Lead Safe Screening & Testing Program Qualitative Report

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About the Center for Child Health & Policy

The UH Rainbow Center for Child Health & Policy (CCHP) aims to enhance the wellbeing of children and their families through research, evaluation, and advocacy that informs innovation in maternal-child health services and policy. Founded in 2007 by Dr. Leona Cuttler, CCHP facilitates multidisciplinary collaborative approaches to increase the understanding of complex relationships between social, structural, and healthcare needs that influence health outcomes. To do so, CCHP:

- **Partners in research and evaluation related to child health**. CCHP conducts implementation research and program evaluation for grant-funded clinical programs. CCHP also sponsors trainees in scholarly and quality improvement efforts related to child, family, and community health in ambulatory and community settings.

- **Promotes child health policy and advocacy**. CCHP supports UH Rainbow faculty and trainees as they engage policymakers and government agency leaders at multiple levels to inform and influence initiatives that advance children's health.

- **Provides research infrastructure for the UH Rainbow Division of Academic Pediatrics & Adolescent Medicine (APAM).** CCHP maintains the APAM research database, ensures coordination among studies, consults on study design and implementation, and facilitates faculty and trainee scholarly projects.

Table of Contents

About the Center for Child Health & Policy 2

Table of Contents 3

Executive Summary 5

1.0 Background 7

1.1 Lead 7

1.2 Regional Quality Improvement Project 7

1.3 Evaluation 8

1.3.1 Quantitative evaluation 8

1.3.2 Qualitative evaluation 9

1.4 Purpose of this report 10

2.0 Evaluation Findings 10

2.1 Lead Education (Key Drivers: Family & Caregiver Lead Education, Provider & Staff Engagement, EHR optimization) 10

2.1.1. Parent Perspectives 10

2.1.2 Regional improvements to lead education 13

2.1.3 Concern and gaps 14

2.2 Lead Testing (Key drivers: Well-child visit outreach & attendance, Clinical Protocols & workflow, Staffing & Clinical Resources, Electronic Health Record (EHR) Optimization) 15

2.2.1 Parent perspectives on lead testing 16

2.2.2 Regional improvement to lead testing 19

2.3 Lead Follow-up (Key drivers: Staffing & Clinical Resources, EHR Optimization, Timely Follow-up & Care Coordination) 23

2.3.1 Parent perspectives 23

2.3.2 Regional improvements to timely follow-up & care coordination 28

2.4 Lead partner perspectives on the Lead Safe Screening and Testing Program (Key driver: Staffing & Clinical Resources) 32

2.4.1 Thoughts on the project driver diagram 32

2.4.2 Value of This Collaborative Effort 33

2.4.3. Better Health Partnership Coordination 34

2.4.4 Sustainability 35

2.4.5 Final thoughts from lead partners 37

3.0 Conclusions and Recommendations 38

Appendix I: Lead Safe Screening and Testing Program Driver Diagram 39

Appendix II: Key Messages for clinicians to share.....40
Appendix III: Suggestions from Parents and Next Steps.....41
Appendix IV. Families with multiple cases of lead exposure 43

Executive Summary

Lead remains a persistent threat to Cleveland's children. In 2025, 14.4% (1,147) of Cleveland children under age 6 who were tested had an elevated blood lead level (EBLL ≥3.5 µg/dL), and only 66% were tested at least once before age 2. From February 2025 to September 2026, five health systems took part in the Lead Safe Screening and Testing Program. The program was managed by Better Health Partnership (BHP), funded through the American Rescue Plan Act (ARPA) via the Lead Safe Cleveland Coalition, and guided by a 15-member steering committee.

The project achieved its SMART aim, to **increase the percentage of children with a well-child visit who had at least one lead test by their 2nd birthday from 69% to 79% by June 30, 2026.** By September 2026, the share of children attending well-child visits without a recorded lead test fell from 22% to 15%. In-office filter paper testing expanded to 30 pediatric practices across Northeast Ohio, and these practices clearly outperformed sites that still relied on lab referral.

The main facilitators of this progress were:

- Leadership alignment
- Phased, hands-on rollout
- Monthly data transparency
- Same-stick hemoglobin testing
- Operational flexibility
- Peer coaching for nursing staff

The project led to development and refinement of tools to support testing and education. These included patient-facing print and video materials, a clinical toolkit, and a training curriculum. It also produced Epic enhancements: an embedded clinical guideline, tailored MyChart "Quick Results," automated outreach campaigns, and alerts for overdue tests.

Follow-up remains the critical gap. Retesting within 120 days of an initial EBLL did not improve meaningfully and stayed between 40% and 60% each month. Promising practices were under way, including a lead navigator community health worker (CHW), dedicated nurse outreach, and a biweekly lead clinic; however, they have yet to produce system-wide change.

Parents' experiences highlight why follow-up matters. Structured conversations with 33 parents of children with EBLLs and 30 lead partners (March–July 2026) revealed several themes:

Education came too late. Most parents knew little about lead before their child's diagnosis. Over half (n=17) said the education they received was insufficient, and none said it was too much. Parents asked for earlier education (ideally including prenatally) delivered with visuals, video, and plain language.

Parents prefer a phone conversation with their clinical care team to explain results. Parents who received a phone call along with their MyChart notification felt calmer and better prepared. Those who relied on MyChart alone often turned to the internet and grew more anxious.

Urgency was not conveyed to parents, especially when a child's lead level is below 10 µg/dL. Parents of children with lower EBLLs felt dismissed by "retest in three months" guidance. These

children typically do not qualify for a public health home inspection, which left families to find and fix lead sources on their own.

The burden falls on families. Parents described guilt, stigma, and financial strain. Relocation was the most common housing response, often driven by unresponsive landlords. Families with CHW support (n=6) uniformly described positive experiences.

Lead partners valued the collaborative. They valued its structure, shared data, peer learning, and the staff time it funded. Several expressed that this effort produced more progress than they had seen in years. They also raised concerns about sustainability once grant funding ends, particularly for staffing and data reporting. They pointed to a need to identify promising practices to reach children who never attend well-child visits, and to address persistently low confirmatory and follow-up testing.

Recommendations. The gains achieved warrant continued investment, monthly data reporting, and regional convening.

Future efforts should:

1. **Strengthen follow-up and care coordination.** Make confirmatory and monitoring tests easier through lead clinics, navigators, and convenient lab access. Pair every elevated result with a phone call and clear next steps.
2. **Start education earlier and make it consistent.** Begin education in pregnancy and early infancy. Use plain-language and visual materials. Disseminate standardized messages across health systems and community partners, so families receive the same information wherever they seek care.
3. **Close the gap for children with EBLLs under 10 µg/dL.** Convey that no level of lead is safe and expand access to home inspections and resources for families of children who currently fall below public health thresholds.
4. **Shift the burden from families to systems.** Advance remediation, landlord accountability, and access to remediation funds. Ensure clinicians know how to refer families to Bright Beginnings, the Cleveland Department of Public Health, and the LeadSafe Resource Center.
5. **Reach children outside the clinic.** Identify targeted ways to expand community education and testing with key partners along with well-child outreach to parents of young children who may not be receiving this care.

1.0 Background

"Personally, I probably would need a little bit more information about it."

– Parent 3

1.1 Lead

Lead is a persistent environmental toxin known to have lasting effects on the developing brain and other organs. Lead is ubiquitous in Cleveland – it was widely used in US homes, pipes, and gasoline because of its affordability, malleability and durability until restrictions were enacted to reduce exposure, starting with lead-based paint in 1978. Cleveland residents have some of the highest levels of lead exposure in the country.

It is costly to safely remove lead from the environment whether in soil, aging houses, or water systems and unfortunately, our children pay the price. In 2025, 14.4% or 1147 Cleveland children under age 6 who were tested for lead had an elevated blood lead level (EBLL) of ≥3.5 micrograms per deciliter (µg/dL).[1] This blood lead reference value is used by the Centers for Disease Control and Prevention and the Ohio Department of Health to identify individuals with lead levels higher than 97.5% of the U.S. population. Children in all Cleveland zip codes remain at high risk for lead poisoning[2], especially due to the concentration of lead in paint and soil of older homes.

No level of lead is safe, and lead's effect depends on numerous factors such as its concentration in dust, levels ingested, duration of exposure, age, body size, and nutritional status. Children between age 1 and 2 years old are at higher risk because their hand-to-mouth behavior can increase exposure to lead dust and their bodies often absorb more ingested lead compared to an adult's body.

Childhood lead testing is essential since lead can build up silently in a child's body without immediate signs or symptoms. A lead test can identify lead exposure early, whether in an individual or in a particular community, so actions may be taken to reduce, if not eliminate, the source of lead. In 2025, 66% of Cleveland children were tested at least once before age 2.[3]

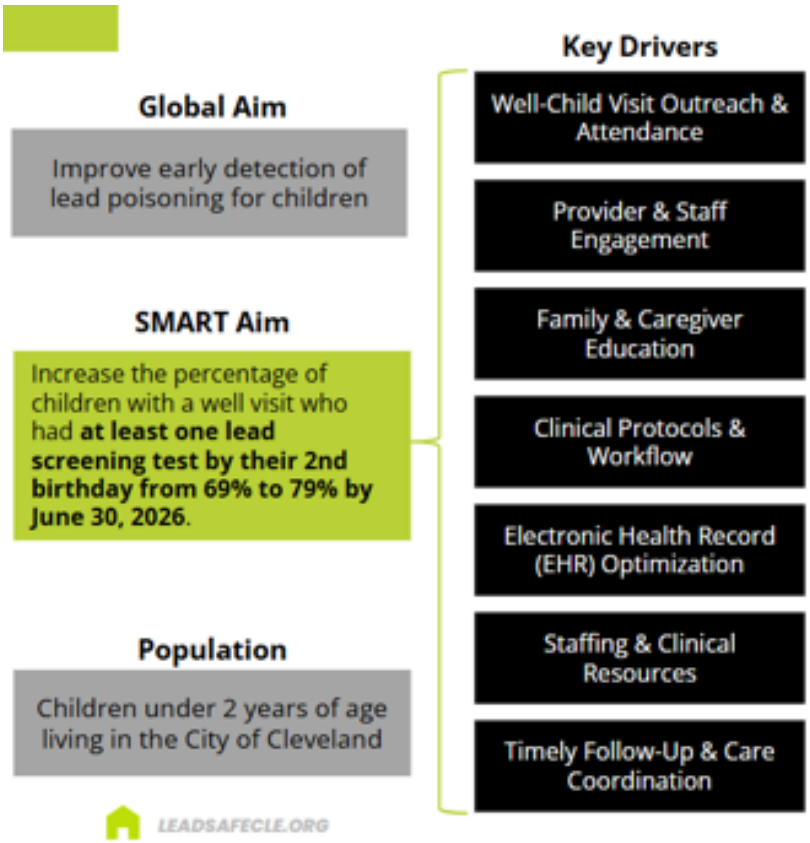
1.2 Regional Quality Improvement Project

The Lead Safe Screening and Testing Program was a collaborative effort of five health systems serving Cleveland children (Care Alliance, Cleveland Clinic, MetroHealth System, Neighborhood Family Practice, and University Hospitals Rainbow Babies & Children's Hospital) from February 1, 2025 – September 30, 2026. The program aimed to improve early childhood health outcomes through increased lead screening and testing in Cleveland's youngest residents. The program was managed

[1] City of Cleveland Public Health Childhood Lead Testing in Cleveland Data Brief, June 2026
[2] There is no safe level of lead. Terms like "lead poisoning" and "elevated blood lead levels" are used throughout community, clinical, and public health settings. Both terms are used in this report to reflect the seriousness and nuance of the impacts lead has on children and their families.
[3] City of Cleveland Public Health, June 2026

by Better Health Partnership (BHP), funded by the American Rescue Plan Act (ARPA) through the Lead Safe Cleveland Coalition, and guided by a steering committee of 15 community organization and health system partners.

