



ELEVATE



A Lead Free Future

Research and Recommendations for
Protecting Children from Lead in Water

ELEVATE
AND ILLINOIS
ACTION FOR
CHILDREN



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Overview

Investing in lead prevention and mitigation supports the health and successful learning of children, families, and their communities. A Lead Free Future was developed by Elevate and Illinois Action for Children to share the experiences of child care providers in fulfilling state lead in water testing and mitigation requirements.

In January 2017, the State of Illinois adopted legislation (Public Act 99-0922) to identify lead in drinking water in places where children spend much of their time: child care settings and schools.¹ In January 2019, the Department of Children and Family Services (DCFS) adopted licensing standards mandating certain licensed child care facilities to test all sources of drinking and cooking water and implement a mitigation plan if lead is found at levels of 2.01 ppb or above. It also required all licensed providers to complete a lead safety training. The legislation marked a positive step forward in better protecting children from the detrimental impacts of lead poisoning. It also positioned Illinois as a leader in combating the risks of lead exposure in children. To date, Illinois is one of only 11 states that requires lead testing at child care facilities.²

While the lead testing requirements are critical for achieving progress in tackling lead in drinking water, they also pose a challenge for child care providers to unlock the financial and technical resources needed to complete the required training, testing, and mitigation. Recognizing the need to provide the child care community with technical support, Elevate and Illinois Action for Children (IAFC) offered free lead in water workshops, short-term mitigation tools, and reimbursement for lead testing costs.

Within this report, we identify themes from child care providers on the challenges and successes they experienced through the lead in water testing and mitigation process. These themes were pulled from our efforts to provide technical support to child care providers during the testing and mitigation process,

1. *We recognize that child care settings are broader than what the Illinois law mandated, including unlicensed and Family, Friend, and Neighbor care. Our long-term goal is to eliminate lead in all settings where children are present but this law is specifically for licensed child care homes and centers.*
2. edf.org/health/child-care-lead-water-requirements

Overview

provider responses to a self-reported survey and workshop surveys, as well as a focus group held with child care providers.

This report is designed to not only highlight the provider experience, but also share lessons learned and put forth recommendations for the future of lead removal in Illinois and across the country. This report will also provide an update on continued progress in Illinois to support providers on their lead testing and mitigation journey.

Childhood lead poisoning is 100 percent preventable. And there is no safe level of lead exposure. It is critical that states, communities, and leaders in this field share lessons and ideas on how to improve access to lead prevention, testing, and mitigation so that all children have access to a safe and healthy learning environment.



About Our Organizations

Elevate and Illinois Action for Children are longtime partners working to improve the lives of Illinois residents through advocacy, policy, and programming centered on lead hazard identification and remediation at child care facilities statewide.

Elevate is a nonprofit organization that seeks to create a just and equitable world in which everyone has clean and affordable heat, power, and water in their homes and communities — no matter who they are or where they live. Elevate’s water safety and healthy homes work strategically focuses on child care facilities – particularly those in homes – where efforts can help the most children.

Illinois Action for Children is a nonprofit organization that is a catalyst for organizing, developing and supporting strong families and powerful communities where children matter most. Illinois Action for Children believes that all children and their families, particularly those experiencing poverty, must have access to quality early care and education, as well as systems of family and community support that lead to success in school and in life.

Elevate and Illinois Action for Children have conducted dozens of lead in water workshops to teach child care providers about the health

impacts of lead exposure, how to test their water for lead, and how to develop a plan to mitigate sources of lead. Our organizations also reimbursed home-based child care providers in the Chicago region for lead in water testing costs and connected them with short-term mitigation tools. Elevate also administers a free state-wide lead testing program for child care providers called LeadCare Illinois.

Elevate and Illinois Action for Children worked closely with the Environmental Defense Fund (EDF) to develop educational and training materials for childcare providers. Our organizations thank EDF for their many contributions and support.



Background

Elevate and Illinois Action for Children focus on addressing lead in child care facilities because there is no safe level of lead exposure in children. Exposure is particularly harmful to infants, children under 6 years old, and the developing fetus.

Why focus on lead?

In children, lead in blood is associated with behavior, hearing, and learning problems, along with anemia and slowed growth. Children are particularly susceptible to the damaging effects of lead because their brain and nervous system are still developing and making critical connections. Young children also crawl and put objects in their mouth, which increases their risk of coming into contact with sources of lead.³

Although children are the most vulnerable to the risks of lead, they are not the only group affected by lead. In adults, lead exposure is a risk factor for cardiovascular disease mortality. Lead exposure can also result in increased blood pressure, decreased kidney function, and reproductive issues.⁴

Focusing on lead prevention and abatement can lead to a host of social, health, and economic benefits for current and future generations. Economist Elise Gould conducted a cost benefit analysis on lead hazard control programs and found that each dollar invested in lead hazard control results in a return of \$17 to \$221.⁵ These benefits include a reduction of attributed healthcare costs, an increase in a household's lifetime earnings, increased tax revenue, a reduction in the need for special education services, and a reduction in the direct costs of crime. When looking specifically at lead service lines, a 2018 Pew Charitable Trusts and Robert Wood Johnson report found that replacing lead service lines “in the homes of children born in 2018 would protect more than 350,000 children and yield \$2.7 billion in future benefits.”⁶

