Decline in Blood Lead Testing in Young Children Following the Onset of the COVID-19 Pandemic

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October 30, 2020

cdc.gov/coronavirus
What is Lead Poisoning?

- No safe level of blood lead has been identified for children.
- Many factors affect how the body handles foreign substances such as lead exposures:
  - source of exposure, length of exposure, child’s age, nutritional status, and genetics.
- A blood test measures the level of lead in the blood, which can indicate exposure.
How does lead affect children’s health?

- **Lead exposure in children can cause:**
  - damage to the developing brain and nervous system,
  - learning and behavior problems,
  - slow growth and development, and
  - hearing and speech problems.
How are U.S. children exposed to lead?

- Deteriorating lead-based paint in older homes and buildings is the most common source.
  - accounts for up to 70% of elevated childhood BLLs
  - lead dust and paint chip hazards are of concern

- Home renovations can disturb lead paint.

- Sources transported inside from outdoors
  - soil and exterior paint

- Transferred from surfaces to hands and ingested by young children via normal hand-to-mouth activity.
How are U.S. children exposed to lead? (continued)

- Less common sources include:
  - unintentional take-home lead exposure from a worksite
  - lead-contaminated water
  - traditional folk medicines and cosmetics
  - imported candy and candy wrappers
  - some imported spices
  - some imported toys
  - herbal remedies
  - cookware from international manufacturers
Risk to children

- Children have greatest risk of exposure and adverse health effects.
  - unique behavioral factors such as mouthing and crawling
  - developing body systems and detoxification processes
  - children absorb more lead per body size
Why do we test children for lead?

- Lead can permanently impair cognitive abilities and cause other health effects--yet a child may not show evident symptoms.

- Identification of a child with high levels prompts a public health response that can include:
  - a home nursing visit
  - an environmental investigation to identify lead sources, and
  - chelation therapy if BLLs are ≥45 µg/dL or it is recommended by a physician.

- Early intervention is important for reducing additional exposure.

- Linkages to services can mitigate the effects of lead.

- Blood lead surveillance data can identify high risk groups and areas.
What is CDC’s role in preventing lead exposure/poisoning?

- **Vision:**
  - to eliminate childhood lead poisoning as a public health problem

- **Mission:**
  - CDC’s Childhood Lead Poisoning Prevention Program is committed to Healthy People 2020 goals of reducing blood lead levels in children and differences in average risk based on race and social class

- **Key Strategies:**
  1. Strengthen blood lead testing and reporting
  2. Strengthen surveillance
  3. Strengthen linkages of lead-exposed children to recommended services
  4. Strengthen targeted, population-based interventions
Potential effects on primary care and in-person services

- In-person visits have declined.
- Some primary care providers closed or had restricted services and hours.
- Some shifted to telemedicine.
- Vaccination rates decreased.
- Concern that some children may be missing other essential health care and assessments.

Assessing the number of children tested for lead

- Used state surveillance data from January to May 2020 and compared that data to the same period of 2019.
- Focused on children younger than age 6 years.
- Counted individual children, not lab results.
- Received data from 34 programs (32 states + DC + NYC).
What did we find?
Children Age < 6 Years Tested for Lead--United States, Jan-May 2019 vs. Jan-May 2020

- January: 2019: ~290,000, 2020: ~290,000
- February: 2019: ~270,000, 2020: ~270,000
- March: 2019: ~260,000, 2020: ~260,000
- April: 2019: ~330,000, 2020: ~260,000
- May: 2019: ~310,000, 2020: ~270,000
Declines varied greatly by jurisdiction

- All jurisdictions had at least a 40% decline.
- Decreases in April of > 75%:
  - Delaware
  - DC
  - Maryland
  - Missouri
  - New York City
  - Rhode Island, and
  - Wisconsin
- Maine, Oregon, and Tennessee had the smallest declines.
Other consequences

- Difficulties in conducting home nursing visits and environmental investigations for children with lead toxicity due to staffing shortages.
- Health departments had to develop methods of performing investigations under pandemic conditions.
- Trouble locating lead-poisoned children, as many families were no longer in their listed residence.
- Many children may be spending more time in contaminated environments due to shelter in place and school closures.
Factors to consider

- Results based on preliminary data.
- Data were only collected for January through May.
- Some clinical labs may have had staffing shortages.
- Health departments have experienced staff shortages and staff reassignment to COVID-19 work, affecting the processing of blood lead surveillance data.
Key findings

- Sharp decline in the number of children tested in early 2020 compared with 2019.
  - overall saw a 34% drop for the first five months of 2020 vs. 2019.
  - largest decline in April: 66% ↓
  - extent of decline varied by state.
  - nearly half a million children in reporting jurisdictions appear to have missed their lead screenings in the first five months of 2020.

- Signs of some recovery in May.
Implications

- Potentially thousands of children with higher levels may have been missed, delaying care and services.
- Health departments are having trouble conducting lead poisoning care management and environmental investigations and catching up to previous volume will be very challenging.
- Highlights the importance of assuring that children who missed their scheduled screening test, or who required follow up on a prior high level, be tested as soon as possible.
- Agencies serving young children can coordinate outreach to ensure well-child visits, immunizations, and other essential services occur.
“All well-child care [visits] should occur in person whenever possible and within the child’s medical home where continuity of care may be established.”

Information for providers

- Healthcare providers should identify children who have missed well-child visits or recommended vaccinations and contact them to schedule in-person appointments.
- Prioritize infants, children age < 24 months, and school-aged children.
- Developmental surveillance and early childhood screenings, including developmental and autism screening, should continue along with referrals for early intervention services and further evaluation if concerns are identified.

Next steps

- MMWR publication relevant to the information shared today
- Perform additional analyses to better:
  - characterize the timing, geography, and demographics of where declines have occurred and
  - Identify and target which children may have been missed.
- Continue to work with health departments and local health associations to develop and implement strategies for delivering lead poisoning prevention services during the pandemic.
For more information on lead poisoning prevention:

CDC Childhood Lead Poisoning Prevention Program (CLPPP)

https://www.cdc.gov/nceh/lead/

Email: lppp@cdc.gov
For questions regarding COVID-19:

For more information, contact CDC
1-800-CDC-INFO (232-4636)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.