

# *epi*TRENDS

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## **Update – Elevated Blood Lead Level Investigations**

Elevated blood lead levels can result from various environmental exposures such as flaking older paint in a house, older water pipes, certain toys and jewelry, traditional remedies or candies, or adult hobby materials. Particularly in children, elevated blood lead levels can damage the brain and negatively affect growth and development, learning, ability to pay attention, and school performance. Recent events are of interest for elevated blood lead level (EBLL) investigations in Washington State.

### **Background**

There is a national childhood blood lead level reference value. However, the Washington State guidelines do not automatically change when the national reference values change.

The U.S. Centers for Disease Control and Prevention (CDC) recently updated their blood lead reference value (BLRV) for children in response to a recommendation from the Lead Exposure Prevention Committee (LEPAC), dropping the value from 5.0  $\mu\text{g}/\text{dL}$  to 3.5  $\mu\text{g}/\text{dL}$ . The blood lead reference value is based on a recent population-based survey, NHANES, which identified a reduction in the 97.5<sup>th</sup> percentile of the blood lead level (BLL) distribution in U.S. children ages 1-5 years. Children with blood lead levels at or above the BLRV represent those in the top 2.5% with the highest blood lead levels. No safe blood lead level in children has been identified.

The following chart illustrates the blood lead level updates from the CDC over a number of decades. As common lead exposures in children's environments have lessened, the blood lead levels in children have corresponding decreased. The action level in 1971 was 40  $\mu\text{g}/\text{dL}$ , which has now dropped to 3.5  $\mu\text{g}/\text{dL}$ .



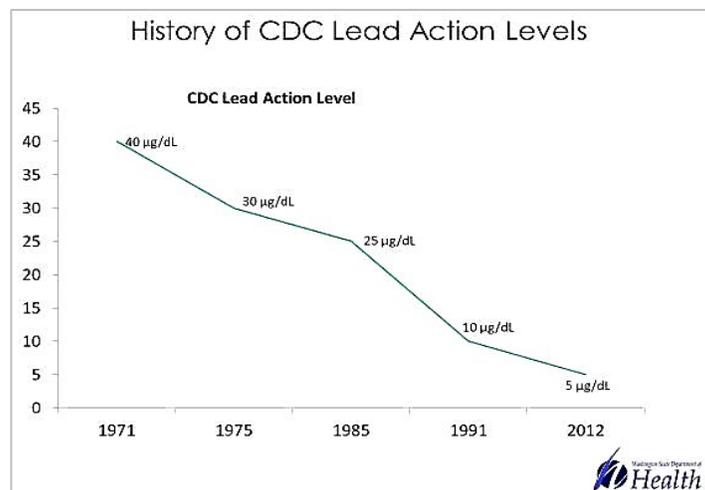
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### ***How this change impacts Washington State***

The BLRV is a population-based measurement that identifies children with higher levels of lead in their blood compared to most U.S. children. It is not a health-based standard, a toxicity threshold, or requirement of intervention at an individual patient level. Several factors affect how this change will impact this state:

- CDC's recommendation does not automatically change the guidelines for Washington. An elevated blood lead level for children in Washington is still defined as  $\geq 5$  µg/dL.
- Changing the Washington elevated blood lead level may be possible in the future but would require an update to the Washington State Notifiable Conditions Rule in the Washington Administrative Code (WAC). This would be a lengthy process.
- Local health jurisdictions will continue to receive all childhood blood lead test results that are considered elevated ( $\geq 5$  µg/dL).

### ***Impact on Healthcare Providers and Laboratories***

At this time, DOH is recommending that medical providers continue to follow the [current lead recommendations for children in Washington state](#) until further notice. All children enrolled in Medicaid are required to receive blood lead tests at 12 months and 24 months or once between 24 and 72 months with no record of a previous lead test.

Labs, including clinics using point-of-care lead testing devices, are still required to report all test results to DOH and to report all elevated test results  $\geq 5$  µg/dL to DOH within 2 business days and all other test results within 30 days.