Fig 1. Abbreviated Project Key Driver Diagram



At the beginning of the project, health system implementation leads reviewed baseline data and created a Key Driver Diagram (Fig 1). They established a SMART[4] aim for the project to **"increase the percentage of children with a well visit who had at least one lead screening test by their 2nd birthday from 69% to 79% by June 30, 2026, with a focus on children living in the City of Cleveland."** They additionally identified key drivers and interventions to implement to drive change toward their aim. See **Appendix I** for the complete driver diagram.

1.3 Evaluation

Formative evaluation of the quality improvement effort involved both quantitative and qualitative data shared incrementally throughout the project by BHP staff and the evaluation team at 1) weekly planning meetings with implementation co-leaders 2) monthly coaching calls with each individual health system implementation leaders 3) quarterly health system webinars and larger steering committee meetings. All quantitative and qualitative data collection and analysis approaches for this evaluation of the quality improvement initiative were determined by each participating system's Institutional Review Board to not constitute human subjects research and were thereby deemed exempt from ongoing review.

1.3.1 Quantitative evaluation

Each participating health system provided monthly data extracted from their Epic electronic medical record systems and protected under existing Business Associate Agreements. BHP created run charts showing monthly percentages of lead tests ordered during well-child visits, tests resulted, and follow-up tests obtained within 120 days. The implementation team also used Epic Cosmos, a deidentified database platform that contains longitudinal health data for patients, to provide monthly insights on how many unique children in Cleveland zip codes had a well-child visit and how many

[4] SMART = Simple – Measurable – Achievable – Realistic - Timely

had a completed lead test. Findings were shared via 1) implementation planning meetings 2) quarterly health system leader webinars 3) quarterly steering committee meetings.

1.3.2 Qualitative evaluation

To obtain direct input from those closest to the problem of lead poisoning, staff from the UH Rainbow Center for Child Health & Policy (CCHP) conducted structured conversations with parents of children with an EBLL and with representatives of partnering organizations involved in the initiative (hereafter, "lead partners") from March 2026 to July 2026. Conversation guides were structured to elicit participants' experiences and perspectives regarding lead education, testing, and follow-up care. Lead partners were additionally asked to reflect upon their experiences with the regional lead quality improvement project, including project aims, accomplishments, coordination, sustainability, and their suggestions for next steps.

Parent conversations (n = 33) were conducted by phone with parents of Cleveland children recently identified with an EBLL as determined via a confirmatory venous blood test obtained between September 2025 and May 2026 at MetroHealth, University Hospitals, or Neighborhood Family Practice. The implementation leaders at these health systems were asked to send letters or call eligible parents to inform them of the quality improvement project. CCHP staff subsequently contacted those eligible parents to invite them to share more about their experience with lead testing and follow-up via a 30-minute phone call. Two of the health systems chose to invite a random sample of eligible parents, oversampling for children with EBLL >10 µg/dL, while the other system used a purposive sampling approach to identify potential participants. Conversations lasted a median of 30 minutes (range: 14 – 46 minutes) and included 11 parents of children who recently had their first elevated venous test and 22 parents of children with at least one repeat test. Levels of lead exposure among children of participating parents varied. At their highest recorded EBLL, 12 had levels ≥10 µg/dL, 15 had levels ≥5 µg/dL to <10 µg/dL, and 6 had levels ≥3.5 µg/dL to <5 µg/dL.

Lead partner conversations (n = 30) were conducted via Zoom after initial outreach by BHP or following referral by another lead partner participant. These included health system project leaders (n = 5), health system team members such as pediatricians, nurses, social workers, community health workers (CHWs), population health team members (n = 16), and community partners working in organizations directly involved with early childhood and/or lead prevention initiatives (n = 9). Several participants also served on the project steering committee and had prior experience working with BHP. Most lead partners worked in Cleveland (n = 22; 73%) and 11 lived in Cleveland. Many lead partners reported years or even decades of experience directly serving families affected by lead; others supported lead testing and prevention initiatives in some capacity through their role within their organization. Conversations lasted a median of 30 minutes (range: 16 minutes – 1 hour 50 minutes).

Telephone conversations were audio-recorded and Zoom meetings were recorded and transcribed with participant consent. All participants were offered a $50 gift card as compensation for their time, excluding those whose time was already supported by the project grant. Participant responses were entered into REDCap, a secure web-based software application, with fields mirroring the discussion guide to input participant responses. Reports were then generated for each topic area to identify themes and exemplar quotes. Two staff members (MM, OO) conducted the conversations and entered the data into REDCap. Additional staff (JS, IN) assisted with content review.

1.4 Purpose of this report

This report aims to (1) provide context for the results of the regional qualitative improvement project by documenting team observations, parent comments, and lead partner perspectives regarding each of the key drivers; and (2) inform future improvement efforts by integrating these data to identify opportunities for further investment and innovation. For topics where both parents and partners shared insights (lead education, testing, and follow-up), we intentionally foreground parent perspectives. Participants are quoted with their permission.

2.0 Evaluation Findings

2.1 Lead Education (Key Drivers: Family & Caregiver Lead Education, Provider & Staff Engagement, EHR optimization)

"Let us know a little bit earlier so that parents can stay on top of it. Doctors can help us be more aware of it." – Parent 12

2.1.1. Parent Perspectives

2.1.1.1 Many parents were unaware of lead risks prior to testing.

Most parents reported no awareness of lead exposure prior to testing and only became familiar with lead hazards after their child's diagnosis of lead poisoning. Others noted that, while they had heard about lead poisoning, they had not considered it as a possibility for their own child. Meanwhile, parents with a stronger understanding attributed their knowledge to personal experience with lead poisoning during their own childhood or experience with a family member, such as their older child who was previously exposed.

"The house is old. I didn't know that's bad or that my kids could catch lead."
- Parent 3

"My oldest son is 23, he had lead poisoning, so I already have some information from back when he had his lead test done. Honestly, that's where most of my information came from." - Parent 2

2.1.1.2 Parents most often learned about lead risks and mitigation strategies from the doctor, the internet, and Cleveland Department of Public Health.

Most parents (n=21) named their child's doctor as their largest source of information about lead, followed by the internet (n=9), and Cleveland Department of Public Health (n=7).

2.1.1.3 Parents of children with the highest blood lead levels (≥10 µg/dL) demonstrated the greatest awareness of lead sources and prevention methods.

Among parents in the **Highest Exposure Group** (≥10 µg/dL, 12 parents):

- All 12 identified paint as a source, plus soil, windowsills, pipes, and porches.

- Prevention methods named included lead abatement (4), checking for chipped paint (4), and vitamins (4).

By contrast, among parents in the **Middle Exposure Group** (≥5 to <10 µg/dL, 15 parents):

- Only 12 of 15 identified paint as a potential source.

- Prevention methods named included vacuuming (5), taking off shoes (3), good nutrition (2), and painting over lead paint (2).

Awareness was poorest among those in the **Lowest Exposure Group** (≥3.5 to <5 µg/dL, 6 parents):

- Just 3 of 6 identified paint as a potential source.

- Prevention methods were limited to washing hands and general cleaning, with two parents noting that "unclean" or "dirty" items carry risks.

2.1.1.4 The majority of parents (n=17) felt that lead education was insufficient; none reported receiving "too much" lead education.

Several parents indicated that they knew nothing about lead before their child was poisoned:

> *"I didn't know all of these things I could have done and could be doing to make sure he didn't get that. I knew basically nothing about preventing lead poisoning. Those early appointments, newborn baby visits - I feel like it should be heavily discussed. Lead is not pushed out as it should be." - Parent 23*

> *"I just started learning about lead, because my children had it. Before then, I had no reason to know about it. I'm in the medical field and still didn't know much about it." - Parent 38*

They stressed the need for earlier education, particularly during prenatal or early well-child visits to allow them to take preventive steps sooner.

> *"I would say give them more information and not just when it's high. Start when they are babies and push more information so they can be on the lookout for that." - Parent 85*

> *"Even during pregnancy, doctors could be a little bit on top of it, like hey where do you live, what's the age of your home, these are the risks.... Now, I feel like I'm rushing to catch up and fix problems that should have been fixed forever ago." - Parent 59*

Parents that reported sufficient lead education received information from their child's doctor (including verbal explanations and pamphlets) and acknowledged parents' responsibility for listening to their doctor.

"I think it's just the right amount - I believe once I had a child, I got a whole packet that spoke about lead and other stuff. You get a lot of information. It's just we choose to read it, forget it, or actually care about it." - Parent 8

Interestingly, parents of children identified with lower levels of lead exposure (≥3.5 µg/dL to <5 µg/dL) typically had less knowledge of lead exposures, effects, and prevention than parents of children with higher lead levels, but were more likely to describe the lead information they received as enough.

2.1.1.5 Parent prefer lead education via multiple formats including visuals, video, and verbal messages.

Parents emphasized that lead education format is just as important as its content. Many recommended visual formats, such as videos and social media, to help parents who may have difficulty comprehending verbal or written material.

"Some parents don't pay attention and I feel like when the doctor explains it, if they explain the more seriousness of it, like it really actually do and show the video of outcome of it, maybe it could be taken more serious. Some people don't comprehend just of you telling them, sometimes they need to be shown visually so they can get like it's really serious." - Parent 33

"I would put it on the social sites that they tend to be on a lot and in the doctor's offices. I don't really see it in the doctor's offices like we should." - Parent 82

Parents also pointed out the importance of using common, straight-forward language in all education materials to ensure information is easy for parents and caregivers of all ages to understand - especially the younger ones.

"Every time they come back with the results, it is the same summary. They don't say nothing different and they talk like a doctor. I'm not a doctor so all these big words I don't know nothing about." - Parent 27

"I would make things more visual because I feel like with this generation of parents, everything is more so visual where they would actually pay attention and take it in if they actually see what it does and how it affects the child." - Parent 29

Parent specifically expressed the need for more clear and consistent information on the following:

- How and why a child could be exposed to lead
- The risks/negative effects/dangers of lead poisoning in children
- The importance of testing
- A better explanation of EBLL categories, risks at each level of exposure, and recommended actions
- Guidance on how to request a home inspection to identify the source(s) of lead exposure
- Clear next steps on how to reduce lead exposure in the home

Some parents also indicated beliefs and assumptions that highlight the need to address misconceptions, including:

- Repainting the house alone would prevent exposure to lead.[5]
- Younger children will be safe from lead because the older siblings were unaffected.
- Lead exposure is caused by poor housekeeping or cleaning.

2.1.1.6 Parents expressed the need for wider public awareness campaigns about the dangers of lead.

They believed parents lack sufficient knowledge about the risks and effects of lead in Cleveland communities. Consequently, they called for broader information campaigns to alert families in their day-to-day activities, including on social media and television.

"I would make it so everybody can have the chance to learn and be educated about how to prevent lead." - Parent 7

"Make it more heard, as a topic, not just pushed to the back. It should be something that is popularly talked about." - Parent 38

"Nobody is really thinking about lead poisoning. We should be more alert. Because once it's high, it takes a while to go down." - Parent 12

2.1.2 Regional improvements to lead education

Regional improvement related to lead education included interventions specific to the key drivers of "Provider & Staff Engagement," "Family & Caregiver Education," and "Electronic Health Record (EHR) Optimization."

2.1.2.1 Additional educational materials were created.

These included **patient-facing print materials, short videos, a clinical toolkit, and training session modules for CHWs**. Materials especially focused on pregnancy women and responded to parent feedback for more visuals and videos with clear next steps.

An estimated 90 CHWs participated in an event organized through the BHP Pathways Hub, identified as an effective way to educate key community members who could benefit from additional knowledge about lead exposure, testing, and follow-up due to their frequent engagement with families at high risk of lead poisoning. Newly developed print materials were shared with this group of community health workers for dissemination to the patients they interact with in their day-to-day work.