3. [cdc.gov/nceh/lead/prevention/health-effects.htm](https://www.cdc.gov/nceh/lead/prevention/health-effects.htm)

4. [epa.gov/lead/learn-about-lead](https://www.epa.gov/lead/learn-about-lead)

5. pubmed.ncbi.nlm.nih.gov/19654928/

6. [pewtrusts.org/en/research-and-analysis/reports/2017/08/10-policies-to-prevent-and-respond-to-childhood-lead-exposure](https://www.pewtrusts.org/en/research-and-analysis/reports/2017/08/10-policies-to-prevent-and-respond-to-childhood-lead-exposure)

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Furthermore, lead poisoning disproportionately impacts children along racial and ethnic lines. In the paper *The Racial Ecology of Lead Poisoning, Toxic Inequality in Chicago Neighborhoods*, researchers examined more than one million blood tests from 1995 to 2013 and found that children from “predominantly black, and to a lesser extent Hispanic, neighborhoods had higher rates of lead poisoning than their white counterparts, even as blood lead levels fell dramatically citywide.”⁷ A recent study by the Metropolitan Planning Council also found that people of color in Illinois are up to twice as likely as white Illinoisans to live in the communities where almost all of Illinois’ lead service lines are located.⁸

Lead in Our Environment

Common sources of lead exposure in children include lead-based paint and lead-contaminated dust.⁴ However, the U.S. Environmental Protection Agency (EPA) estimates that “drinking water can make up 20 percent or more of a person’s total exposure to lead. Infants who consume mostly mixed formula can receive 40 percent to 60 percent of their exposure to lead from drinking water.”⁹ Lead rarely appears naturally in drinking water sources like Lake Michigan. It is also



7. [cambridge.org/core/journals/du-bois-review-social-science-research-on-race/article/racial-ecology-of-lead-poisoning/F39AF4724258606DCC1CDA369DC08707](https://www.cambridge.org/core/journals/du-bois-review-social-science-research-on-race/article/racial-ecology-of-lead-poisoning/F39AF4724258606DCC1CDA369DC08707)

8. [metroplanning.org/news/9960/Data-Points-the-environmental-injustice-of-lead-lines-in-Illinois](https://www.metroplanning.org/news/9960/Data-Points-the-environmental-injustice-of-lead-lines-in-Illinois)

4. [epa.gov/lead/learn-about-lead](https://www.epa.gov/lead/learn-about-lead)

9. [epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water](https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water)

