



MURIEL BOWSER
MAYOR

August 15, 2023

The Honorable Phil Mendelson
Chairman
Council of the District of Columbia
John A. Wilson Building
1350 Pennsylvania Avenue, NW, Suite 504
Washington, DC 20004

Dear Chairman Mendelson:

I am hereby submitting to the Council of the District of Columbia the enclosed *Childhood Lead Screening Report* for fiscal year 2021, which was prepared by the Department of Energy and Environment (DOEE) pursuant to section 2003(g) of the Childhood Lead Poisoning Screening and Reporting Act of 2002, effective October 1, 2002 (D.C. Law 14-190; D.C. Official Code § 7-871.03(g)).

This report documents blood lead level results from fiscal year 2021 as reported to DOEE. In FY 2021, more than 99% of tested children had a BLL below 5 µg/dL. DOEE found no major issues with compliance in reporting of test results by laboratories, healthcare providers, and healthcare facilities. Based on current BLL testing trends and existing risk factors for lead exposure, the primary recommendations are to expand outreach to families and health care providers to increase compliance with required testing of every child at both 6–14 months and 22–26 months of age (an easy way to remember: test every child, twice by two), and to implement strategies to decrease the presence of lead hazards in the home.

My administration is available to discuss any questions you may have regarding this report. In order to facilitate a response to your questions, please contact Amber Sturdivant, Associate Director, Lead-Safe and Healthy Housing Division, Department of Energy and Environment, Amber.Sturdivant@dc.gov.

Sincerely,

A handwritten signature in black ink that reads "Muriel Bowser".

Muriel Bowser

Enclosure

Childhood Lead Screening Report

District of Columbia

Fiscal Year 2021

Lead-Safe and Healthy Housing Division

Childhood Lead Poisoning Prevention Program

Department of Energy and Environment
1200 First Street NE, 5th Floor, Washington, DC 20002
Telephone: (202) 535-2600 • doee.dc.gov

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Glossary

BLL	Blood lead level, a measure of concentration of lead in blood
Capillary Test	A blood lead test using blood drawn via a finger or heel stick
DC AAP	District of Columbia Chapter of the American Academy of Pediatrics
D.C.M.R.	District of Columbia Municipal Regulations
DCR	District of Columbia Register
DHCF	Department of Health Care Finance
EBLL	Elevated BLL. An EBLL is a single BLL result (capillary or venous) at or above the reference value of 5 µg/dL established by CDC in 2012
False Positive	A capillary test result ≥ 5 µg/dL followed by a venous test result < 5 µg/dL
Fiscal Year (FY)	October 1 of each year to September 30 of the succeeding calendar year
GIS	Geographic Information System
HHL PSS	Healthy Homes and Lead Poisoning Surveillance System
Incident Case	A newly confirmed venous blood lead test result ≥ 5 µg/dL or two capillary blood lead test results ≥ 5 µg/dL drawn within 12 weeks of each other
Ongoing EBLL	A preexisting case where a confirmed BLL ≥ 5 µg/dL in a previous fiscal year is followed by a BLL ≥ 5 µg/dL in a subsequent fiscal year
Prevalence	Includes all cases, both new (incidence) and preexisting (ongoing)
Screening Test	A blood lead test for a child without a previously confirmed EBLL. A child screened multiple times in a given year is counted only once for each year.
Unconfirmed EBLL or Case	A single capillary blood lead test ≥ 5 µg/dL, or two capillary tests ≥ 5 µg/dL drawn more than 12 weeks apart
µg/dL	Micrograms of lead per deciliter of whole blood
Venous Test	A blood lead test using blood drawn from a vein

Overview

There is no identified safe blood lead level (BLL).¹ Children less than six years old are especially vulnerable to lead poisoning and its harmful effects. Blood lead concentrations of children living in lead-contaminated environments typically increase beginning in late infancy, peaking at 18–36 months of age, and declining slowly over the next few years.² Even low BLLs can damage the brain and nervous system, causing learning and behavior problems and a lower IQ.^{3,4} Higher BLLs may lead to hearing and speech problems, delayed growth, organ damage, and death.⁴

Childhood lead poisoning is preventable. However, persistent environmental lead hazards where children live, learn, and play remain a threat. Known risk factors include minority race/ethnicity, poverty, and housing age.⁵ Exposure to lead is most common when children ingest dust, paint chips, or soil contaminated by deteriorating paint in and around homes built before the 1978 ban on lead-based household paint.⁶ Exposure to lead may also occur when occupied homes known to have lead materials are being abated or renovated in the presence of the residents.⁷ Children are also exposed to lead that enters drinking water via lead pipes, solder, brass fixtures, or valves. Other potential lead exposures include imported candy, spices, cosmetics, toys and toy jewelry, pottery and ceramic cookware, and traditional home health remedies.⁶

Removing lead hazards from the environment is the most effective way to prevent the harmful long-term effects of childhood lead exposure.⁷ However, conducting blood lead screening tests, identifying high-risk populations, and ensuring effective follow-up and referrals to recommended medical, environmental, and social services for children with elevated BLLs and their families remain critical secondary prevention strategies.^{5,6}

¹ Centers for Disease Control and Prevention. (2022, February 7). *Blood Lead Levels in Children*.