2.1.2.2 EHR enhancements make it easier to follow clinical guidelines and share educational resources with families.

Lead partners also described efforts to optimize provider and parent-facing information in their EHR system in a more systematic way. In one health system, **clinicians can now access a new clinical practice guideline directly within the Epic EHR.** This integrated tool (Curbside) provides immediate, actionable clinical next steps based on a patient's lead test type and specific results.

[5] Three parents either moved into a newly repainted home or repainted themselves; nonetheless, their children were still exposed to lead.

Additionally, the system includes patient-facing materials developed as part of this project, which providers can easily print or attach to MyChart messages during a visit.

EHR enhancements made by another health system systematically flag missing lead tests and send tailored messages to parents. These updates improve both **physician engagement** with patient education and consistency in messaging compared to past methods. More details on these can be found in the "Lead Testing" and "Lead Follow-up" sections.

2.1.2.3 Monthly data allowed for further engagement with pediatric practices.

Health system clinical leads used monthly **BHP data and internal dashboards** to share lead ordering and testing performance with their clinical teams. This information allowed them to recognize high-performing practices and identify those needing improvement in **real-time**, rather than waiting until the end of the project.

2.1.2.4 Lead partners remarked on the value of the regional effort in expanding their reach and fostering the sharing of ideas and best practices.

The regional project facilitated connections that allowed members of different health systems and organizations to provide input on educational materials for parents and caregivers and facilitated wider engagement with each other and new partners. One lead partner commented, "we've been able to reach so many more people, so many more professionals, CHWs, doctors, [and] residents." This lead partner credited the regional collaborative and BHP's coordination with providing key inputs into their final materials and increasing engagement and attendance at educational training sessions to targeted audiences.

2.1.3 Concern and gaps

2.1.3.1 Creating materials does not necessarily mean they will be used and a plan for dissemination and standardization of resources across systems is needed.

Community-based lead partners commented that clinicians need to "get on the same page" with their messaging. One community partner expressed concerns that the lead toolkit for health providers was not as useful as they would have hoped. Lead partners acknowledged that a dissemination plan was needed and a better understanding of how frequently EHR tools are used and their effectiveness.

Clinical lead partners remarked that clinicians still can feel confused when a child is identified as exposed to lead, especially how to help families navigate the system based on where they live and what resources are available to them. Interviewees indicated that this is an area that still needs more attention.

Several community lead partners commented that different sectors or constituents also need more lead education. Examples provided included: school-age children who can share the message with their parents, early childhood providers, teachers, and the general public through billboards. This echoed responses from parents that there is a need for greater public awareness.

2.1.3.2 Ending lead exposure in Cleveland will require more than just education, but education is a piece to the puzzle that needs to be more fully incorporated into prevention.

Education about lead is interconnected with lead prevention efforts. Parents and lead partners alike acknowledged that current patient-facing guidance emphasizes individual actions to reduce lead dust (Lead-safe cleaning techniques) and decrease lead absorption (nutritional guidance and vitamin promotion) with less emphasis on lead inspection, remediation and early intervention assessment through Bright Beginnings/Help Me Grow.

2.2 Lead Testing (Key drivers: Well-child visit outreach & attendance, Clinical Protocols & workflow, Staffing & Clinical Resources, Electronic Health Record (EHR) Optimization)

> *" I didn't think much of the process. They drew his blood and that was it. I never thought anything else would come after that, but then that happened." - Parent 34*

Children of parents who shared key insights on the lead education, testing, and follow-up represented a range of health systems, ages, and testing characteristics (Table 1).

Table 1. Key Characteristics of Children of Parent Participants

Characteristic	**% (#)**
System	
Metro Health	30.3% (10)
Neighborhood Family Practice	9.1% (3)
UH Rainbow	60.6% (20)
Age of child	
Less than 1	6% (2)
1-<2 years	63.6% (21)
2 or older	12.1% (4)
Unknown	18.2% (6)
Location of last test	
At lab	70% (23)
Clinic room	24.2% (8)
Unknown	6% (2)
Most recent venous test	
Confirmatory test after a filter paper test	33.3% (11)
Follow-up test for continued monitoring	66.7% (22)
Highest recorded blood lead	
3.5-<5 µg/dL	18.2% (6)
5-<10 µg/dL	45.5% (15)
10+ µg/dL	36.4% (12)
Most recent blood lead	

<3.5 mg/dl	3% (1)
3.5-<5 µg/dL	33.3% (11)
5-<10 µg/dL	30.3% (10)
10+ µg/dL	33.3% (11)
Test month	
Aug-Dec 2025	51.5% (17)
Jan – May 2026	48.5% (16)

Most parents participating in conversations had a child under 2 who had a recent follow-up test in a lab. Their most recent lead testing results were evenly divided among EBLL levels (3.5<5 µg/dL, 5-10 µg/dL, 10+µg/dL). These parents had less experience with filter paper testing since their child often completed initial testing before filter paper testing was available in their practice.

2.2.1 Parent perspectives on lead testing

2.2.1.1 For most parents, the lead test was a "just a blood draw".

Among the 33 parents, most (n=24) indicated their child's initial lead test was conducted as part of routine screening during a well-child visit. Some parents reported that they specifically requested testing after observing symptoms in their child (seizures, fever, not speaking) that were similar to those of a family member who previously had lead poisoning. Most parents of children who had an in-office filter paper test (n=7) reported a positive experience, describing the process as "easy," "painless," and "quick." Parents of children tested via blood draw also reported positive experiences, especially if their child was only pricked once, the process was swift, and they could walk-in without an appointment.

Several parents expressed negative experiences (n=6) including a need for multiple pricks or returns to the lab. They desired an easier, alternative method that did not involve needles (n=3):

> *"They couldn't find the right vein at first to have the blood work done, so they had to stick her a few times in her arm. That's the only thing that I didn't like - that's too much." – Parent 82*

> *"I wish there was another way to test than to do blood draws. It's so strenuous on him and me because it's hard to watch your child screaming and crying and you can't do anything." - Parent 85*

Many could not recall the reason the doctor ordered a lead test, aside from it being part of routine care. Few received any print materials before or immediately after the initial test. Parents whose child had an in-office test more often remembered their doctor or nurse discussing lead with them.

When asked what they would change about the process, 8 parents provided suggestions, including finding alternatives to needles for testing, ensuring families of children with EBLL get community resources, and informing patients sooner about a high lead result.

2.2.1.2 Parents prefer a phone call and materials to explain their results and next steps to supplement information in the MyChart app.

Parents preferred receiving phone calls from their child's physician or nurse explaining elevated lead test results with follow-up materials rather than relying solely on MyChart notifications.

"I do think when they first get the results, they should call right away" – Parent 6

"All parents should be made aware immediately and if they don't understand, it should be broken down more in terms, so parents can see and understand that this is serious." – Parent 33

While some parents appreciated MyChart for its speed and convenience, many struggled to interpret the data or determine next steps, leading to increased anxiety:

"When it comes to reading their blood lead level from the results, I do not understand any of that. I have to keep asking 'what does this mean?'" - Parent 38

In contrast, those who received both a MyChart alert and a follow-up phone call reported a much more positive experience:

"It really didn't catch me off guard when the doctor called me because I already seen it on MyChart, so that's helpful. I already knew what to expect from the call." - Parent 76

The doctor called me and right after, it came through MyChart. She just wanted to be the first one to let me know. – Parent 56

The direct conversation reassured them, cleared up confusion, and allowed them to ask questions and immediately understand the recommended plan of care.

"The call was extremely helpful because it calmed me down" – Parent 8

"He explained better than the MyChart message. Because I was scared and worried and he kind of eased that." - Parent 53

When timely communication did not happen, parents sought answers most often from the internet, and this frequently increased their stress and worry. Overall, families who received more timely and detailed information following their child's test reported better experiences.

Several parents stressed that for those receiving news for the first time that their child has been exposed to lead, it is especially important to include video or other visual aids to explain the meaning of the test results and reinforce what should happen next.

" I feel like with this generation of parents, everything is more so visual where they would actually pay attention and take it in if they actually see what it does and how it affects the child." – Parent 29

"I think that as soon as the test comes out positive, they should have a brochure…explaining the downfall of having high lead, what the effects are, and how to go about getting your home tested in trying to find out the cause of the high lead levels." - Parent 18

2.2.1.3 Parents noted that information shared with families after an initial EBLL result fails to convey the urgency and seriousness that lead exposure deserves.

Some parents felt that healthcare and public health providers did not take their child's lead poisoning seriously enough, nor did they convey the information with the urgency needed to prompt swift parental action. Specifically, parents of children with blood lead levels below 10 µg/dL felt abandoned by guidance that advised waiting three months to retest, especially when coupled with a lack of resources available for children with lower EBLL.

"They are supposed to speak to us as parents. If you tell me maybe the poison is going to affect my children from speaking, that is a serious issue. I can't afford seeing my baby not being able to communicate.... if it's a serious poison and does affect kids, the doctor or anybody could make a parent know what to expect and how to fight it....What is the next step?" - Parent 74

One parent felt their doctors held back information to avoid scaring them, an approach they disagreed with.

"Not that they don't know enough, but that they are not passing along all the information that they know, maybe out of concerns for not scaring the parents, but like scare the parents....Be more serious about it. Let them know that this has to be taken care of" - Parent 68

Parents and partners provided specific examples of what they wanted to know along with how and when they wanted to receive the information. See the **Appendix II** (**Key Messages for Clinicians to Share)** for their suggestions.

2.2.1.4 *Reassuring parents that lead exposure is not their fault, while highlighting available actions and resources, may decrease stress and guilt and help parents act sooner.*

Parents reported that they were often unaware of the risks of lead exposure or did not believe it could happen to their child, resulting in feelings of stress, guilt, and sense of overwhelm upon learning of their child's lead poisoning. Clinicians and nurses contacting patients with elevated lead results should be sensitive to the fact that this finding is likely unexpected and often shocking to parents.

"I remembered I called my mother crying because I didn't know what to do. I was like what does this mean and she was kind of explaining to me a little bit more but that's really the only info I had at that point." – Parent 59

"I think a lot of our concern with this was they were going to send an inspector in and pretty much demand we have all of these projects done that we don't have the money for this stuff." - Parent 59

2.2.2 Regional improvement to lead testing

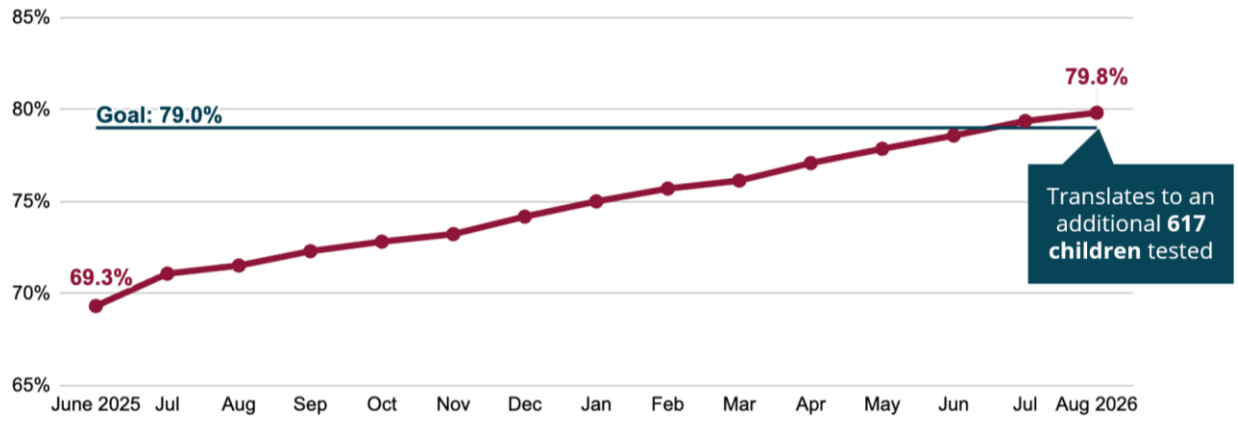
The primary intervention at the two health systems serving most Cleveland children involved introducing or expanding **in-office filter paper lead testing**. This less-invasive workflow requires only a few drops of blood via a finger or toe lancet. Two other local health systems already utilized in-office capillary or filter paper methods. Additionally, participating health systems implemented proactive phone outreach and Epic electronic health record tools, to boost well-child visit attendance, which increased testing opportunities. To reach children missing these regular checkups, three of the health systems also participated in community lead testing and education events.