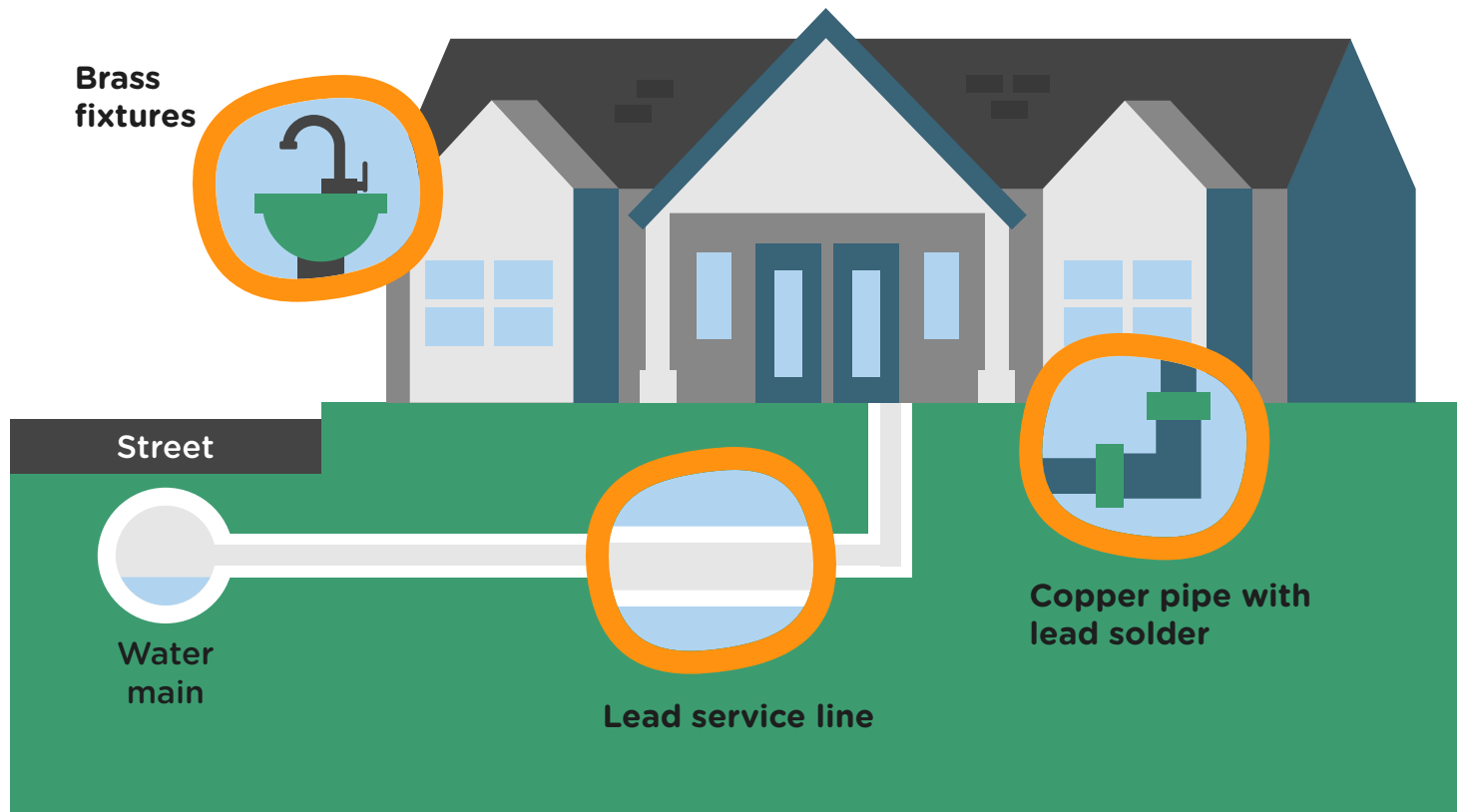
Background

uncommon for lead to originate from a water treatment plant. Most often, lead ends up in drinking water through lead service lines or plumbing materials like lead solder and brass fixtures that leach lead into drinking water through a process called corrosion.⁹ In fact, the main source of lead exposure in residential drinking water in the U.S. is lead service lines. According to research conducted by the U.S. EPA and AWWA Research Foundation, when present, lead service lines contribute an average of 50 to 75 percent of lead detected at the tap.¹⁰

A service line is a pipe that delivers water to a home or business from the water main under the street. These lines may be made of lead if the home or building was constructed before 1987. This is because the federal Safe Drinking Water Act banned the use of lead service lines in 1986.¹¹ The state of Illinois has approximately 700,000 known lead service lines and close to 1,000,000 of unknown material, many of which could be lead pipes.¹² This is more lead service lines than any other state in the country.¹³ Chicago has approximately 400,000 lead service lines.¹⁴

Identifying and replacing lead service lines is an important way to address the main source

How Lead Gets Into Drinking Water



of lead in drinking water. The lead in water testing protocol outlined under the Illinois lead testing rules can help providers pinpoint

internal sources of lead in water; however, it will not pinpoint the presence of a lead service line. It is best practice to identify the presence

9. [epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water](https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water)

10. archive.epa.gov/region03/dclead/web/pdf/91229.pdf

11. U.S. Environmental Protection Agency. (2013). *Summary of the Reduction of Lead in Drinking Water Act and frequently asked questions*. Washington, DC.

12. www2.illinois.gov/epa/topics/drinking-water/public-water-users/Pages/lead-service-line-information.aspx

13. <https://awwa.onlinelibrary.wiley.com/doi/abs/10.5942/jawwa.2016.108.0086>

14. leadsafechicago.org/lead-service-line-replacement

Background



of a lead service line and remove and replace it (if possible) prior to conducting lead in water sampling.

While it is important to address all lead service lines, lead service lines connected to child care facilities must be a top priority due to the amount of time many children spend at these facilities and likelihood that they drink tap water and eat food prepared with water in these homes or buildings. It is also important to conduct lead in water sampling because you cannot see, smell, or taste lead in drinking water.

Lead in Water Testing Requirements for Illinois Child Care Facilities

To begin to address the many issues associated with lead in drinking water, Illinois passed

legislation in January 2017 (Public Act 099-0922) that requires lead testing and mitigation in certain licensed child care homes, centers, and schools. It also requires community water suppliers to create a comprehensive lead service line inventory.

The final rule language included four main requirements for child care providers: test every drinking and cooking water source used for child care operations for lead, notify DCFS and parents of the test results, attend a training on the impact of lead and mitigation plans, and create and adopt a mitigation plan if lead is found at 2.01 ppb or greater.¹⁵ Each requirement is discussed in more detail below.

LEAD TESTING REQUIREMENTS

The legislation requires all licensed centers, homes, and group homes constructed on or before January 1, 2000, that serve children under the age of 6 to test drinking and cooking water sources for lead. Providers are required to send their water samples to the Illinois Environmental Protection Agency (IEPA) lab or an IEPA-certified laboratory for analysis.

The initial deadline for testing was May 1, 2019, although many providers in the state still need to test their water for lead at the time of this writing. When providers renew their child care operating license, DCFS checks to ensure lead in water testing has occurred at the facility (if it was built on or before January 1, 2000) before

renewing the license. As of January 2021, child care providers can test their water for free through LeadCare Illinois, a statewide program that offers free training, testing, and mitigation plan support.

NOTIFICATION REQUIREMENTS

Within 120 days of receiving the test results providers are required to submit their results (regardless of lead level) and, if necessary, a mitigation plan to their local DCFS licensing office. Providers must post their lead test results in a visible location in the facility and notify parents of the results and mitigation plan.

MITIGATION PLANS

If any test result comes back with lead levels at 2.01 ppb or greater, providers are required to develop, implement, and pay for a mitigation plan to reduce the lead levels from that water source to below 2.01 ppb. The mitigation plan must include immediate/interim measures taken to ensure a safe drinking water supply, as well as planned long-term mitigation actions. Once mitigation action/s are implemented, providers must retest their water until two consecutive rounds of testing show lead levels below 2.01 ppb.

PROVIDER TRAINING REQUIREMENTS

Providers are also required to complete and receive a certificate for a one-time lead safety training on the impact of lead exposure and mitigation plan strategies.

