

Child Blood Lead Testing Environmental Scan

April 2021



Environmental Scan Description

The prevalence of elevated blood lead levels has decreased dramatically in the United States and Iowa since the 1970s. Despite these gains, lead exposure continues to pose a risk. Iowa ranks fifth in the United States with a percentage of homes built before 1950 and third in homes built before 1940¹. The number of children with blood lead levels 0 to less than 5, and 5 to less than 10 in Scott County is more than twice as high as the state average². Those at highest risk are Black, non-Hispanic children 6-36 months of age, that live in older housing and have low-income or resource availability. Specific information about lead risk of housing in Scott County can be found on the Live Lead Free QC Risk Map: <https://www.liveleadfreeqc.org/risk-map/>.

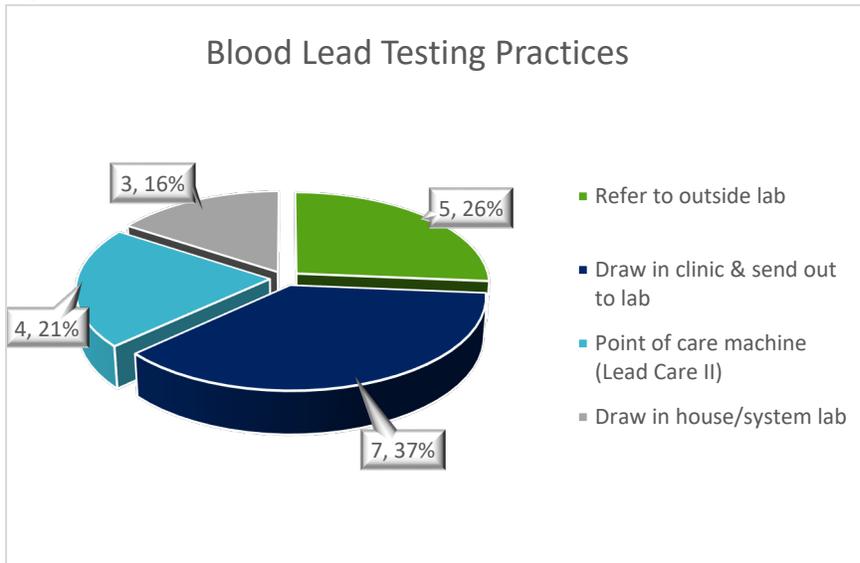
The Iowa Department of Public Health's (IDPH) Bureau of Family Health oversees Iowa's Maternal, Child, and Adolescent Health (MCAH) Programs. All FFY21 MCAH grantees are required to complete an environmental scan of practitioners in their service area. The scan was to document which providers are conducting blood lead tests and at what ages. All children in Iowa are anticipated to have a blood lead test done at 12 and 24 months of age by their primary care provider or other designated practitioner. The Environmental Scan information will be used to find opportunities for improvement. Scott County Health Department includes a Child Lead Poisoning Prevention Program (CLPPP) and MCAH staff were able to partner with the CLPPP nurse and Environmental Services. They provided advice on ways to reach practitioners, (i.e. health providers) and reviewed the survey questions drafted and shared by IDPH. The survey questions provided by IDPH were used with no significant changes. The survey included demographic information such as provider and clinic name, as well as the respondent's basic details to start. After demographics, nine questions were given, two short answer, two multiple choice, and five Yes/No/Other. A web link to complete the survey was sent via GovDelivery email on February 16, 2021 to all area health care providers with a deadline of March 10, 2021. Participants were given the option to complete the survey electronically on their own or over the phone.

Description of Survey Participants

This report reflects the responses of 19 medical clinics out of the 21 targeted; 9 offices with pediatric providers and 12 with only family practice providers. Overall, there was a 90 percent response rate, with 88.8 percent of pediatric offices and 91.6 percent of family practice offices responded. Method of survey completion was 10 percent electronically and 90 percent over the phone. While demographic information was collected on the survey, such as provider and clinic name, this information will not be detailed in this report.