### ***LeadCare® Recall Impacts Blood Lead Testing***

Beginning in May 2021, an ongoing, nationwide recall of point-of-care blood lead testing kits has impacted blood lead testing rates for children in Washington. Compared to 2020, on average, the Washington State Department of Health Childhood Lead Poisoning Prevention Program saw a decline in approximately 450 tests being performed per month between May – August 2021. This resulted in 1,761 fewer children tested from May – August in 2021 compared to 2020. The LeadCare® point-of-care testing method uses a simple capillary blood draw which can be done

outside of a laboratory and is easily accessible to clinics, Head Start programs and health fairs. Additionally, the point-of-care test results are available in three minutes while the family is still present, unlike venous blood draws through a laboratory which can take several days to be ready and involve reaching back out to the family.

Communication with the company that produces the LeadCare® testing kits to understand when new kits will be available is ongoing. Additionally, other novel capillary test methods are being evaluated, such as a filter paper test method. While the results still need to go to the lab to be analyzed, this test allows a less invasive capillary draw as the blood sample collection method.

Figure 1. Blood Lead Testing and Elevated Rates in Washington State for children <72 months of age

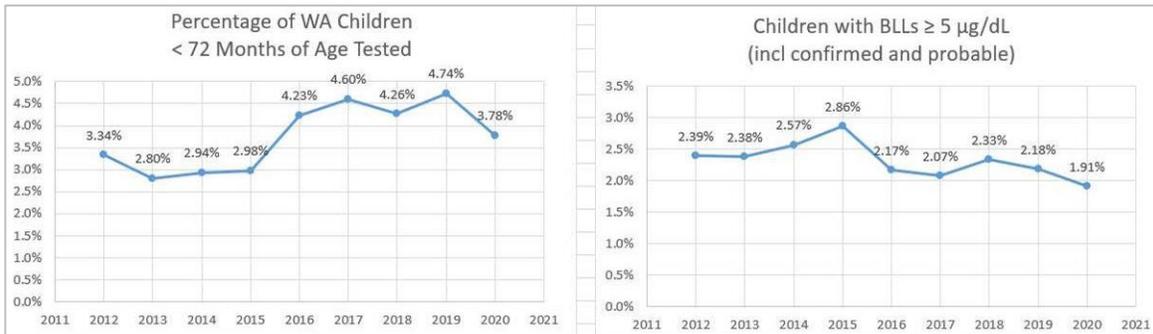
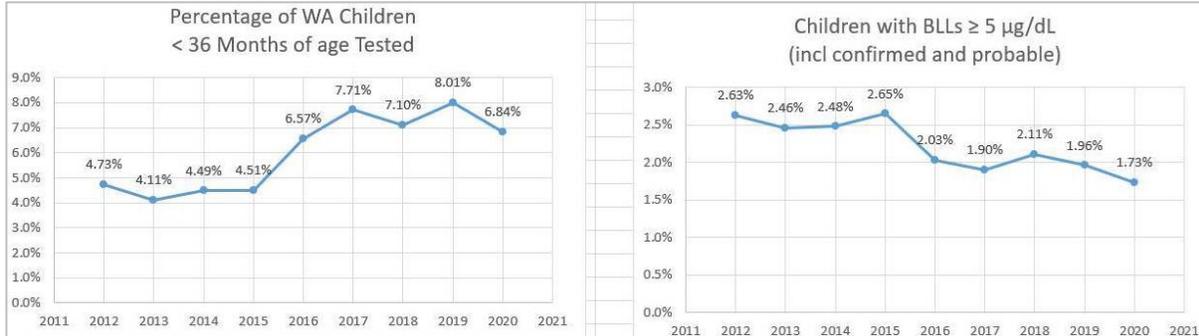


Figure 2. Blood Lead Testing and Elevated Rates in Washington State for children <36 months of age



Federal law mandates testing for all children on Medicaid at ages 12 months and 24 months.