15. Title 89: Social Services, Chapter 3: Department of Children and Family Services Subchapter e: Requirements for Licensure. See parts 406, 407, and 408.

Addressing Lead in Water: The Provider Experience

At the time the lead in water testing and mitigation requirements were released, few resources existed to help providers comply and address lead in drinking water.

Elevate and Illinois Action for Children enacted several initiatives to help arm providers with education, funding, and resources to tackle lead in drinking water.

- **Online lead safety training:** Our organizations, along with EDF, developed a four-part webinar series to walk providers through the impact of lead exposure, how lead gets into drinking water, testing protocols for lead in water, and mitigation strategies. Our organizations also coordinated with the statewide professional development entity to convert the webinar series into one online training module that would satisfy the lead safety training requirement described above and meet the overwhelming demand from child care providers for training and education.
- **In-person workshops:** Our organizations also adapted the webinar training series into a 90-minute, in-person lead safety workshop for providers. From 2018 to 2019, Elevate and Illinois Action for Children hosted 25 of these

workshops throughout the state, reaching nearly 950 child care providers serving 5,000 children. The workshops offered providers an added opportunity for in-person Q&A on lead and water and time to review their facility's test results with a trainer. Both the online and in-person trainings were offered to providers in either English or Spanish.

- **Short-term mitigation tools and testing reimbursement:** To assist providers with testing costs and mitigation, Elevate and Illinois Action for Children also launched the Lead in Water Resource Program for home-based providers in the Chicago metro area in 2019. The program offered providers free short-term mitigation tools, including a water pitcher, faucet mount filter, and replacement filters certified to reduce lead in drinking water. The program also provided a reimbursement to child care providers to cover funds spent on lead in water testing. The average reimbursement distributed to home-based providers was \$164.

Addressing Lead in Water: The Provider Experience

As Elevate and Illinois Action for Children worked hand in hand with the child care community, we gained valuable insight into the provider experience with lead testing and mitigation. Through surveys, a focus group session, and data collected through the Lead in Water Resource Program, we gained a clearer picture of both the amount of providers whose lead tests revealed lead above the 2.01 ppb limit, as well as the aspects of the lead testing and mitigation requirements that child care providers found most challenging to meet. This experience is important to share because it reveals trends that can help guide future policies and programs involving lead testing and mitigation.

It is important to note that the section below shares the provider experience from 2018 through 2019. Starting in 2021, Illinois launched LeadCare Illinois, a free lead in water testing, training, and mitigation education program for all licensed providers in the state. This program helps support and enhance the child care provider experience shared throughout this report.



Data Sources

The following sources were used to inform the lead testing and mitigation experience shared in this report.

- **Post-Webinar Survey:** In July 2019, Illinois Action for Children surveyed child care providers across Illinois to learn more about their experiences with lead testing and

mitigation. The survey was sent to 2,299 of the 9,918 licensed child care centers and homes in Illinois and was completed by 673 providers. The survey distribution list was based on the providers who attended the online lead safety training hosted by Elevate, EDF, and Illinois Action for Children.

It is important to acknowledge that this sample might not be fully representative of providers across Illinois, as providers who attended the webinar may be more engaged with the lead testing legislation than providers who did not. Of the 673 providers surveyed, 51 percent (341) reported that they



provide care in a home setting, 43 percent (288) provided care in a center, and 6 percent (44) provided care in a group home. In Illinois, home-based facilities may care for up to 12 children and group facilities up to 16 children in the home.

- **Post-Workshop Survey:** Elevate also surveyed providers after each in-person Lead in Water workshop. In total, 483 providers completed the post-workshop survey. Of the providers completing the survey, 89 percent were located in a home-based facility. Most of the providers completing the survey were located in the Chicago metro area.

- **Focus Group Session:** In February 2020, Elevate conducted a focus group session with 15 home-based providers in the Belmont Cragin neighborhood of Chicago. The providers were primarily women and Spanish speaking. The goal of the focus group was to identify gaps where providers may need additional assistance with lead testing and mitigation.
- **Lead in Water Resource Program Data:** The Lead in Water Resource Program also revealed instructive data about child care providers' experiences with lead testing and mitigation. As with Illinois Action

for Children's provider survey, the data gleaned from the Lead in Water Resource Program may not be fully representative of the experiences of child care providers across Illinois, as it was only for home-based providers in the Chicago metro area and the participating providers may be more engaged with the lead testing legislation overall. Since program participants were asked to submit a copy of their lead in water test results in order to receive reimbursement for testing costs, Elevate was able to collect lab test results from 522 program participants. This data is instructive

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for learning more about the prevalence of lead in providers' drinking water as well as the cost of testing.

Lead Testing Experience

The lead testing standards require providers to collect a first draw and 30 second flush sample from all cooking and drinking water sources that are used for child care operations. The samples must be collected after a 6-to-18-hour period when water is not being used in the facility.

Prior to the launch of a statewide lead testing program in Illinois in 2021, providers had to select an IEPA or IEPA-certified lab to provide them with testing supplies and analyze their samples. In total, providers had 31 labs to choose from, charging a wide range of prices to process samples. The labs also provided a wide range of formats for reporting lab results.