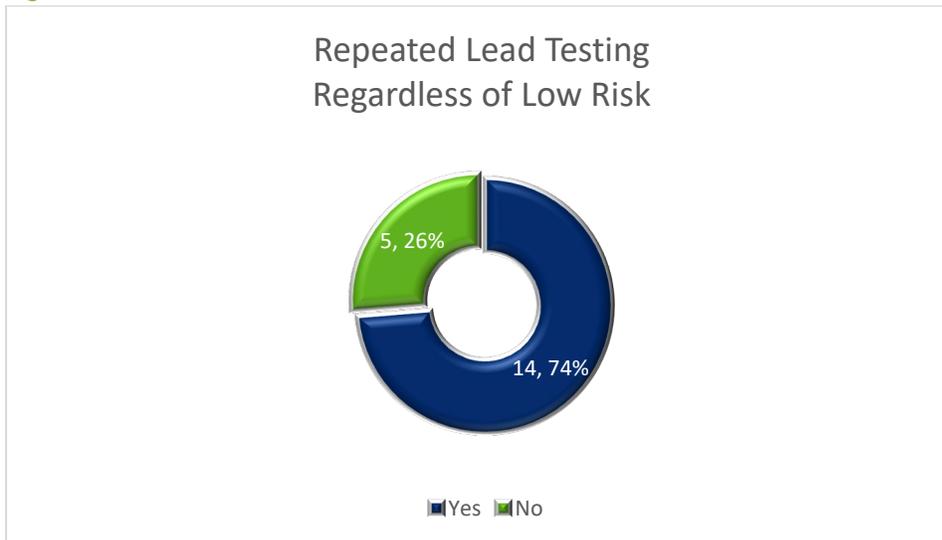
Environmental Scan Results

Figure 1



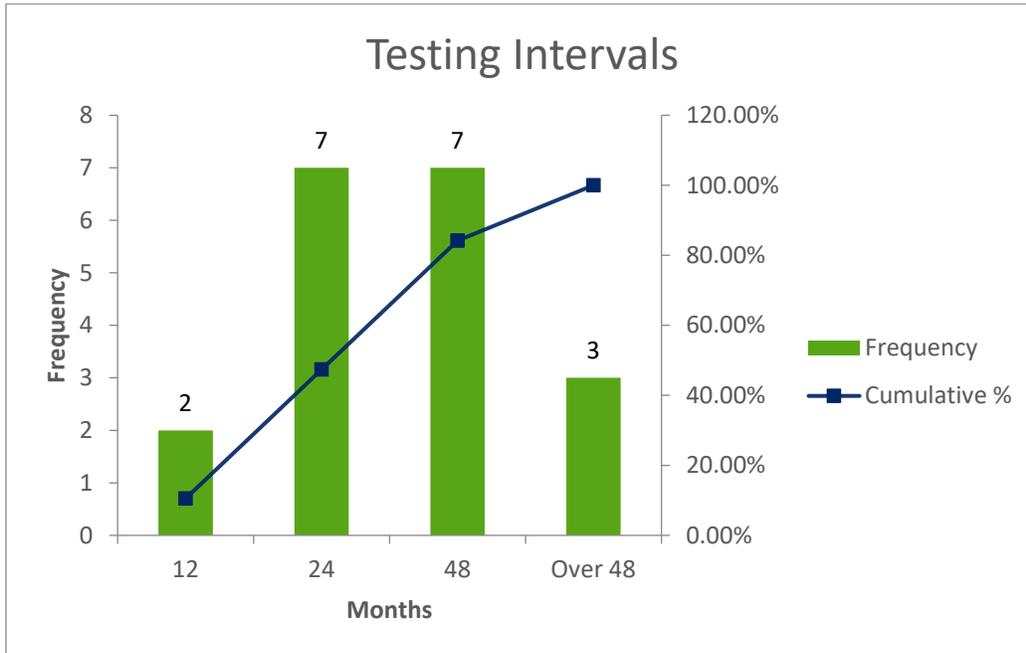
Based on Figure 1, the majority of the clinics (37%) draw blood in the clinic and send the samples to an outside lab for testing, while 26 percent refer the family to an outside lab located in another building to be tested. Twenty-one percent complete the lead test in the office with a point of care machine, such as the Lead Care II and 16 percent have a lab located in the same building as the clinic where the blood is drawn and analyzed.