All systems acknowledged that their processes changed as a result of the regional collaboration, and appreciated the opportunity to learn from each other in a structured way to accelerate positive change and achieve the project's SMART aim:

Increase the percentage of children with a well visit who had at least one lead screening test by their 2nd birthday from 69% to 79% by June 30, 2026, with a focus on children living in the City of Cleveland.

The project achieved a 10% increase in lead testing among Cleveland children at a well-child visit before their 2nd birthday (Figure 2), exceeding the pre-specified goal.

Fig 2. Lead testing rate for Cleveland children under 2 at well-child visit



Source: BHP, September 2026 quarterly steering committee meeting

Additionally, the percentage of Cleveland children attending well-child visits without a recorded lead test decreased from 22% in June 2025 to 15% by August 2026, and the number of children < 2 without well-child visits during the same period decreased from 29% to 25%.

Of note, the system with the highest post-project rates of lead testing also had the highest baseline testing percentage (which was already above the 79% goal). This system had the most robust testing policy, workflow automation, and provider accountability. This system's guidelines require annual lead testing for all children 12 months to 6 years old, reinforced through an automatic EMR alert triggered when a lead test is due. Additionally, clinicians in this system must actively enter a justification if they opt out of ordering the test during well-child or acute visits. A lead partner from

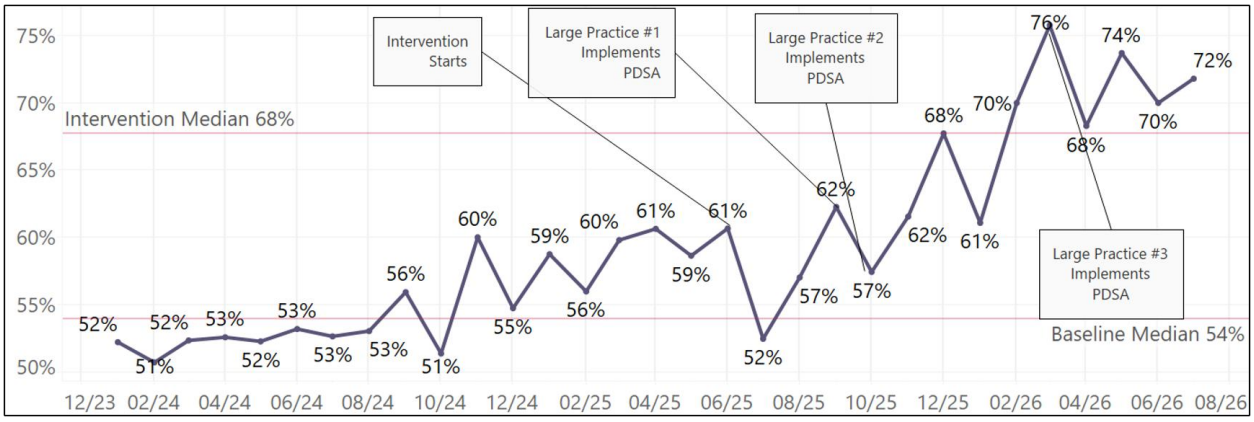
this system noted that this process was developed in response to the observation that their families often move multiple times before a child turns 6, introducing new exposures that require continuous testing to identify.

2.2.2.1 In-office testing was implemented in 30 pediatric practices throughout Northeast Ohio during the project period.

The reach of the regional quality improvement collaboration extended far beyond Cleveland children, with in-office testing piloted in 30 pediatric practices serving children throughout Northeast Ohio. The Cleveland collaborative catalyzed the shift toward in-office testing as the standard of care for all patients in need of an initial lead test, regardless of where in the region they reside.

The percentage of Cleveland children between the ages of 12-23 months who received their first lead test within 30 days of a well-visit increased from 61% in June 2025 to 72% in August 2026 (figure 3) with meaningful improvements as large practices that serve Cleveland children converted to in-office testing.

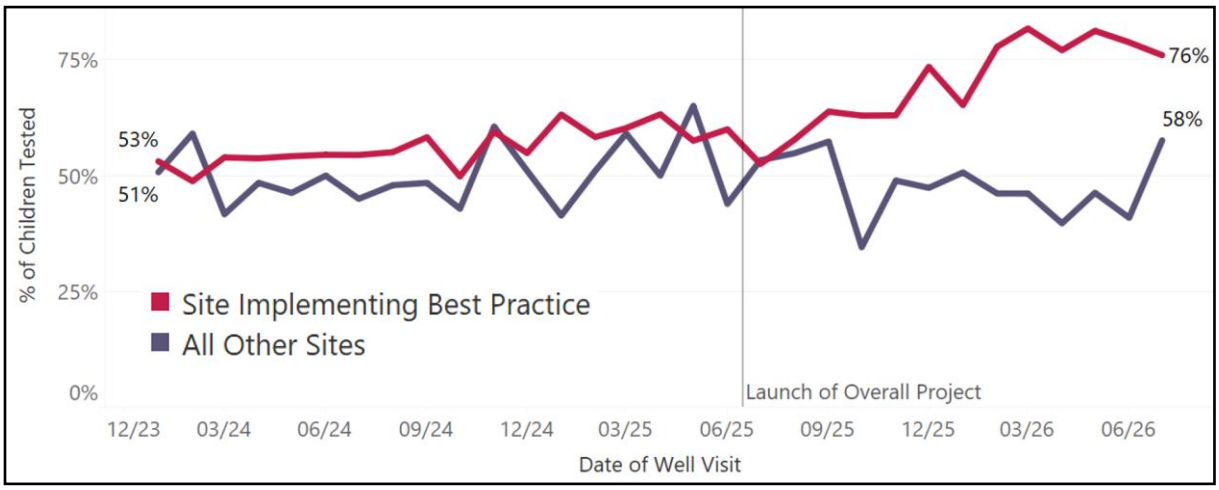
Fig 3. Well-child visit lead testing rate



Source: BHP, Quarterly Steering Committee Meeting, September 2026

By the end of the project period, a marked difference could be seen in sites implementing the best practice of in-office testing vs those continuing to order venous tests to be collected in the laboratory (Figure 4).

Fig 4. Well-child lead testing rate, aggregated by practice implementing in-office testing and other sites



Source: BHP Quarterly Steering Committee Meeting, September 2026

Health systems transitioning to in-office testing benefitted from lessons learned and guidance provided by other systems that had operationalized this workflow change prior to the regional project.

One health system lead partner remarked:

> *"I think that, especially the clinics that have seen the most patients that serve the city of Cleveland, we have seemed to have rolled out better lead testing practices with in-office testing...we just ran into a ceiling of how much we could improve on [in-office venous testing] ... we've been able to move a lot of practices to capillary in-office testing. That seems a little bit easier for families and in many cases, for the medical staff to accomplish." - Partner 6*

Facilitators of successful in-office initial lead testing as identified by health systems lead partners include:

1) **Leadership alignment**: Strong leadership support was critical to drive the initiative forward and successfully mandate or advocate for the practice change across all pediatric locations.
2) **On-site Hemocue testing:** Access to an in-office Hemocue machine allowed providers to measure a child's hemoglobin using the same finger or toe prick. This eliminated the need for a separate lab visit. Collecting both samples simultaneously was highly preferred by both providers and patients, as it streamlined the process and guaranteed that both tests were completed**.**
3) **Phased implementation:** Rather than a broad rollout, the change was introduced intentionally to each practice. Supported by regional project staff, one health system launched a pilot in a single practice each month. The leadership team visited each site in person to walk staff through the workflow, even offering their own fingers for practice testing. The team shared data continuously during this phase so pilot sites could visualize their progress and implementation teams could quickly identify operational barriers.
4) **Data transparency:** Shared practice-level data through monthly BHP coaching calls and internal dashboards helped system leaders identify declines early and track ongoing success. Multiple systems noted that reporting data back to their clinics was valuable to diagnose performance drops and celebration team milestones.
5) **Operational flexibility:** Over the course of the initiative, teams successfully pivoted between different lancet types, filter paper tests, finger versus toe pricks, and utilizing external labs during supply shortages. This willingness to find ways to constantly improve the process helped practices continue to increase their testing rates and optimize patient care. and make changes when practice data suggested declines. As one lead partner noted regarding the reality of pediatric care: "You have that squiggly toddler and you get about 15 seconds with them, and that's about it."
6) **Targeted staff retraining:** Staffing changes and invalid rates were common barriers to improvement. While some healthcare systems use official incident reports to track invalid tests, one system, utilizing an internal dashboard, was able to identify and engage top-performing nurses to share their techniques and peer-coach colleagues who were struggling.

7) **Engaging and Motivating Nursing Staff:** One lead partner commented specifically on the importance of including the nursing staff in the decision-making, even though it was not their decision whether they implemented the overall change.

> *"I don't think there's ever, ever a perfect time... and so, being transparent and acknowledging that and saying, look, this is coming, whether we like it or not... we're gonna figure this out together. Let's try this, let's try that, and not being afraid to fail...I mean, that's what a QI project is, really. It's being willing to fail, but learn...and improving those outcomes for the greater good." - Partner 14*

Several lead partners highlighted the **silos that exist within healthcare** and **between clinics** and **community organizations**, emphasizing the need to understand the big picture and work collaboratively. One partner noted that clinic staff represent only one piece of the puzzle and rarely learn about a patient's long-term outcomes. Sharing these **positive, post-test patient outcomes** with clinical teams can serve as a powerful motivator to maintain high performance in lead testing.

2.2.2.2 Epic tools were utilized to standardize workflow and disseminate information.

In addition to the focused effort to increase in-office testing, systems worked on EHR enhancements that would allow them to:

1. **Send automatic messages** to patients overdue for well-child visits or lead tests through targeted campaigns.
2. **Provide tailored "quick results" options** based on the child's level to send to parents through MyChart, including prevention education for families of children with no lead detected or levels below the current level of concern (<3.5 µg/dL). These standardized messages offer timely supplementary information to parents close to the same time they receive a notification about a new test result available for view in MyChart.
3. **Flag outstanding lead testing gaps** for children with a history of elevated blood lead levels (EBLLs) via health maintenance alerts to the provider. This can prompt the clinician order a test or contact the patient's parent.

2.2.2.3 Lead testing in the community provided additional opportunities to reach children that might not attend a well-child visit.

Three health systems participated in various community events to promote lead testing beyond the well-child appointment and to make lead testing accessible to those who may not have a primary care doctor for their child. While these efforts were a start to broader outreach, they did not always translate to more Cleveland children <2 completing testing. Still, the community testing provided more opportunities for physicians to be seen with the community outside of their typical clinic schedule. One parter felt this was valuable beyond the count of children completing lead tests. Another partner expressed discomfort with incentivizing lead tests with gift cards:

> *"Take it serious, really think about the need for it... I think that can be the disconnect, but I mean, for the most part, like, you know, the parents are receptive to it." – Lead Partner 30*

Overall, while partners recognize the value of primary care, especially for children with elevated lead, they also see the need for lead testing beyond the well-child visit to help parents detect lead as early as possible.

2.3 Lead Follow-up (Key drivers: Staffing & Clinical Resources, EHR Optimization, Timely Follow-up & Care Coordination)

"Things could have definitely been better if I would have had more advice from the doctor - more follow-up, hands-on learning." - Parent 23

2.3.1 Parent perspectives

Conversations with parents yielded valuable insights about experiences with follow-up after their child was tested for EBLL. They described the emotional and financial toll that can follow after an elevated lead test result and shared successes, but also gaps, in follow-up care related to lead education, retesting, lead inspection, remediation, and early child development intervention.