PROVIDER FEEDBACK

During the in-person workshops providers expressed confusion over how to select a lab, including how to find one that offered a fair price. In the focus group conversation, providers also expressed confusion and frustration over how to interpret their test results once they came back from the lab and the need to contact an expert with their questions. In particular, providers expressed that the format of lab reports made it difficult to pick out which samples met or exceeded the 2.01 ppb action level. In turn, this made it difficult to figure out how to move forward with mitigation actions. Furthermore, non-



English speaking providers found the results particularly difficult to conceptualize because they were presented in English. Providers with lab results revealing lead at 2.01 ppb or greater also expressed concern over how to communicate their results with parents.

TESTING COSTS

Both Elevate and Illinois Action for Children collected information on the number of outlets providers tested and the average cost. Illinois Action for Children's provider survey revealed that, on average, home-based providers tested 2.5 outlets. The average cost for testing was \$111. For center-based facilities, the average number of outlets tested was 13.7. The average

Child care providers attend a lead in water safety training hosted by Elevate and Illinois Action for Children.

cost of testing was \$510. Elevate also collected information on testing costs from Chicago home-based providers participating in the 2019 Lead in Water Resource Program. Through this program, Elevate collected test result data from 522 home-based providers. On average, these providers tested 2.6 outlets, with the average cost of testing being \$164.

Addressing Lead in Water: The Provider Experience

TABLE 1

Highest level of lead reported by home-based providers completing Illinois Action for Children’s survey

Results (ppb)	Responses	Percent of responses
0.00-2.00	220	74%
2.01-4.99	48	16%
5.00-9.99	21	7%
10.00-14.99	2	1%
15+	6	2%
Total	297	100%

TABLE 2

Highest level of lead reported by center-based providers completing Illinois Action for Children’s survey

Results (ppb)	Responses	Percent of responses
0.00-2.00	93	53%
2.01-4.99	43	24%
5.00-9.99	17	10%
10.00-14.99	6	3%
15+	18	10%
Total	177	100%

TABLE 3

The breakdown of lead levels from all samples received through Elevate’s Lead in Water Resource Program

Results (ppb)	First draw	30-second flush	Total
0.00-2.00	77%	80%	78%
2.01-4.99	15%	12%	13%
5.00-9.99	5%	5%	5%
10.00-14.99	1%	2%	2%
15+	2%	1%	1%
Total	100%	100%	100%

WHAT THE RESULTS REVEALED

Of the home- and center-based child care providers who took Illinois Action for Children’s self-reported survey, 26 percent of home-based providers and 47 percent of child care facilities reported having at least one water outlet/faucet with lead levels at 2.01 ppb or higher. These providers are distributed throughout the state. Tables 1 and 2 group the lead test results of survey respondents by facility type and by the highest level of lead detected out of all water sources tested.

Beyond the self-reported survey, participants in the 2019 Lead in Water Resource Program were asked to submit a copy of their test results in order to receive a reimbursement from the program. The program received test results from 522 home-based child care

providers in the Chicago metro area. From these lab reports, there was a total of 1,395 first draw sample results and 1,385 thirty second flush results received. In total, 22 percent of all test results came in at or above the action level of 2.01 ppb, while 78 percent of test results were below the action level. The highest first draw result received was 104 ppb, which is more than 50 times higher than the action level. The highest 30 second flush result received was 46 ppb. The tables above provide a summary of all results received through the program.

While the tables show the lead concentration breakdown from all samples received, when looking specifically at the 522 providers who submitted sample results to the program, 38 percent (197) of home-based providers had at least one sample at 2.01 ppb or higher. This is

slightly higher than the self-reported results Illinois Action for Children received from home-based providers.

TESTING EXPERIENCE TAKEAWAYS

All told, both the self-reported survey and actual lab results show that about one-third of home-based providers and nearly half of center-based providers in Illinois need to undergo mitigation actions to reduce lead levels to below 2.01 ppb. This underscores the need to support providers with comprehensive education and financial resources to remediate sources of lead in drinking water. Conversations with providers also highlighted the need for easy-to-read lab reports, guidance on communicating results with parents, and consistent prices from labs on lead tests.

Addressing Lead in Water: The Provider Experience

Mitigation Experience

The next step for any provider receiving a test result at 2.01 ppb or higher is to implement immediate/short-term actions to provide children with a safe drinking water supply. From there, providers must develop a long-term mitigation plan to reduce levels below 2.01 ppb. After mitigation action/s are implemented, providers must retest their water to ensure their mitigation action/s reduce lead levels.

HOW PROVIDERS CAN REDUCE LEAD IN DRINKING WATER

Before implementing a plan to mitigate sources of lead, it is important, although not required, that providers determine how lead is getting into their drinking water.

Ideally, providers should first determine whether they are connected to a lead service line, as this is the largest contributor of lead in drinking water when present. Providers can determine the presence of this line through a visual inspection or by contacting their water utility to see if they have information. If a provider has a lead or galvanized pipe, it is best practice to remove and replace the pipe from the water main to the home or building. Because full lead service line replacement can cost between \$4,000 and \$6,000 on average,¹⁶ this mitigation strategy may not be feasible for many child care facilities.

In addition to determining the material of the water service line, the first draw and 30 second flush test results can help providers pinpoint internal sources of lead.