Figure 2



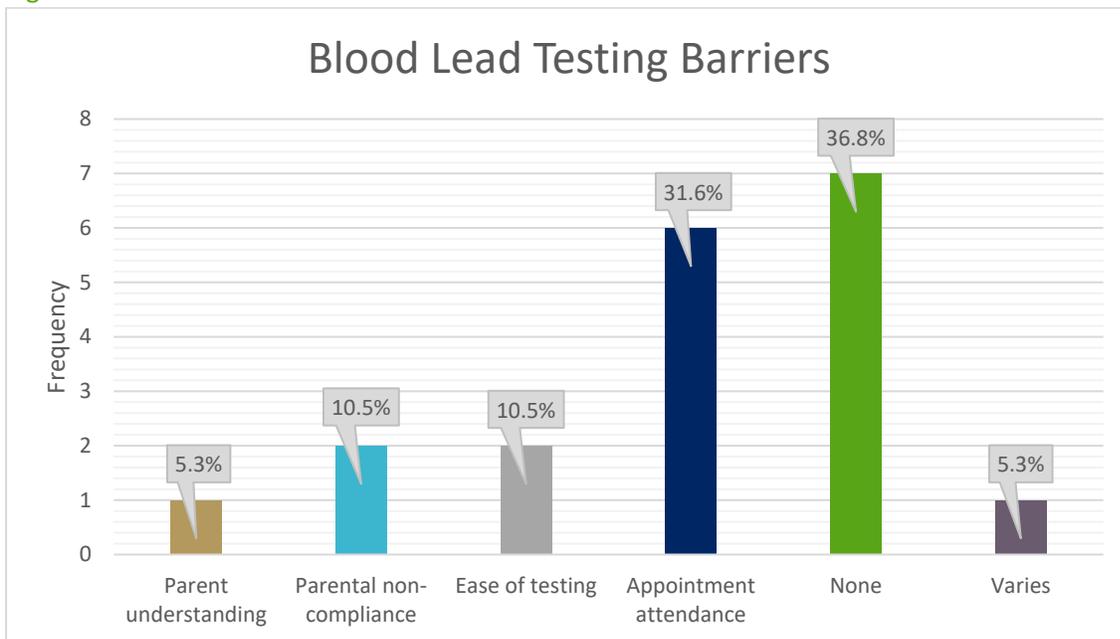
Question 6, "If the child's test is below 5ml/dL would you test again in the future? (ex. 12 month test is 4mg/dL would you test again at 24 months?)" had 14 (74%) of respondents say they would retest a child's lead after a result below the threshold of 10 ml/dL. Five (26%) of respondents did not complete a second blood lead test if the result was below 10 ml/dL. Overall, nine clinics (47%), test a child's blood lead level at 12 and 24 months at a minimum.

Figure 3



Based on the results in Figure 3, two clinics had their only testing at 12 months. Fourteen clinics, representing 74 percent, who had provided testing at 12 months had scheduled repeat testing for 24 and 48 months respectively. Three clinics as shown in Figure 3 only provide lead testing at 48 and 60 months respectively.