<https://www.cdc.gov/nceh/lead/prevention/blood-lead-levels.htm>

² Advisory Committee on Childhood Lead Poisoning Prevention. Centers for Disease Control and Prevention. (2007, November 2). *Interpreting and Managing Blood Lead Levels <10 µg/dL in Children and Reducing Childhood Exposures to Lead*. 56(RR08), 1-14;16. <https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5608a1.htm>.

³ Grosse, S. D., Matte, T. D., Schwartz, J., Jackson, R. J., & Brewer, R. F. (2002). The economic benefits of lead hazard control in U.S. housing. *Environmental Health Perspectives*, 110(9), 903-907.

⁴ Lanphear, B. P., Dietrich, K., Auinger, P., Cox, C., & Braun, J. (2005). Cognitive deficits associated with blood lead concentrations <10 µg/dL in U.S. children and adolescents. *Public Health Reports*, 120(6), 572-579.

⁵ Brown, M. J., Dietrich, K. N., Radcliffe, J., & Gwinn, M. (2016). Environmental disparities in the blood lead levels of young children in the United States. *Environmental Health Perspectives*, 124(8), 1301-1308.

⁶ Centers for Disease Control and Prevention. (2017). Understanding and preventing lead exposure. Retrieved from <https://www.cdc.gov/nceh/lead/>

⁷ Centers for Disease Control and Prevention. (2020). Protecting your family from lead in your home. Retrieved from <https://www.cdc.gov/nceh/lead/renovation/index.html>

Executive Summary

According to the Code of the District of Columbia, specifically D.C. Code § 7–871.03, all children in the District of Columbia must be tested for lead exposure at certain ages. Through this legislation, DOEE is required to issue an annual report summarizing and analyzing the lead screening results obtained under the authority of the Act.⁸ This report provides an update on the incidence and prevalence of childhood lead poisoning in the District for Fiscal Year 2021 (October 1, 2020, through September 30, 2021). It also describes actions taken and planned to improve compliance with the requirements of the Act and its implementing rules to ensure District children below six years of age are tested for lead in blood and that lead-exposed children receive medical case management and other follow-up treatment.

Children in this report are defined as below six years of age and residing in the District. For this report, an elevated BLL (EBLL) is one single blood lead test (capillary or venous) at or above the blood lead reference value of 5 micrograms per deciliter ($\mu\text{g}/\text{dL}$) set by the Centers for Disease Control and Prevention (CDC).⁹ A confirmed EBLL case is one venous BLL test result $\geq 5 \mu\text{g}/\text{dL}$ or two capillary BLL test results $\geq 5 \mu\text{g}/\text{dL}$ drawn within twelve (12) weeks of each other.

In FY 2020, 13,477 District children had at least one BLL test result on record, virtually unchanged from the year before. **In FY 2021, more than 99% of tested children had a BLL below 5 $\mu\text{g}/\text{dL}$.** Of the 151 reported EBLL test results in FY 2021, 67 (44%) were new confirmed (incident) cases, 64 (42%) were unconfirmed, and 20 (13%) were ongoing cases identified in a previous year. The majority of new confirmed EBLLs were in the 5.0–9.9 $\mu\text{g}/\text{dL}$ range.

In FY 2021, DOEE found no major issues with compliance in reporting of test results by laboratories, healthcare providers, and healthcare facilities. Based on current BLL testing trends and existing risk factors for lead exposure, the primary recommendations are to expand outreach to families and health care providers to increase compliance with required testing of every child at both 6–14 months and 22–26 months of age (an easy way to remember: test every child, twice by two), and to implement strategies to decrease the presence of lead hazards in the home.

⁸ § 7–871.03. “Childhood Lead Screening and Reporting Requirements.” Code of the District of Columbia, code.dccouncil.gov/dc/council/code/sections/7-871.03.html.