- If a first draw sample has lead, it may mean lead is coming from the fixture itself. In this scenario, long-term mitigation strategies that address the fixture itself should be used, such as fixture replacement or a long-term filter strategy at the fixture.
- If the 30 second flush sample has lead, the source of lead may be coming from the internal plumbing. Long-term mitigation strategies such as internal pipe replacement,

pipe bypass, or automatic flushing may work best. A long-term filter strategy could also be employed.

- If both samples have lead, mitigation strategies will need to address both the fixture and internal plumbing.

There are several short-term actions providers can implement to ensure the children in their care have a safe drinking water supply until long-term actions are complete. Short-term actions include the installation of signage indicating the fixture should not be used for drinking water consumption, temporarily



16. [regulations.gov/document/EPA-HQ-OW-2017-0300-1769](https://www.regulations.gov/document/EPA-HQ-OW-2017-0300-1769), see Exhibit 5-91

Addressing Lead in Water: The Provider Experience

removing the fixture from service, installation of point of use filters or water pitchers with filters that are NSF-53 certified, manual flushing, and bottled water (with DCFS approval).

MITIGATION PLANS

In a survey, Illinois Action for Children asked providers needing to undergo mitigation for more information on their short- and long-term mitigation plans. Of the participants that reported having lead levels of 2.01 ppb or above, 95 percent (168) said that they had a short-term mitigation plan, while 64 percent (113) said that they had a long-term mitigation plan. Survey participants were asked to provide information on their short-term mitigation plan. The results are summarized below:

- Flushing the water was the most common short-term mitigation action, with replacing water outlets/faucets and stopping use of the water outlets/faucets for drinking purposes representing the second and third most common responses.
- Several providers reported that they did not have a short-term plan in place due to lack of information and cost estimates on mitigation strategies.
- When asked how they plan to pay for their short-term mitigation plan, more than half (62 percent) said that they will use profits from their child care business. Seven percent said they were planning to apply for a grant. Two percent said they were going to host a fundraiser and 1 percent said they were going to take a personal loan. Other



responses included relying on their landlord or headquarter office to cover the cost, not knowing how they will pay for it, and some reported that their short-term mitigation plan did not require funding.

Respondents were also asked about their long-term mitigation plans. The following points summarize the results:

- Replacing the faucets/water outlets was the most common response for long-term mitigation action/s. Using filters and flushing the water were the second and third most common responses. Replacing pipes was another theme mentioned but had low frequency. It is unclear whether respondents plan to replace internal pipes or a lead or galvanized water service line.

Addressing Lead in Water: The Provider Experience

- Participants without a long-term mitigation plan were asked what prevented them from having one. Funds to cover the cost of mitigation and the need for plumber consultation were the top two reasons reported.
- As with short-term plans, the majority of the participants (70 percent) said that they will use the profits from their child care center/home to pay for their plan. The rest of the responses were similar to how they were going to pay for the short-term plans.

If implemented appropriately, many of the mitigation actions listed by providers can help reduce lead in drinking water. However, follow-up conversations need to occur with providers to ensure their selected strategies are implemented appropriately and address the suspected source of lead. Responses from providers also highlight inconsistencies in how some strategies are being implemented, as well as the need for education on how and when to employ various strategies.

- Many providers reported flushing their water before use (anywhere from 5 seconds to up to 10 minutes) as a long-term mitigation strategy. Manually flushing, or running the water, before use is a best practice for improving water quality and can help reduce lead levels. While flushing provides important benefits, it is important that providers verify that lead levels come down after flushing their water for a set period of time. Manual flushing as a long-

“I think it’s very important that everybody gets educated on [lead testing] and knows what to do in case they do have it. Like in my home, for example, the steps that I’ve had to take, not just because I care for these children but for my own family and my own health,”

**DIANA MACIAS,
CHICAGO CHILD CARE PROVIDER**

term strategy can also be challenging because it requires a behavior change and does not permanently address the source of lead. It is also challenging if children have easy access to the water source, as they may not understand the need to flush prior to each use. More conversations are



needed with providers to determine how their lead test results informed their flushing strategy and how it is being implemented at their facility.

- Very few providers said that they will replace internal or external lead pipes as a long-term

Addressing Lead in Water: The Provider Experience

mitigation strategy. More education and conversations around lead and galvanized services lines and internal leaded plumbing are likely needed, as well as financial resources to address this type of plumbing.

- Providers also mentioned using filters as a long-term mitigation strategy. Filters can be very effective, but it is important that providers select the appropriate filters and replace them on a regular basis, according to the manufacturer's instructions.

In addition to the survey, providers discussed the financial strain of mitigation and retesting costs during the focus group session, as well as the need for education on the best mitigation strategies to select based on their test results. And in the post workshop surveys conducted by Elevate, providers listed their top two concerns about the lead testing and mitigation requirements as follows:

- How to mitigate if test results show lead levels at 2.01 ppb or higher
- The cost of testing and mitigation

MITIGATION EXPERIENCE TAKEAWAYS

Provider responses highlight the significant need to provide the child care community with funding, education, and individualized support to select and implement appropriate mitigation strategies.

While providers shared concerns and challenges experienced during the testing and mitigation process, providers overwhelmingly understand the importance of addressing lead in water. In fact, over 90 percent of providers participating in the Lead in Water workshops agreed or strongly agreed that it is important to test their facility's water for lead. Not only did providers understand the importance of the rules, but they expressed the need to provide education on lead in drinking water to Illinois communities. One provider even taught the families she serves about the importance of testing the water in their own homes for lead and bought them water pitchers certified to reduce lead in water.