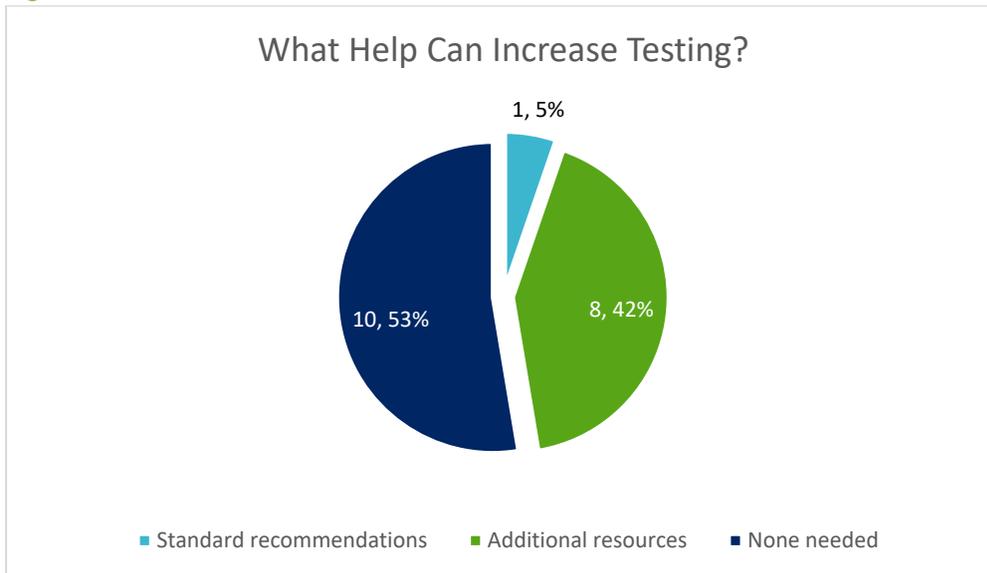
Figure 4



Although a significant number of clinics did not report any challenges encountered in child blood lead testing (36.8%), some of the barriers cited by the clinics included parent understanding (5.3%), parental non-compliance such as not following through with a test referral (10.5%), ease of testing (10.5%), appointment attendance (31.6%) and one clinic (5.3%) stated the barriers vary by provider and time.

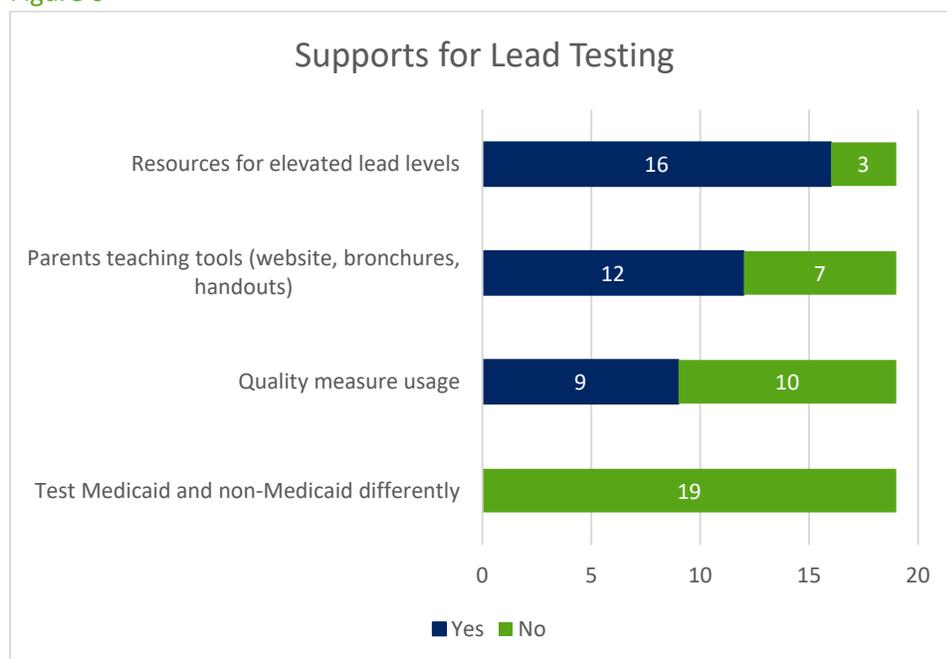
Appointment attendance, an appointment is made, but the child but does not attend the appointment where the blood lead test would be completed, is the most cited barrier. Ease of testing is how many steps, time, or effort must be used to get a child lead test. For example, does the family have to go to a separate location or make another appointment to have child's blood drawn? Appointment no-shows, cancelations or appointments not being scheduled at appropriate intervals was determined as the most common challenge faced by the doctors. Therefore, there is need for more emphasis by the stakeholders and continued effort from the clinics to perhaps send reminders to parents about the next screening. The lack of parent understanding of child blood lead testing, exposure risks and long-term effect was stated by a single clinic (5.3%).