2.3.1.1 EBLL adversely impacts parents and families.

An elevated blood lead diagnosis often placed a substantial emotional burden on parents and families. Parents described reactions ranging from shock and confusion to fear, anxiety, guilt, and frustration. Many were worried about the potential long-term effects on their child's health and development, while others felt overwhelmed by the responsibility of managing the situation and protecting their child.

> *"I was shocked, scared and felt kind of guilty. I was thinking I don't know how I missed this and why I didn't call to check the result. I simply didn't think nothing would become of it, as none of my older children had it."*
>
> *– Parent 34*

> *"I would wish people responded like they actually cared and it wasn't just another child with lead poisoning. I wish someone would have cared enough to give us a call about follow-up" – Parent 23*

Beyond the initial emotional response (as described in **section 2.2.1.4**), lead exposure created ongoing stress for some families, in which they experienced financial and practical challenges, including concerns about the affordability of home inspection and remediation, disruptions to employment due to frequent medical appointments and retesting, and frustration with landlords who they felt should be held accountable for preventing or reducing lead hazards.

2.3.1.2 Medical case management gaps and successes exist

A few parents reported gaps in communication and care after receiving their child's elevated blood lead test result. Although the specific circumstances varied, these experiences were united by a common concern: parents felt left without sufficient guidance, communication, or support after learning about their child's results.

"Every time they come back with the results, it is the same summary. They don't say nothing different and they talk like a doctor. I'm not a doctor so all these big words I don't know nothing about." - Parent 27

Parents described being notified about their child's test results but that they received little to no additional follow-up from the clinical team. One parent described how she felt "brushed off" by the doctor and public health department:

"He was doing so well, talking, doing everything. Then the lead level test comes, they said wait three months and now he doesn't even speak anymore." - Parent 18

In response to this lack of guidance, some parents proactively contacted their healthcare providers seeking clarification and recommendations. However, they reported that their concerns were not adequately addressed or were downplayed. Specifically, parents of children with blood lead levels below 10 µg/dL felt frustrated by guidance that advised waiting three months to retest, especially when coupled with a lack of resources available for children with lower EBLL). As a result, a few families chose to seek care from a different physician or health system.

"Sometimes I feel like some doctors don't bring it right away to your attention with certain stuff, not intentionally. Say it was 3.5, she'd be like give him more vitamins, make sure he is drinking his milk and eating well. It wasn't more like you need to be going heavy, make sure everything is wiped down. It was a difference than compared to now with his lead's spiking." – Parent 33

Parents also highlighted communication breakdowns that caused confusion and delay in response. One parent assumed the absence of follow-up meant no cause for concern, only to learn months later their child had lead poisoning (the clinical team had been unable to reach the family).

Several expressed frustration and discouragement when repeated efforts to reduce exposure, despite following standard recommendations, did not result in meaningful improvements in their child's EBLL, leaving them feeling powerless and uncertain about what additional steps to take.

"I asked them what's the next step and they said somebody would call me, but nobody have called yet." – Parent 74

"I think it's partially my doctor's fault because my son was elevated when he was one. Instead of following up, she kind of never brought it up again. I didn't think it would get this high because right now, he is very high. I think that they should kind of push on that a little more. There should have been more follow-up." – Parent 85

Other parents described positive experiences with their follow-up care from their child's doctor:

"Everything worked pretty smoothly. I definitely felt supported. They played their part and did what they were supposed to do on their end." - Parent 20

"I would change nothing because I think [health system] did an excellent job." – Parent 82

"They did well. If you miss your appointments, they always make sure to follow up because it is important. I like that. They provide transportation for your visits as well." – Parent 38

2.3.1.3. Parents with experiences with Community Health Workers (n= 6) all shared positive experiences.

All parents with assistance from a CHW had a child with an EBLL of ≥10 µg/dL. These parents described the outreach as "rapid", "pretty quick", and "staying on top of it", or "called me immediately". Parents praised CHWs for the opportunities to meet in-person or have weekly check-ins. One described a primarily email relationship with the CHW sending reminders and resources to encourage them. The others shared specific examples of CHWs jumping into action:

- A lead case worker who worked at the hospital sent someone to the home to help a patient sanitize and disinfect the house to keep the lead down.
- A CHW who keeps track of the child's lead testing and calls the family once a week to check in.
- A CHW who provides education and sets-up follow-up appointments. When a child's lead level result increased on follow-up despite moving residence, the CHW sent inspectors to identify any sources of lead in the new house.

2.3.1.4 Many families opt to relocate following EBLL diagnosis.

Although cleaning (part of the standard recommendations provided to families) was the mitigation measure most frequently recommended by clinicians and public health workers to reduce lead exposure, relocation was the most common housing-related response following a child's elevated blood lead diagnosis. Among parents who moved, most were already considering relocation for reasons such as needing more space; the diagnosis often accelerated their decision.

Parents explained that identifying and remediating all potential sources of lead exposure would be difficult and time-consuming and they lacked the confidence in their landlord to adequately address the problem.

"...they [my landlord] did nothing. It was like they [were] avoiding doing it."

– Parent 73

Parents with prior experience managing lead exposure viewed relocation as the most effective way to reduce risk and reported knowing early on that moving would be necessary. Notably, many parents who moved did not confirm whether their new home was lead-safe before relocating. However, several shared plans to request a home inspection or pursue other measures to ensure their new residence would not pose a similar risk as the prior.

2.3.1.5 Housing barriers create added challenges to identify and address lead exposure.

Following diagnosis, many parents struggled to determine how and where their child was exposed to lead, and the necessary next steps to effectively address the situation. Experiences navigating these challenges varied depending on housing status.

Most renters with children with lead levels ≥10 µg/dl reported receiving a home inspection through the Cleveland Department of Public Health (CDPH) and confirmed their landlord was notified. While

some landlords acted promptly to inspect, repair, and remediate identified hazards, others were unresponsive, delayed action, or failed to cooperate with inspection and abatement efforts. In several cases, these challenges contributed to families' decisions to relocate.

2.3.1.6 Landlord accountability is needed.

Some parents voiced concerns about insufficient landlord accountability and felt that stronger enforcement by the city was needed to ensure lead hazards were identified and addressed promptly. They were worried that unresolved hazards could continue to place future tenants and their children at risk.

> *"We were irritated and then kind of lowkey in panic mode, like okay we have to get out of this house now... I was upset because I already knew that my landlord wasn't going to care... he has a history of doing this and you are going to continue to let him get away with doing it. Something has to be changed. Children should not be put in harm's way because landlords are negligent and the city don't really care." - Parent 2*

2.3.1.7 Children with EBLLs <10 µg/dL do not qualify for a public health home inspection although many parents express wanting one.

Several parents reported that no inspection was conducted by the city because their child's EBLL did not qualify them for city services or assistance. As a result, families often bore the financial burden of home inspections, lead remediation, temporary housing during repairs, and other related expenses, and they felt that limited support was available to help them navigate these processes. For some families, the source of exposure remained unidentified despite considerable effort.

> *"[H]ow do we really narrow down where the issue is coming from without having to bring like professionals in. Even bringing professional in would be helpful too because we don't know enough about it or where it could be coming from." - Parent 59*

Parents described uncertainty about whether their actions were effectively reducing exposure, particularly when EBLL remained unchanged or increased over time.

Those who were unable to obtain an inspection or relocate often relied on cleaning as their primary strategy, despite concerns that it might not address the underlying source of exposure. Across conversations, parents consistently emphasized the need for earlier connections to clinical and community resources, improved access to home inspections, and greater support to help families identify and eliminate lead hazards following an initial elevated blood lead result.

2.3.1.8 Parents feel stigma and guilt.

Parents reported experiencing stigma and judgment when a child is diagnosed with lead poisoning. Public health messages and resources frequently focus heavily on parental cleaning. For children with low blood lead levels (under 10 µg/dL)—who often lack public health agency support—this emphasis was perceived to imply that a parent's cleaning habits are to blame for the exposure.

Furthermore, many families living in older homes with substantial lead hazards reported concerns about their financial means to cover remediation costs. While multiple parents reported repainting their homes, their children were still poisoned. As one parent noted, *"a coat of paint is great and all, but it's not fixing the problem."*

Ultimately, parents interpreted these individualized prevention messages as placing the burden of protection on them as individuals rather than the city fixing the problem directly. They expressed a sense of guilt that when they move out of a residence in response to lead poisoning, the next family may move in and become poisoned themselves because the source of lead has not been controlled.

2.3.1.9 Connections to community-based follow-up services are vital to families dealing with lead poisoning.

Parents were asked specifically about their interactions with Cleveland Department of Public Health, Bright Beginnings, The LeadSafe Resource Center, and any other services. As expected, parents of children with a lead level ≥10 µg/dl had the most interactions with follow-up services, especially with lead inspections and any form of remediation. The level of access to inspections, remediations, resources, and support services was consistently aligned with a child's EBLL, leaving many parents of children with lower levels responsible for identifying and addressing lead hazards on their own.

- *Cleveland Department of Public Health -* Among the 20 parents who remembered interacting with the Cleveland Department of Public Health (CDPH), half had children with EBLL ≥10 µg/dl. Most described receiving an inspection within a few weeks of a positive lead test. What helped parents was "how they reacted fast"(Parent 73) and "put my mind at ease that he is okay to be here at the current house, and not having to worry about the lead in the [new] house." (Parent 34).

  Some parents shared suggestions for CDPH, such as "a faster response time" or described losses in communication between the home assessment and the results (5 parents):

  > *"From my experiences, their follow-through is lacking. They really needed to... come and do the inspection, so that the problem can be mitigated. The problem still exist[s]. I'm not there but that doesn't mean somebody else won't be in the house and have to deal with the problem." - Parent 2*

  For parents of children with EBLLs <10µg/dL, the experience was markedly different. Some parents recalled a letter or phone call and one recalled receipt of cleaning supplies. One heard from them after her child's doctor reached out. None mentioned a lead inspection. A few parents in this group voiced feeling that the services were inadequate:

  > *"I feel as though they should call and automatically come out and inspect the house." -Parent 3*

  > *"I guess he wasn't qualified to get the home tested because his lead levels was not that high to them, so they didn't come...I really didn't like that was their response. - Parent 76*

- *Bright Beginnings* services were accessed by parents of children of all lead levels and mostly praised by the 20 parents who utilized these early intervention services.

  > *"They make it clear that they are helping with the development of the child but also showing the parents to learn different techniques to do our part to help with development. Just teaching me better ways to communicate with my daughter and get her to talk - suggesting different toys and exercises for her to do."- Parent 29*

"I loved that they really jumped in pretty hard, pretty quickly when they found out about his results. They were already giving us as many resources as they had. I just wish we would have gotten many resources from the get-go from our doctors." - Parent 59

There were a few less than favorable experiences. One parent felt that "*they could be more compassionate of working full-time mothers trying to juggle many responsibilities.*" They were unable to access services because they could not complete the required intake paperwork in time. Others commented that the speech services were not effective and one did not receive the home visit she expected.

- Two parents recalled interacting with the *LeadSafe Coalition* or *LeadSafe Resource Center*. One said they looked up which houses had Leadsafe certification and which didn't and helped the family move. The other was seeking similar assistance, but they were told that there were currently no resources. It is unclear whether more parents were referred by health systems to this resource but didn't reach out or whether the resource center is still less known by clinical teams. Bright Beginnings and Cleveland Public Health receive lists of children with EBLL and have a separate outreach process without a referral from health care, while LeadSafe Research Center fields calls to their hotline.

A brochure that clearly maps the roles and resources provided by each organization and at each lead level may be helpful for clinical teams and parent of patients. While conversations often revealed gaps in care, there were also several comments suggesting duplication or areas where organizations could be more coordinated. One parent commented on the need for more coordination of resources for families:

"Maybe there needs to be an intermediate lead program where all these systems go into one and then you click on that lead program and that's how you see who is contacting who and all the notes in one area. That would break down a lot of confusion and mishap[s]." - Parent 18

2.3.2 Regional improvements to timely follow-up & care coordination

The main priority during the project period was achieving the SMART aim **to increase the percentage of children with a well-child visit who had at least one lead screening test by their 2nd birthday from 69% to 79% by June 30, 2026**. Therefore, less interventions specifically focused on timely follow-up and care coordination.