As a reminder, children should also receive a blood lead test if they:

- Live in or regularly visit a house built before 1950
- Live in or regularly visit a house built before 1978 that has had recent renovations
- Are from a low-income family (<130% of the poverty level)
- Have a sibling or friend with an elevated blood lead level
- Are a recent immigrant, refugee, foreign adoptee, or child in foster care
- Have a parent or caregiver who works professionally or recreationally with lead
- Use traditional, folk, or ethnic remedies or cosmetics (such as greta, azarcon, or kohl)

Note: Children may also be tested if their parents have any concern about lead exposure or if they request testing for a child.

### Support for Children with Elevated Blood Lead Levels

The Washington State Department of Health’s Childhood Lead Poisoning Program partners with local health jurisdictions to offer support for families with children who have elevated blood lead levels. Public health involvement in pandemic response efforts has stretched capacity for this response. Ideally, when an elevated blood lead result is reported, public health will coordinate with family and the child’s healthcare provider to determine a plan aimed at determining potential lead exposures and reducing the child’s blood lead level. Case managers from DOH are working to support local health jurisdictions experiencing pandemic-related staffing issues in addressing elevated blood lead level cases. Public health partners can contact:

[DOHEPHChildhoodLead@doh.wa.gov](mailto:DOHEPHChildhoodLead@doh.wa.gov).

### Resources

[Washington State Department of Health Lead webpage](#)

[Clinical Algorithm for Targeted Childhood Lead Testing](#)

[Medical Management of Childhood Lead Exposure and Poisoning](#)

[Blood Lead Test Reporting](#)

[Lead Exposure Risk Map](#)

**RECOMMENDATIONS FOR BLOOD LEAD TESTING OF CHILDREN IN WASHINGTON STATE**  
The Department of Health recommends screening children using the below algorithm at 12 and 24 months of age.

**Does the child have any of the following risk factors:**

- Lives in or regularly visits any house built before 1950.\*
- Lives in or regularly visits any house built before 1978 that has recent or ongoing renovations or remodeling.
- From a low income family (defined as incomes <130% of the poverty level.)\*\*
- Known to have a sibling or frequent playmate with elevated blood lead level.
- Is a recent immigrant, refugee, foreign adoptee, or child in foster care.
- Has a parent or principal caregiver who works professionally or recreationally with lead. (See sidebar for examples.)
- Uses traditional, folk, or ethnic remedies or cosmetics (such as Greta, Azarcon, Ghasard, Ba-baw-san, Sindoor or Kohl.)

\* Screening may not be indicated if the home has previously undergone lead abatement or tested negative for lead after remodeling.  
\*\* Federal law mandates testing for all children covered by Medicaid.

↓ YES      ↓ UNK      ↓ NO

Perform lead testing

**Healthcare providers should consider testing additional children per clinical judgment, such as:**

- Child whose parents have concern or request testing (including older children that have risk of exposure.)
- Child living within a kilometer of an airport or lead emitting industry or on former orchard land.
- Child with pica behavior.
- Child with neurodevelopmental disabilities or conditions such as autism, ADHD, and learning delays.

Healthcare providers are encouraged to use the [Department of Health’s Lead Risk Index Map](#) to better understand which areas in their community are at higher risk for lead exposure. See <https://fortress.wa.gov/doh/wtn/WTNIBL/>

Interpretation and Medical Management of Blood Lead Levels:  
If blood lead level is ≥5 mcg/dL: See [PEHSU Recommendations on Medical Management of Childhood Lead Poisoning](#)

**LEAD RISK EXPOSURE EXAMPLES:**

Occupations and Hobbies:

- Remodeling and demolition
- Painting
- Work or visit gun range
- Mining, smelting, battery recycling
- Making lead fishing weights or ammunition
- Stained glass
- Soldering and welding

Consumer Products:

- Pottery or porcelain with lead glaze
- Informally imported foods, candies and spices
- Antique furniture and inexpensive jewelry