New Support for Illinois Child Care Providers

While this report primarily examines Elevate and Illinois Action for Children's engagement with the child care community from 2018 to 2019, the landscape in Illinois continues to evolve.

In 2020, the State of Illinois announced the formation of a statewide lead in water testing program for all licensed child care providers called LeadCare Illinois. The program offers free lead in water testing, lead safety trainings, and individualized support with understanding test



results and developing a mitigation plan. The IEPA lab analyzes all samples free of charge to providers. The manner in which lab results are reported back to providers has also been simplified and any result at 2.01 ppb or above is flagged for providers using red text. All communications are offered to providers in English and Spanish and providers have access to templates to help them communicate with parents throughout their lead testing journey. The program is a collaboration between Elevate, the Illinois Department of Public Health (IDPH), IEPA, and Illinois Action for Children.

Beyond LeadCare Illinois, the U.S. EPA also announced in Fall 2020 that additional funds will be coming to Chicago to help child care providers pay for the cost of mitigation. Both the statewide testing program and mitigation support for Chicago are possible because of grant funding made available by the U.S. EPA through the Water Infrastructure Improvements for the Nation (WIIN) Act, state leadership, and the City of Chicago.

Lessons Learned

Because Illinois is an early adopter in addressing lead in drinking water at child care facilities, there are important lessons to learn from Illinois' challenges and successes.

The following lessons and best practices may be instructive for other states or communities considering implementing or updating testing requirements at child care homes, facilities, or schools.

LEARN FROM OTHER STATES WITH TESTING PROGRAMS

Before moving forward with testing and mitigation requirements, speak with other states that have undergone similar efforts to learn from their successes and challenges.

DESIGNATE AN ACTION LEVEL FOR REMEDIATION AND REQUIRE RETESTING

In Illinois, child care providers are required to undergo short- and long-term mitigation actions if lead is present at 2.01 ppb or greater. If lead is found, providers are also required to conduct two rounds of follow-up testing to ensure the effectiveness of their selected mitigation strategies. It is important to have an action level and mitigation requirement so that efforts are undertaken to address lead in water. Be prepared to explain the importance of the action level you select and to offer guidance on acceptable mitigation actions as child care

providers will have questions. Retesting is also critically important to ensure a reduction in lead levels.

DETERMINE WHO WILL CONDUCT LEAD IN WATER TESTING

Carefully consider who will conduct lead in water testing at child care facilities in your state. For example, will child care providers, water utilities, or a third party conduct the testing? Depending on which party is responsible for lead in water testing, different levels of training and financial support will need to be provided.

PROVIDE FINANCIAL SUPPORT FOR TESTING AND MITIGATION

It is critical to provide financial support for the child care providers required to test and mitigate lead on their own. This is especially important for home-based providers who may not have many resources to cover testing and mitigation costs.

INCLUDE CHILD CARE PROVIDERS AND ADVOCACY GROUPS IN EARLY DISCUSSIONS

Talk with child care providers (both home-

Lessons Learned

and center-based) before any requirements or instructions go live. Providers will have valuable input on where the requirements may be confusing or difficult to implement. Identify leading child care advocacy groups in your state and explore partnership opportunities. State and local advocacy and provider groups can be a powerful tool for getting the word out.

OFFER ROBUST TRAINING AND SUPPORT ON THE TESTING AND MITIGATION REQUIREMENTS

Consider offering training, both online and in-person, that walks providers through the health effects of lead, how it gets into drinking water, how to read sample results, mitigation options, and how to communicate with parents. Also have a designated agency or group that can respond to provider questions about testing and mitigation.

CREATE MATERIALS IN MULTIPLE LANGUAGES

To ensure an equitable rollout of your requirements, translate the rules and supporting materials into multiple languages. This will help you reach many more providers about the importance of addressing lead in water.

ENCOURAGE STREAMLINED COMMUNICATIONS ABOUT TESTING REQUIREMENTS

Provide robust training on the new rules for any labs, child care licensing agents, or parties communicating with providers about the requirements. These representatives will be asked many questions and it is important to

have consistent messaging and instructions.

REQUIRE TRANSPARENCY AROUND TEST RESULTS AND MITIGATION ACTIONS

In Illinois, providers are required to make their lead test results and mitigation actions available to parents. It is critical that any testing program require the sharing of test results with parents and staff. Children spend a lot of time at child care facilities and it is important to keep parents and staff

informed about lead levels in drinking water. Transparency also helps build trust with the child care community.

PROVIDE GUIDANCE ABOUT LEAD SERVICE LINES

Because lead service lines can unpredictably release lead into drinking water, it is critical to offer providers guidance about how to identify the presence of these lines and appropriate actions to take if a lead service line is present.



Lessons Learned

Updates to the Federal Lead and Copper Rule

In late 2020, the U.S. EPA updated its Lead and Copper Rule (LCR) to include requirements for lead in water testing at schools and child care facilities. The anticipated updates to the LCR will require water utilities to test five water outlets at schools and two water outlets at child care facilities over the course of five years. Child care facilities may decline having their water tested. The anticipated updates do not set an action level for mitigation, require notification to parents, or require mitigation if lead is found.¹⁷

We encourage states to review the lessons learned from the Illinois testing and mitigation experience to expand on the testing provisions included in the updated LCR. We especially encourage states to consider the importance of testing all drinking and cooking water sources, designating an action level for mitigation, providing mitigation guidance and financial assistance, as well as notifying and communicating with parents about lead test results and follow-up actions. Incorporating these lessons learned in any testing effort will help ensure more children are protected from the damaging effects of lead.