2.3.2.1 A CHW provided parents with information and resource connections along with intentional outreach when their child needed a follow-up test.

The regional project supported one system to hire a lead navigator CHW to improve follow-up testing rates. Two health systems already had a staff member in this role with support from external grants. The newly hired lead navigator began in December 2026 with a role to provide extra support to patients to help them understand the clinical instructions from their provider, for example, related to safe cleaning and nutrition; remind them of their follow-up lead tests; and inform them of additional community resources. The navigator serves as a connector between systems and the patient when they are unsure of next steps or need help completing processes. An Epic tool allows her to track her contacts and prioritize patient outreach. She adds patients to this case management system as an

elevated test result appears on an Epic report and reaches out within 7 days after confirming that the physician has contacted the patient about their results. She also sends a message via Epic to a provider as a reminder if they have not reached out to the patient, helping to close any communication gaps.

2.3.2.2 Weekly telephone outreach by a nurse to patients showed promising results.

One system's timely follow-up intervention involved a nurse spending 2-4 hours weekly to contact patients in need of follow-up testing. Some gains were made with this more intentional approach, rather than relying on a previous protocol for nurses to make follow-up calls "as time allows." The percentage of patients receiving follow-up care at this health system increased at certain points during the project period at this system.

2.3.2.3 EHR tools allowed for additional outreach and tailored information to patients with EBLLs in need of follow-up care.

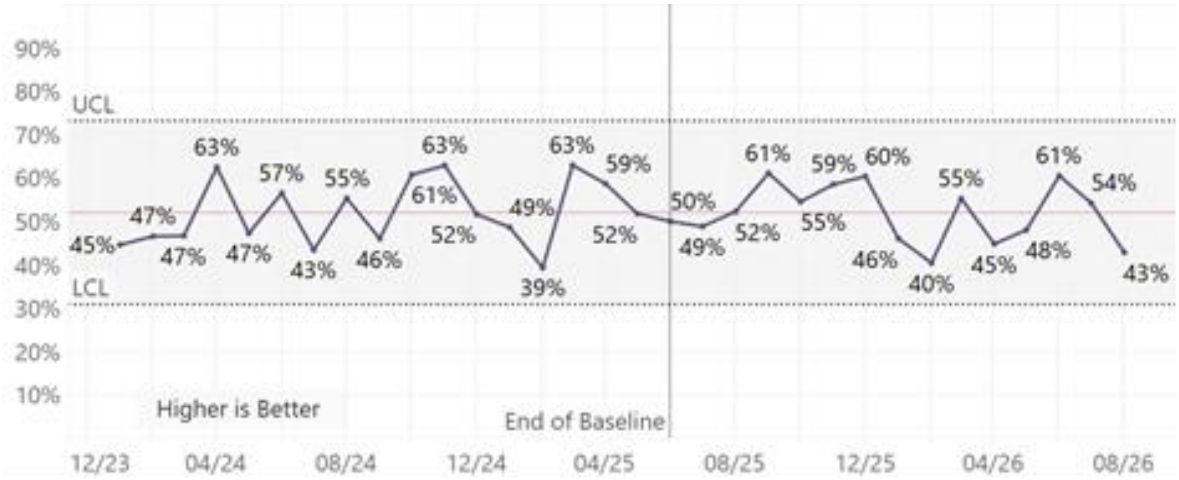
The "campaigns" tool, operationalized in another health system, allows patients to receive automated messages to MyChart when a follow-up visit is needed and may provide an example for the other health systems of a low-intensity way to remind patients about follow-up testing. This system also developed "Quick Results" to allow for a MyChart message from providers to inform patients in more detail about the result of their lead test, based on result value and test type. This feature directs the doctor and automates the process of ordering further tests or prescriptions, while also sending standardized patient communication through MyChart. Responses were developed and reviewed by community partners for each lead level result and incorporated additional information about community resources such as Bright Beginnings and Cleveland Public Health.

As noted in parent conversations, patient-facing Epic tools can provide additional ways for providers to communicate to patients but may not reach parents who do not frequently check MyChart or do not use it at all. One parent specifically indicated they did not trust the message feature because they did not know who was really messaging them (doctor, nurse, etc). Still, the value of these messages was noted by one community partner who reached out to the provider to ask them to message the family through MyChart to encourage them to get a confirmatory test.

2.3.2.4 Despite regional improvement efforts, the percentage of Cleveland children retested within 120 days did not increase meaningfully.

Monthly percentages of children with follow-up lead testing within 120 days were tracked throughout the project period but did not show any meaningful improvement, averaging between 40%-60% a month (Figure 5).

Fig. 5 Cleveland children retested within 120 days after 1st EBLL, by month



Source: BHP Quarterly System Webinar, September 2026

2.3.2.5 Gaps in provider continuing education regarding lead may affect follow-up testing.

One community lead partner specifically commented on the barrier to closing the gap on confirmatory venous lead tests and follow-up tests. This partner believes that some doctors who have spent most of their medical career where [the level of concern] was a 10 and higher, may not have as strong of a reaction if a child has a lead level below 10 which could directly affect follow-up lead testing.

"Providers need education. suburban offices.... You have some doctors who have spent most of their medical career where [the level of concern] was a 10 [µg/dL] and higher, so if they get a lead level and it's a 7, they're kind of discarding it,...and the parents aren't worried about it, because they're in that... that other realm And it's... it happened again when [the reference value] dropped to 3.5, because.... getting smaller and smaller." – Partner 12

2.3.2.6 Follow-up testing often requires a trip to the lab, which was previously identified as a barrier to initial lead testing.

While new in-office testing workflows eliminated the barrier of parents having to visit an external lab after an appointment, a positive in-office test still requires a follow-up lab visit. Although clinical teams can call to discuss next steps, lab hours and parent availability often conflict, presenting a persistent barrier to care. To address this, one system established a biweekly, four-hour lead clinic staffed by a doctor, nurse, and a CHW. This team coordinates care for patients with higher lead levels, performs routine blood draws, and provides case management. Two other health systems hope to pilot similar clinics. This coordinated approach can help reinforce the importance of follow-up care and better connect families to timely services. However, identifying the most effective follow-up strategies for patients with blood lead levels below 10 µg/dL remains a critical need, as gaps in confirmatory and monitoring workflows persist. Furthermore, while healthcare partners often focus follow-up conversations strictly on testing schedules, parents expressed greater concern over securing safe housing and community resources to eliminate environmental lead exposure. Messaging that focuses solely on "testing in three months" can be perceived as uncaring and fails to address their primary needs.

2.3.2.7 Timing, frequency, and outreach type may affect connections.

Lead partners from multiple sectors shared that it is often challenging to reach parents – requiring multiple outreach attempts and reminders before they return for a lead test. One health care lead partner stated their surprise when a parent with a child with very high lead exposure and without socioeconomic barriers still did not come for testing after multiple calls. Barriers were mentioned for reaching parents by phone and MyChart, with one clinical team member citing the potential value of text messages or a platform like WhatsApp to reach patients but acknowledging that they do not have a HIPAA-compliant way to do so. Additional Plan Do Study Act (PDSA) cycles may provide new insight on how best to reach patients for regular follow-up.

Several community and clinical lead partners described this phenomenon and gave these additional reasons:

1) Outreach from too many people from different systems:

> *"She [parent of a child] said she can monitor him herself, and she didn't want to get us involved, but she was more concerned with... the remediation of the home... And she agreed to that, but she doesn't want phone calls, because now that her son does have lead poisoning, she's getting calls from everywhere" - Partner 24*

2) It does not look like anything is wrong so a parent may not prioritize the follow-up:

> *"When a child doesn't look or act sick. It's very hard to motivate a parent to do something that's going to cause them pain when there doesn't look like there's anything wrong." – Partner 12*

2.3.2.8 Lead Partners identified gaps and potential change ideas.

Community partners highlighted a shortage of unified, accessible resources for childhood lead prevention and follow-up among clinical and community partners in Cleveland. Currently, fragmented communication and varying hospital procedures leave families confused and frustrated. To bridge this gap, one lead partner (28) emphasized the need for a shared toolkit of simple, consistent messages. This central repository will provide standardized guidance that pediatric practices and community advocates can quickly pull from for patient interactions, social media, and outreach ensuring every family receives clear, aligned next steps regardless of where they seek care

Multiple parents commented on their desire for care providers who reach out to them to be patient, compassionate, and honest with them using language that they can understand, providing visuals and engaging materials, and most importantly show that they care about their children. This takes time and staff. Without a systematic approach, timely follow-up beyond the initial results call, does not always end in a bi-directional communication between the clinical team and patient or with a resulted follow-up lead test.

One clinical lead partner (Partner 10) suggested the lead follow-up and care coordination may be more effective if assigned based on skills needed, including creativity, passion, and interest to make this part of their work rather than assigning it as "one more thing" for someone to do. A community partner echoed this, stating:

"If that deliverer is not the right person. You can tell folks over, over, over, over, and it means nothing when it goes out the door and nothing happens. Everybody can't do the work just because they might have the credentials or qualifications." - Partner 7

This lead partner further described the way the message is delivered as important, with clinicians, at times, unintentionally downplay the urgency of a lead level - as parents described - especially when below the designated level of concern (<3.5 µg/dL). This may, in turn, affect the way a parent prioritizes the need to take action to address the exposure.

2.4 Lead partner perspectives on the Lead Safe Screening and Testing Program (Key driver: Staffing & Clinical Resources)

Lead partners were asked to share their perspectives on key aspects of the regional lead testing project including the Driver Diagram, Value of the Collaboration, BHP's coordination, and Sustainability of the 10-percentage point increase in lead testing in Cleveland Children < 2 years old. This section summarizes findings and provides additional exemplar quotes from lead partners.

2.4.1 Thoughts on the project driver diagram

Additional feedback on the aims, population, and drivers identified during the project planning phase were shared by 24 of the 30 lead partners. In terms of the global aim of "to improve early detection of lead poisoning for children" some specifically commented **on the importance of testing and early detection:**

"I think it was well thought out and very specific to, you know, the goal...really looking, high level, how we can really improve that earlier detection" - Partner 16

"I think the global aim, it's something that needs to be done. You would never think that... it's 2026, and kids still have high lead levels" - Partner 30

"That's a great aim, and I'd say it's great because there have been patients who weren't aware of lead after their children were detected, and I believe when we can reach patients, or moms who are pregnant, educate them before they even deliver their baby, so they'll know what to possibly expect, so that's a good" – Partner 13

Overall, the consensus about the SMART aim to "increase the percentage of children with a well visit who had at least one lead screening test by their 2nd birthday from 69% to 79% by June 30, 2026" as **a wise and achievable goal for the first year.** One lead partner specifically commented that, "We don't want just one-off testings, we want testings within the well-child checks. So, yes, I think that's a good goal."

A few suggested the aim was **only a beginning**, and noted a need to expand beyond 2 -year-olds, Cleveland, or beyond well-child visits:

" I believe this is just scratching the surface. One test before 2 years of age is a great way to start, but I feel like we have more to do...it should be the beginning" - Partner 8

"I think it would be nice to do sick visits as well." - Partner 18

"We know that the aim was to connect families to a medical home, so if families already distrust the medical system... you're gonna miss a significant population of individuals." - Partner 28

One lead partner thought the SMART aim was great but acknowledged some confusion since their health system was simultaneously working to improve lead testing for all children under 6:

"...it's kind of hard to separate those out sometimes to say, well, wait a minute, I don't understand. You said that we're hitting 100%. But really, like, the numbers I'm seeing coming from a different metric system, like, we're not hitting 70%, so I don't understand. I wish these two would kind of combine and make it a little bit easier to follow through and follow that piece of it." - Partner 14

Another lead partner in a suburban pediatric practice acknowledged the goals as worthy but admitted uncertainty about how many children from Cleveland their practice actually treated. They stated, "Many years of... never having anybody to chelate or make any kind of radical interventions makes it difficult for us to be too intimately involved with ... some of those details" (Lead Partner 29). This partner's comments reveal a clear **disconnect regarding the high lead risk in Greater Cleveland and the necessity of early testing** to identify and address exposure as soon as possible, not when a child is at such a high level that chelation is needed.