Figure 5



Most of the clinics (53%) did not provide suggestions of ways to increase in the number of children being tested between 12 and 35 months, or what help the SCHD could provide. However, a significant number of the healthcare offices (42%) suggested the need for clinics to ensure provision of adequate resources for parent education, lead testing promotion, and strategic ways to facilitate appointment attendance. Standard recommendations (5%) for key testing intervals that fit the dynamic of needing a lead level at Kindergarten were also regarded as one of the things that could reasonably be done to increase the testing numbers.

Figure 6



There are a number of critical factors involved in the total number of child blood screenings in clinics such as availability of adequate resources, parent teaching tools, and quality. To ensure credibility of the results, there is need for clinics to invest in resources and adopt quality measures such as HEDIS, ACO or other standardized method. A significant number of clinics reported to have enough resources to handle elevated lead levels. However, more than 50% (9 Yes, 10 No) of the clinics in the community have not adopted quality measures. This is a possible concern for stakeholders with regards to the consistency of testing or dedicated outcome measure. Based on the results in Figure 6, 100% of the clinics do not have a different screening protocol for children on Medicaid compared to non-Medicaid coverage (19 No). Also, 63% (12 Yes, 7 No) of clinics feel they have sufficient teaching tools and resources for parents to help in them understand the risks of lead exposure and importance of blood lead testing thereby improving on appointment attendance and commitment to testing.

Conclusion

The Centers for Disease Control and Prevention (CDC) and the Advisory Committee on Childhood Lead Poisoning Prevention (ACCLPP) concur that primary prevention (i.e., ensuring that all homes are lead-safe and do not contribute to childhood lead exposure) is the only practical approach to preventing elevated blood lead levels in children. This exposure is detected with routine child blood lead screening during the years a child is most vulnerable³. Bright Futures, a national health promotion and prevention initiative and the American Academy of Pediatrics recommend healthcare providers assess a child's risk for lead exposure and provide anticipatory guidance around lead hazard identification when children are 6 months, 9 months, 12 months, 18 months, 24 months, 3 years, 4 years, 5 years and 6 years of age⁴. Further, it is recommended by IDPH's CLPPP that healthcare providers complete a blood lead test for children at 12, 24, and 36 months of age⁵. Note, this does differ from the focus of child blood lead testing at one and two years for SPM 2 and increasing testing of children 12-35 months of age⁶. If the parent or caregiver does not know if the child has one of the following risk factors, a blood lead test

should be performed. This recommendation would also comply with Iowa's law, which requires a child to have at least one blood lead test before kindergarten admission.

Barriers to the completion of child blood lead testing at the recommended 12 and 24 month interval indicate that the below items are the proposed solutions to increase compliance:

- Review parent provided materials on child lead poisoning and blood lead testing in an effort to improve health literacy and culturally appropriate messaging
- More cohesive message and increased targeted promotion to parents, health care providers, medical staff, and other stakeholders on the age's child blood lead tests should completed at a minimum (12 and 24 months)
 - Potential health promotion campaign
- Increase available resources and simplify access, such as point of care lead testing in the healthcare practitioner's office or blood drawn in the clinic and sent to a lab
- Quality measures, especially standardized performance measures, adopted by more clinics
- Easy to read scorecard or dashboard of Maternal, Child, & Adolescent Health measures
 - <https://www.healthvermont.gov/scorecard-early-childhood-screening>
 - <https://www.kansashealthmatters.org/indicators/index/dashboard?alias=key>
- Review clinic process for no-show appointments and look for ways to reduce appointment no-shows
 - Multiple & progressive reminders of varying methods
 - Immediately reschedule no-shows
 - Have clearly written no-show policy that are shared with families on numerous occasions