17. [epa.gov/ground-water-and-drinking-water/proposed-revisions-lead-and-copper-rule](https://www.epa.gov/ground-water-and-drinking-water/proposed-revisions-lead-and-copper-rule)

Recommendations and Conclusion

Ensuring children live, learn, and play in a lead-free environment will require action beyond strong lead in water testing programs for child care facilities.

The following recommendations offer insight on how to continue to achieve progress on the removal of lead hazards in child care facilities and homes in Illinois and across the country.

ONGOING EVALUATION OF OPPORTUNITIES TO IMPROVE LEAD IN WATER TESTING AND MITIGATION

DCFS, in consultation with IDPH, providers, lead experts, and advocates should consider the Lessons Learned and Provider Takeaways outlined in this report and evaluate actions to take – including updating rules, procedures or communication materials – to best support child care providers and licensing staff in the ongoing implementation and enforcement of lead in water requirements.

FUNDING TO ADDRESS LEAD HAZARDS, MITIGATION, AND PREVENTION

Investing in a comprehensive program to address all lead hazards (i.e. paint, water, soil, etc.) is essential to protect children most at risk of lead poisoning. By aligning and braiding

funding through one comprehensive program there is a greater chance of reaching those most at risk. A comprehensive program would also create efficiencies for the funder as well as the end user. Child care facilities and other places where children spend time (i.e., schools, parks and community facilities, after school and summer programs, unlicensed child care, etc.) should be prioritized. Efforts must also be concentrated in those communities that continue to be disproportionately impacted by lead poisoning. Financial resources for these settings must be sufficient to cover a lead risk assessment, lead in water testing, disclosure/communication, lead abatement, and lead in water mitigation. Child care providers also need support and education on the hazards of lead and appropriate mitigation strategies.

INCREASED SURVEILLANCE AND TRACKING OF CHILDREN NEEDING AND RECEIVING LEAD SCREENING TESTS

Under Illinois law, parents and guardians of children under the age of 6 are required to

Recommendations and Conclusion

provide certification from a physician that their child has been screened for lead (using a blood lead test) or received an assessment for lead exposures. However, in Illinois and in other states that require lead tests for children, many children are not receiving these critical tests. For example, Medicaid requires young children receive a blood lead test; however, a 2016 investigation into Medicaid data found that only 41 percent of enrolled 1 and 2 year olds had been tested.¹⁸ Some reasons for a gap in testing include funding cuts to track children in need of these tests, a reliance on parental questionnaires to identify children needing a test, a lack of awareness about the requirements, and a lack of enforcement of the requirements.¹⁸ To ensure more young children receive these critical tests, better tracking and surveillance of who is receiving tests is needed, along with increased education about these important requirements.

FUNDING TO SUPPORT PUBLIC HEALTH DEPARTMENTS IN THE MANAGEMENT OF LEAD CASES

In recent years, CDC guidance and some states have lowered blood lead action levels for children. For example, in 2019, Illinois rules reduced the blood lead action level in children from 10 micrograms per deciliter to five.¹⁹ While this new standard positions Illinois as a leader in preventing childhood lead poisoning, it is expected that the



number of children referred for lead follow up will increase.

Public health departments and nurses need additional funding and support to manage

the increase in the number of children identified for lead follow up. Furthermore, lower action levels highlight the need for comprehensive programs to fully cover the cost of lead abatement for low-income

18. [reuters.com/investigates/special-report/lead-poisoning-testing-gaps/](https://www.reuters.com/investigates/special-report/lead-poisoning-testing-gaps/)

19. dph.illinois.gov/news/illinois-department-public-health-lead-rules-approved



facilities where the cost of abatement and mitigation exceeds their ability to address the lead hazards.

LEAD SERVICE LINE REPLACEMENT

Enacting a statewide lead service line replacement plan is critical. Lead service lines are the largest contributors of lead in drinking water and with approximately 700,000 known lead services lines, Illinois has more of these pipes than any other state in the country. This issue needs to be addressed statewide, starting with the highest risk areas. Removal of lead service lines connected to child care facilities must be a top priority due to the amount of time children spend at these facilities. It is also critical that the statewide plan prioritizes full replacement of the lead service lines. As of June 2021, Illinois has made significant progress on this front with the Illinois legislature having passed the Lead Service Line Replacement and Notification Act (HB3739). This Act will require community water suppliers to develop and implement a comprehensive lead service line replacement plan.

Conclusion

Childhood lead poisoning is 100 percent preventable. If we successfully remove lead hazards from homes and child care facilities where children spend most of their time, we will not only be protecting our children's safety but also propping up our future leaders. Illinois has made significant progress in lead removal and education, and we are continuing to advocate for a fully integrated and equitable approach as state-sponsored testing and mitigation opportunities expand.

We know that to remove lead and educate child care providers and parents on mitigation we must have policies and programs that set providers up for success. We encourage policymakers, advocates, parents, and providers to work together in Illinois and across the country to ensure no more children suffer the devastating, and avoidable, consequences of lead poisoning.



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