The discussion of the project aims also revealed **differences in starting points** and focuses for health systems. One lead partner noted their health system was noticeably more focused on lead follow-up since children were consistently tested. Another acknowledged having come a long way on this metric since 2021, improving from 56% to 81% by making lead testing part of standard practice. A health system lead partner noted that their system does not see many children in this age range and had more experience with high lead levels in school-age children.

Lead partners specifically called out well-child visit outreach and attendance, provider engagement, family and caregiver education, EHR optimization, and timely follow-up as important drivers. One lead partner felt that use of data for targeted outreach should also be a driver.

2.4.2 Value of This Collaborative Effort

Lead partners valued the collaborative time to learn from other health systems, share successes and struggles, and get feedback on their efforts to improve lead testing workflows. The following are several themes on the value of collaboration with exemplar quotes.

2.4.2.1: The collaborative helped health systems to better support pediatric practices as they transitioned to in-office initial lead testing. Thirty new practices piloted some form of in-office testing. A lead partner from one of the largest practices to pilot in-office testing stated:

"The successes have integrated into the well-child visit itself. I think that's been a huge lift, the ask from our nursing team, but from the providers as well, you know, because they're the ones who are going to have that conversation, you know, and getting consent." - Partner 14

"What happened in this year has been more progressive in the clinical space than it ever has [been]...when all can see what each is doing it's gonna make the other do better." - Partner 7

2.4.2.2: Lead partners benefit from the exchange of ideas and best practices.

"What was surprising is there was a very high level of engagement from high level from an organizational standpoint within health systems and people trying to get a grasp why local grassroots community organizations need to be part of this work, and they need to lead alongside them, especially to increase lead awareness." - Partner 28

" ...For me, that's what really stands out, just the collaboration, the sharing of information, the sharing of best practices, the commitment by all of the organizations to this." - Partner 16

"The increased communication between us and shared best practices have really been beneficial to our practice" – Partner 5

2.4.2.3. Staff support provided the backbone for intentional process changes to be made throughout multiple systems.

"[I'm] grateful for the project, because the coalition directly, or the health department...have so many competing priorities in the lead space...to have one group ...lead it...and I think supporting staff time is part of that, like, that you can't just be intentional without supporting staff time." - Partner 4

"No matter how much I love patients, and I want to do better to prevent lead poisoning. If I have no time to do it, and I have to be in the clinic 100% of my time, I probably would not have the time to do all of the work. So being able to get my time supported to do this work has also been very helpful." – Partner 8

2.4.2.4. Being able to regularly access, interpret, and share data internally mattered.

"It sounds like practices are really looking at their data and reflecting on it and doing things differently." - Partner 18

2.4.3. Better Health Partnership Coordination

Lead partners shared mostly positive feedback about the BHP coordination of the effort particularly in areas of partner engagement, project management, communication, monthly data visualization, and ability to connect partners to improve care and facilitate further collaboration.

Some noted that quarterly learning sessions with health systems and steering committee meetings could have been more productive, acknowledging the challenges of finding time to bring busy team members together. One lead partner suggested a more competitive spirit during the learning sessions – including specific discussions that showed the data could have "stimulate[d] everybody to do better." Participants acknowledged that monthly coaching calls held partners accountable to continued improvement efforts; however, one partner suggested these meetings could have been tailored to each system as a way to streamline or bypass meetings if there were no new developments or external barriers affecting a team's ability to move forward.

One lead partner suggested that more clarity about decision making and authority to move quality improvement processes forward within systems would be helpful. Likewise, a few partners felt like BHP could have engaged the expertise of community partners more effectively, especially those with more experience with follow-up care .

> *"If you really want to engage the community, you have to lean on those community organizations that are trusted leaders within the community, and that has just been a huge miss, I think, with this programming. Because it is so high level, and based on engaging hospital systems, but both work hand-in-hand. You're only gonna push so far unless you are making that connection with community.... When you're creating awareness out in the community, you're building that trust in the moment. I think that is a concept that is overlooked or not fully understood." – Partner 28*

Finally, a few lead partners mentioned challenges with disbursement of funds for the project and the difficulty of accepting additional funds for extended work not allocated at the beginning of the project.

> *"I think we tend to underestimate the administrative burden. The people that are thinking about how to do the doing don't always have the visibility on all of the things behind the scenes that need to happen in order to set us up to be able to continue that, or may not recognize or have had visibility on, other funding constraints or commitments that have been made for people's time." - Partner 26*

2.4.4 Sustainability

Lead partners suggested that the changes implemented as part of the regional collaborative project could be sustained over time, especially those built into their EHR systems. However, they acknowledged that even when EHR tools are be available, it is necessary to implement processes so all care providers are aware and they are used consistently.

2.4.4.1There were mixed comments about the ability to sustain high rates of in-office testing.

A primary concern is that some practices, especially those new to in-office testing, may lack the necessary capacity and staff support to maintain these efforts without additional assistance.

> *" [E]ven though...the grant funding's ending, [in-office testing] is not something that's going to stop... It's just become part of our everyday work aspect...so is there good and bad in that? There is. I don't think we have... really hit it home yet, as far as those success stories." - Partner 14*

> *"Lead testing will be sustained, however, there are lot of children that are not being tested or coming in for a well child visit. This should be our next effort." – Partner 6*

> *"I do have some concerns about the sustainability of education. I was always trying to push for early on in our partnership was that we would train people within the health systems to continue training medical professionals in the health system....I don't think we achieved that necessarily, but, you know, not to say that it can't still happen, but I think that was, like, a really important piece" - Partner 17*

2.4.4.2 Lead partners stressed the importance of continuing to utilize data to understand trends in testing.

"I think what will help a lot with the sustainability,... [is] if some part of the project can continue with the data being reported every month....People are competitive, generally, and won't want that to slip." - Partner 4

2.4.4.3 Funding was an essential piece to moving forward with these efforts.

Some systems have more access to external funds to continue their efforts than do others. Systems will need to prioritize lead testing as necessary work for community benefit, rather than as an opportunity for revenue generation:

"I think it's going to be important that there's some sustainable funding... to not lose the gains that have been made. I think we can do better.... if there's.... revenue for BHP to continue to play this role and without it, I think we'll lose a lot of the gains."

- Partner 18

"Right now, we have a dedicated team.... to really drive this and make sure we're coming together on a consistent basis, that we have the data that we're reporting.... I know it was just for one year, but... typically one year is not enough time to really see not just change." - Partner 16

"As long as lead staying on the agenda of our payers and in the news, I think [our health system] is supporting it. It also helps that we have the funding. If we don't have that funding it is going to be a little harder to go into the community." - Partner 31

"I think my biggest concern is....is how this work is going to be funded, because... the work is time-consuming. The work of reaching out to families, the work of following up, the work of ensuring that people have access to the resources that they are entitled to because their child has been lead-exposed for whatever reason... is nowhere near what it would need to be to cover the time required to do that work." - Partner 26

"The other thing, the business model has to make sense, and this is a hard one. Because I would guess, and I don't know this for sure, but if... if you look at a hospital system, and you say, well, if you increase lead testing, and you then will increase treatment. Is there at least a neutral ROI on it? And I would bet lead is not. The real expense is probably not even on the medical side, it's on the public health side, where...how do you get rid of the lead there? How do you mitigate it in all these buildings? How do you mitigate it in the dirt and the ground and the air where it was pumped into the environment here for decades? for the county, for the state, for the city, there's virtually no return on investment for that" - Partner 15

2.4.4.4 Partners stressed the need to continue to engage with each other and organizational leaders.

"If funding goes away... how do you engage with and bring in public health? Because, you know, they are part, you know, owners and responsible for doing this, whether it's grant-funded or not, right? The city... has dollars and programs that they're using to

address the housing stock. And so making sure that we're bringing our public health colleagues to the table. Hopefully to leverage and or get their experts or people who do this work involved. And then lastly, just, keep, you know, keep, connecting, keep convening. And sharing how people are doing…if we've all agreed that this is an important issue for our city and for our children." - Partner 27

2.4.5 Final thoughts from lead partners

Lead partners were asked "What are your concerns as this project wraps up? In addition to concerns related to sustainability the following were shared by one or more partners:

1) External factors, like practice staffing changes and capacity, that may affect testing rates

"Can in-office testing be sustained over time? Yes, but if we have less staffing and things change over time, how much is it sustainable to be kept. With enough staffing, it can be sustained." - Partner 11

2) While systems have improved initial testing and simplified the process for providers and parents, confirmatory venous testing is still low.

"I've been around where we have done… in-office testing, but they found… there was such a barrier with the follow-up, the confirmatory testing that was needed…. But then the problem with [in-office venous testing] was the cost and the manpower….what other different approach can we take to make…. a better impact, to make a bigger impact" – Partner 12

"My personal belief is it's very inconvenient to have to bring someone back for something that you could have just done right from the get-go, but it's not always practical and [parents] are more willing to do a finger prick than they are to take their kid to a lab" – Partner 5

3) While the lead test is important, changes are needed beyond the lead test itself:

"We've built out a model that seems to be successful in….identifying these kids, but the reality is that doesn't change anything for the kids unless we've then successfully connected that family with the resources and, ideally ensure that they're not going to continue to be exposed…. if we don't do something earlier, we're going to pay for it later." - Partner 26

"I'd love to move more into the primary prevention area and…. educating families and improving awareness in the community." – Partner 6

"We're tracking people over years, and then they have another baby, and then the new baby is now exposed to lead."[6] – Partner 5

"I really wish, in an ideal world… that all of those homes are rid of lead. Because we can do our part, but what can really move the needle and better support our families is

[6] Early in our conversations, parents spoke of multiple family members with lead exposure, sometimes from different generations. This was the case for at least 9 of the 33 parents. For more information, see **Appendix IV. Families with multiple cases of lead exposure.**

Lead Safe Homes. if there's any way we can advocate more with the Department of Health, with all the stakeholders within the community, such that… our patients are not struggling with the system to get their homes remediated, I think that's the greatest achievement." – Partner 8

3.0 Conclusions and Recommendations

"It's really about Cleveland, and the kids in Cleveland… it can't be why I have the newest toy and the best intervention, because sometimes the old tried and true is the better one. By not sharing and not collaborating, we miss out on those best practices. And that does more harm than good." - Partner 14

The regional collaborative showed that coordinated, data-driven quality improvement can change practice relatively quickly. In under two years, Cleveland's health systems met an ambitious testing goal and made in-office testing the emerging standard of care. They also built EHR tools that should outlast the grant. These gains warrant continued investment. Partners agreed that accomplishing the project's SMART aim was a beginning and were clear that without ongoing funding, monthly data reporting, and a convening role like BHP's, progress is likely to slip.