Attachment(s)

Attachment 1 Child Blood Lead Testing Environmental Scan Questions

Reference

1. Childhood Lead Poisoning. (2020, October 21). Centers for Disease Control. <https://www.cdc.gov/nceh/tracking/topics/ChildhoodLeadPoisoning.htm>
2. Iowa Public Health Tracking Portal. (n.d.). Annual Blood Lead Testing Children Under 6. Retrieved February 12, 2021, from <https://tracking.idph.iowa.gov/Health/Lead-Poisoning/Annual-Blood-Lead-Testing-Children-Under-6/Children-Tested>
3. ACCLPP and Blood Lead Level Work Group. (2012, January 4). Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention. Centers for Disease Control. https://www.cdc.gov/nceh/lead/docs/final_document_030712.pdf
4. American Academy of Pediatrics. (2018). Bright Futures Medical Screening Reference Table. https://brightfutures.aap.org/Bright%20Futures%20Documents/MSRTable_ECVisits_BF4.pdf
5. Iowa Department of Public Health, Bureau of Environmental Health Services. (n.d.). Blood Lead Testing of Children. Iowa Department of Public Health. Retrieved April 19, 2021, from <https://idph.iowa.gov/Environmental-Health-Services/Childhood-Lead-Poisoning-Prevention/Parents-and-Guardians/Childhood-Blood-Lead-Testing>
6. Officer, K. O. (2020, October 28). SPM 2 Blood Lead Testing, Bureau of Family Health. Iowa Department of Public Health. https://idph.iowa.gov/Portals/1/userfiles/88/Slides_Officer.pdf

Attachment 1



Default Question Block

Provider Name

Clinic Name

Name, position & contact info of person completing survey.

Name

Position

Email

Phone number

How does your clinic conduct blood lead testing on children?

- No routine testing
- Point of care machine (Lead Care II)
- Blood draw in clinic with in house/system lab
- Draw in clinic & send out (lab name)
- Refer for test (where refer, ex. local lab, WIC, Health Dept., other)
-

At what age(s) in months do you routinely conduct blood lead tests?

- | | |
|-----------------------------|---------------------------------------|
| <input type="checkbox"/> 6 | <input type="checkbox"/> 30 |
| <input type="checkbox"/> 9 | <input type="checkbox"/> 36 (3 years) |
| <input type="checkbox"/> 12 | <input type="checkbox"/> 48 (4 years) |
| <input type="checkbox"/> 15 | <input type="checkbox"/> 60 (5 years) |
| <input type="checkbox"/> 18 | <input type="checkbox"/> 72 (6 years) |
| <input type="checkbox"/> 24 | |

If the child's test is below 5ml/dl would you test again in the future? (ex. 12 month test is 4 mg/dl would you test again

at 24 months?)

- Yes
- No
- Other (please explain)

Does your clinic conduct blood lead testing different for Medicaid and non-Medicaid children?

- Yes (please explain differences)

- No

Does your clinic use a quality measure to increase testing (HEDIS, ACO, NCQA, MPS, MACRA, an internally designed measure)?

- Yes (please list measures)

- No

Do you feel your clinic has appropriate teaching tools for parents when testing children (handouts, websites,

brochures, etc.)?

- Yes
- No
- If no, what types of tools can the Scott County Health Department assist you with obtaining?

Do you feel your clinic has appropriate resources for a child with elevated lead levels (referrals, management recommendations, etc.)?

- Yes
- No (what types of resources do you need?)

What barriers are there for provider lead testing?

How can we at the Scott County Health Department help you increase lead testing of children 12-35 months of age?



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