutritional counseling. Refer to Help Me Grow program within 7 days if a potential delay in development has been identified. Refer to the Children with Medical Handicaps program (RCMH). 	<ul style="list-style-type: none"> Every 3 months for first 2-4 tests After 4 tests, every 6-9 months until BLLs drop to below 5 $\mu\text{g}/\text{dL}$.
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Blood Lead Level (BLL)	Confirm using Venous Blood within:	Medical Management Recommendations for BLL:	Venous Retest Intervals after Recommended Actions:
≥ 45 $\mu\text{g}/\text{dL}$	As soon as possible	<ul style="list-style-type: none"> In addition to medical management actions listed above: Confirm results by venous blood sample immediately. A venous specimen will ensure therapy is based on current and reliable information. Lab work for hemoglobin or hematocrit and free erythrocyte protoporphyrin are indicated. Immediately remove child from exposure source (dilatation could have negative effects if not moved to lead safe environment). Hospitalization and chelation therapy should be considered with consultation from a medical toxicologist or pediatric environmental health specialist. 	<ul style="list-style-type: none"> As soon as possible Consultation with expert



Initial Steps

- Reimbursement for 5-9 public health lead investigations without risk assessment
 - SFY 15
 - Local case managers administer the questionnaire with sanitarian review and sign off. Risk assessments **NOT** conducted.

Timeline



- **Completed:** approval from Bureau and Division leadership
- **Completed:** revamp of Targeted Testing High Risk Testing Model with consideration of levels greater than or equal to 5 micrograms per deciliter as "elevated blood lead levels".
- **Completed:** Implement reimbursement of public health lead investigations without risk assessment (i.e. the comprehensive questionnaire) with Medicaid partners.
- **Completed:** Update all program materials and trainings (HHIP, PLANET, Case Management)
- **Completed:** Notify laboratories of ODH adoption of the CDC reference level and confirmation by venous only. Ask that they update all laboratory result information documents to reflect ODH changes and update their customers by other means if possible.
- **Summer 2015:** Update local case managers through regional trainings of ODH changes and encourage case management of all confirmed cases above 5 micrograms per deciliter.
- **Summer 2015:** As part of mass mailing for the new Targeted Testing High Risk Plan, distribute program letter and materials explaining ODH changes to doctors and other medical professionals across the state.



Other Program Updates



- **Further HHL PSS Updates**
 - Offline tablet use
 - More Healthy Homes
 - Enhanced Medicaid Billing
- **Case Management Evaluation**
- **Point Source Identification**
- **Local Primary Prevention (data to use)**



Questions?