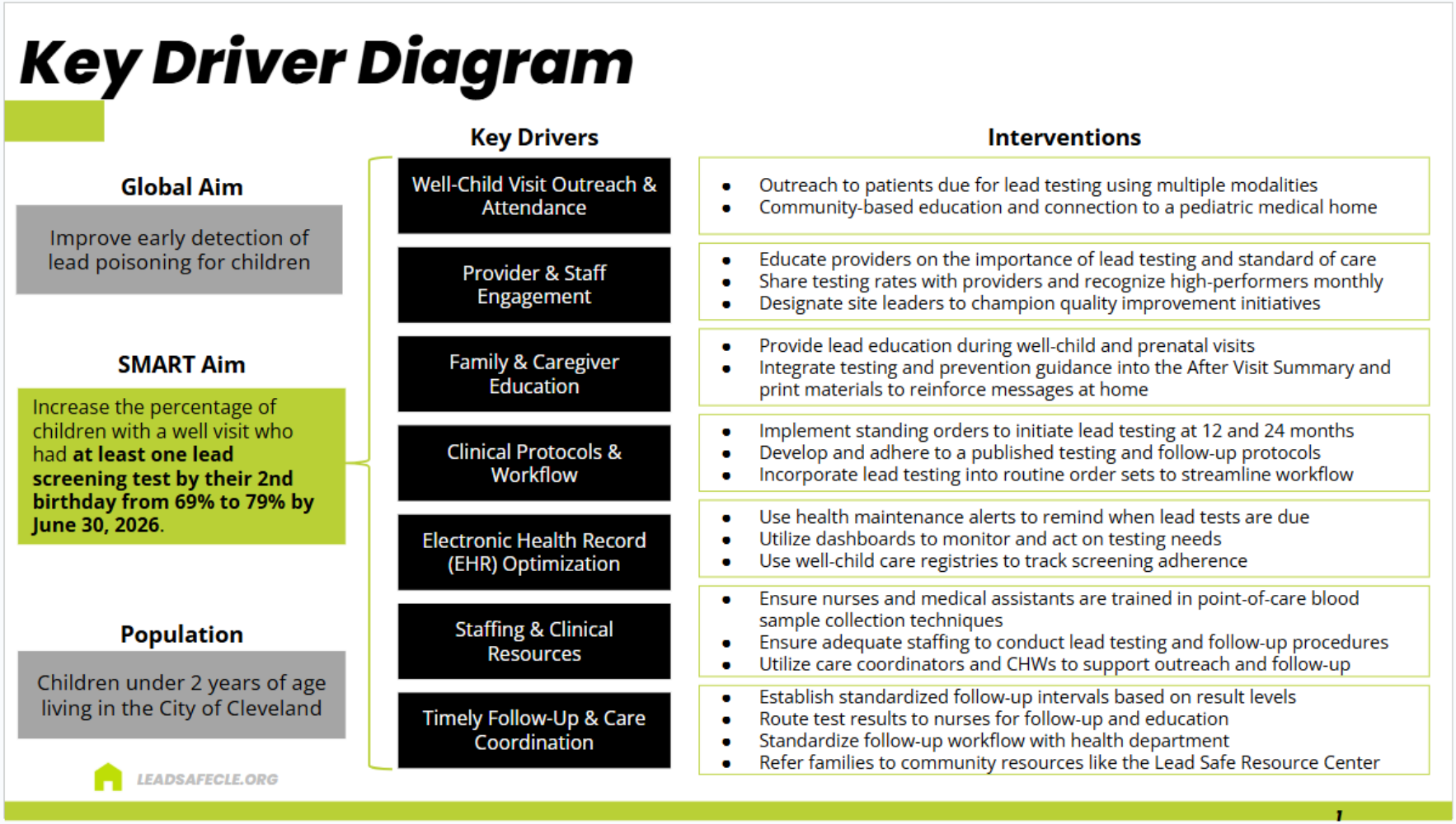
Partners also recognize that testing is only the first step. Identifying a child with lead exposure changes little unless the family is connected to clear guidance, timely follow-up, and real help removing the sources of lead poisoning. Parents asked for this most urgently. **See Appendix III. Suggestions from Parents and Next Steps.**

Future efforts should prioritize the following:

1. **Strengthen follow-up and care coordination.** Make confirmatory and monitoring tests easier through lead clinics, navigators, and convenient lab access. Pair every elevated result with a phone call and clear next steps.
2. **Start education earlier and make it consistent.** Begin education in pregnancy and early infancy. Use plain-language and visual materials. Disseminate standardized messages across health systems and community partners, so families receive the same information wherever they seek care.
3. **Close the gap for children with EBLLs under 10 µg/dL.** Convey that no level of lead is safe and expand access to home inspections and resources for families of children who currently fall below public health thresholds.
4. **Shift the burden from families to systems.** Advance remediation, landlord accountability, and access to remediation funds. Ensure clinicians know how to refer families to Bright Beginnings, the Cleveland Department of Public Health, and the LeadSafe Resource Center.
5. **Reach children outside the clinic.** Identify targeted ways to expand community education and testing with key partners along with well-child outreach to parents of young children who many not be receiving this care.

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Appendix I: Lead Safe Screening and Testing Program Driver Diagram



Appendix II: Key Messages for clinicians to share

Below are some simple, key messages to share with families, based on comments made by parents and partners with whom we spoke:

- No lead level is an OK lead level
- Lead exposure at even low levels can harm a child's brain and body and cause speech and developmental delays.
- Identifying sources of lead exposure early is important.
- We are going to test to see if your child has lead via a simple blood test.
- If we identify any lead we will discuss next steps you can take to reduce the lead in your child's body and prevent further exposure.
- Nutrition is key to counteract lead in the body.
- It is important to stay on top of lead and know your child's number.

"When the kids have to get lead test, they could do a video showing one of the kids getting a lead test that it is not really painful, it is quick and easy. Giving fun information about it not just for the parents, but for the kids." - Parent 56

"I think that as soon as the test comes out positive, they should have a brochure or something explaining the downfall of having high lead, like what the effects are, and how to go about getting your home tested in trying to find out the cause of the high lead levels." – Parent 18

"I would make things more visual because I feel like with this generation of parents, everything is more so visual where they would actually pay attention and take it in if they actually see what it does and how it affects the child] like a section into how it would affect child at different ages - toddler, Pre-K and Kindergarten in terms of learning. Showing how it's affecting their development." - Parent 29

"They are supposed to speak with us as parents. If you tell me maybe the poison is going to affect my children from speaking, that is a serious issue. I can't afford seeing my baby not being able to communicate because of that." – Parent 74

"Tell parents more about food to give the kids with calcium, iron, vitamin D and C. Letting them know that foods can't help prevent but could help with immune system and keeping their lead levels healthy." – Parent 31

"Like every 3-6 months, [the] doctor should send a reminder through MyChart...just little reminders like 'hey don't forget to think about lead or stay safe from lead." – Parent 12

Appendix III: Suggestions from Parents and Next Steps

Parents offered several recommendations for improving lead prevention, education, testing, and follow-up care. These suggestions focused on increasing awareness, promoting earlier intervention, and providing clearer guidance to support families.

Increase Early Education and Awareness

- Incorporate discussions about lead exposure during prenatal care and early well-child visits, including questions about the age and condition of the family's home and any potential lead-related risks.
- Integrate lead education into schools, parenting classes, and other educational programs to promote awareness of its effects on child development and strategies for prevention.
- Increase public awareness of lead poisoning through television, social media, mobile platforms, and other widely accessed communication channels.
- Use personal stories and real-life experiences to make lead poisoning more relatable and increase public attention to the issue.
- Increase awareness of existing lead education classes and resources by ensuring healthcare providers, lead navigators, and community organizations inform parents about them as early as possible.
- Educate parents on the role of nutrition, including foods rich in vitamins and minerals, in helping reduce absorption of lead and support children's health.

Promote Earlier Testing and Prevention

- Consider providing home inspections for pregnant women and expanding access to preventive housing assessments before a child is exposed to lead.
- Encourage families to verify that homes are lead-safe or lead-certified before moving into a new residence.
- Explore opportunities for early lead testing, particularly for children living in older homes or other high-risk environments.
- Increase lead testing among children ages 1 to 5 years and ensure testing is conducted promptly when lead exposure is suspected or symptoms emerge.

Improve Communication and Follow-Up

- For elevated blood lead level results, physicians should call parents to explain the findings, answer questions, and provide clear next steps.
- Use MyChart reminders and notifications before and testing to promote awareness, reinforce recommendations, and support follow-up.
- Take a more proactive approach to managing elevated blood lead levels by providing clear recommendations, guidance, and next steps immediately following an elevated blood lead level result.

- Ensure parents receive specific guidance or interventions when blood lead levels remain elevated or increase despite following standard recommendations.

Strengthen Support for Identifying and Addressing Lead Exposure

- Connect families to community resources following an initial elevated blood lead result to help them identify potential sources of exposure and navigate remediation options.
- Strengthen coordination among healthcare providers, lead navigators, public health agencies, and community organizations to ensure families receive timely assistance and resources.

Key Recommendations

- Increase lead education and awareness before and shortly after birth.
- Expand early testing and preventive housing assessments.
- Improve result communication through timely physician follow-up.
- Provide clearer next steps and ongoing support for families with elevated blood lead levels.
- Connect families to housing, inspection, and remediation resources as early as possible.

Appendix IV. Families with multiple cases of lead exposure

About 1 in 4 parents interviewed (9 in total) shared that multiple members of their family were exposed to lead.

- 3 parents shared experiences with multiple generations of a family affected by lead beyond their current child: 1 parent had childhood lead exposure, 1 had a younger brother with lead exposure, and 1 had a child, currently in his twenties, who also had childhood lead exposure.
- 5 parents had 2 children with elevated lead levels around the same time.
- 1 parent had a nephew with elevated lead levels living in a different home.
- 5 attended UH Rainbow, 3 attended MetroHealth, and 1 attended NFP.
- 5 had EBLLs ≥ 10 µg/dL, 3 had EBLLs ≥ 5 and < 10 µg/dL, and 1 had EBLLs ≥ 3.5 and < 5 µg/dL.

Parents with previous firsthand experience with lead poisoning were not satisfied with lead education. Instead, prior experience often made them more aware of information gaps and more critical of the education they received:

  - One parent noted that their most recent provider communicated the seriousness of lead poisoning more effectively than the former.
  - One parent felt that healthcare professionals intentionally held back information to avoid alarming parents.
  - Some parents relied on information gained during their older child's diagnosis to help navigate this subsequent lead poisoning experience.
  - Several parents continue to express concerns about inadequate education, particularly that the information on the severity, long-term impacts, and management of lead exposure was still lacking.

Follow-up experiences varied based on their child's blood lead level, with parents with children with ≥10 µg/dL reporting more comprehensive follow-up. This appeared to be consistent across all three healthcare institutions. Three of the four parents in this group received home inspections, successfully identified sources of exposure, and described remediation efforts being completed or initiated. These parents also had greater involvement from support services such as Bright Beginnings, City of Cleveland, and the Lead Safe Coalition. Some parents continued to face challenges with landlord cooperation. As a result, three families moved, often because they viewed relocation as a more reliable way to reduce exposure than waiting for the concerns to be resolved. Nevertheless, this group appeared to have the highest level of support in identifying and addressing lead hazards in the home.

In contrast, the parent whose child had a blood lead level > 3.5 and 10 µg/dL reported receiving considerably less follow-up and support.

None of the four parents received a home inspection, and the source of exposure remained unidentified. Follow-up primarily consisted of education materials, cleaning supplies, dietary

recommendations, and encouragement to contact landlords directly for an inspection. While one parent reported that the landlord promptly completed repainting and repairs, others encountered difficulties reaching landlords or receiving a response. Community support was also less consistent, with some parents receiving referrals to Bright Beginnings but reporting that outreach did not progress beyond initial contact. Housing decisions were often influenced by the diagnosis and housing situation; one parent moved, one decided not to renew the lease, and another reported that the diagnosis contributed to plans to move out of state.

A clear pattern emerged in the level of city involvement. Parents of children with blood lead levels greater than 10 µg/dL received more direct city involvement and support. In several cases, the city contacted landlords directly and established timelines for repairs. In contrast, parents of children with blood lead levels below 10 µg/dL were often advised to contact landlords themselves to request inspections or address potential hazards. Several described these efforts as unproductive due to unresponsive landlords or a lack of follow-through.

Overall, these findings suggest that prior personal or family experience with lead poisoning may increase parents' awareness of lead-related risks and willingness to take action. Nevertheless, differences in access to inspections, remediations, resources, and support services remained closely tied to blood lead level, leaving many parents with children with levels of exposure < 10µg/dL largely responsible for identifying and addressing lead hazards on their own.