⁹ Centers for Disease Control and Prevention. (n.d.). Blood lead levels in children: Reference value. Retrieved from <https://www.cdc.gov/nceh/lead/prevention/blood-lead-levels.htm>

Lead Screening Requirements

The District’s Childhood Lead Poisoning Screening and Reporting Act of 2002 (D.C. Law 14-190; D.C. Official Code §§ 7-871.01 *et seq.*), as modified by the Childhood Lead Screening Amendment Act of 2006, effective March 14, 2007 (D.C. Law 16-265) and per subsequent rulemaking, established a universal blood lead screening mandate. Each health care provider or health care facility (hereinafter, “providers”) must perform BLL screening for District children at ages 6–14 months and 22–26 months as part of a well-child visit, unless parental consent is withheld, or an identical test has already been performed within the last 12 months.¹⁰ If a child over the age of 26 months has not previously been tested, the child must be tested at least twice before the child reaches the age of six years, at least 12 months apart or according to a schedule determined appropriate by the provider.¹⁰ Providers must also conduct BLL screening when a child is at risk for high-dose lead exposure based on living conditions, a parent’s occupational exposure to lead, a history of lead poisoning in siblings or playmates, or as indicated by the child’s behavior or development.

Lead Screening Surveillance

The Mayor delegated to DOEE the responsibility to receive BLL test reports from laboratories and providers concerning children younger than six years of age who resided in the District at the time of testing. District law also requires laboratories to immediately report a lead-poisoned child to the provider and to DOEE by telephone or fax. Laboratories include healthcare facilities that use a point-of-care testing device to measure lead in capillary blood obtained from a finger or heel prick. DOEE hosts a secure site for laboratories to submit electronic test reports. DOEE processes and uploads the reported information into its Healthy Homes and Lead Poisoning Surveillance System (HHPSS). DOEE monitors laboratory reporting to identify any uploading errors or reporting inconsistencies and promptly notifies laboratories to address any concerns.

Data Methods and Case Definition

To assess compliance with lead screening and reporting requirements under the District’s universal screening mandate, DOEE analyzed lead surveillance data from HHPSS using Statistical Analysis Software (SAS) 9.4, Excel, ArcGIS, Tableau, and other analytic tools. Case counts for FY 2021 are for children who were below six years (72 months) of age and residing in the District at the time of the BLL test.

This report summarizes the results of this analysis for the following measures in FY 2021:

¹⁰ The District’s Childhood Lead Poisoning Screening and Reporting Act of 2002, D.C. Law 14-190, D.C. Official Code §§ 7-871.01 *et seq.*.

- Number of children tested at least once for blood lead,
- Number and percent of tested children with an EBLL (prevalence),
- Number and percent of tested children with a new EBLL (incidence),
- Distribution of confirmed EBLLs by BLL range, and
- Geographic hotspot areas for lead exposure.

This report uses the following surveillance definitions and classifications:

- **Screening Test:** A screening test is a blood lead test for a child without a previously confirmed EBLL. A child screened multiple times in a given year is counted only once in the total number of children tested during the year.
- **Incident (new confirmed) EBLL:** A child with no prior BLL ≥ 5 $\mu\text{g/dL}$ for whom: (1) one BLL result performed on venous blood was found to be ≥ 5 $\mu\text{g/dL}$; (2) one capillary and one venous test within 12 weeks were found to be ≥ 5 $\mu\text{g/dL}$; or two capillary tests not performed on the same day but within 12 weeks were found to be ≥ 5 $\mu\text{g/dL}$.
- **False-positive result:** One capillary BLL test result ≥ 5 $\mu\text{g/dL}$ followed by a venous test result < 5 $\mu\text{g/dL}$ for the same child.
- **Ongoing EBLL:** A confirmed BLL ≥ 5 $\mu\text{g/dL}$ in a previous fiscal year followed by a BLL ≥ 5 $\mu\text{g/dL}$ for the same child in a subsequent fiscal year.
- **Unconfirmed EBLL:** A child with one capillary blood test ≥ 5 $\mu\text{g/dL}$ for whom no venous or capillary test occurred within the following 12 weeks.
- **Not elevated:** A child who had either no BLL ≥ 5 $\mu\text{g/dL}$, or who had an initially elevated capillary BLL that was found to be < 5 $\mu\text{g/dL}$ on a venous retest.

COVID-19 Effect on FY 2020 Blood Lead Level Testing

COVID-19 Introduction

The COVID-19 pandemic posed substantial challenges to many governmental agencies and city entities, particularly those providing public-facing services and inspections. Among these challenges was the safety of personnel and the public, leading to a significant reduction in the total number of patients tested for blood lead levels. This decrease was primarily due to concerns about potential viral exposure for both patients and employees and the closures of child development facilities and schools transitioning to remote learning.

During the initial stages of the pandemic, there were subsequently confirmed declines in BLL testing surveillance, as seen below. These decreases were attributed to several pandemic-related factors. Staffing shortages, difficulties in conducting home visits, and a general decrease in pediatric medical services all contributed to lower BLL testing rates. In addition, there were potential delays in laboratory reporting and data entry backlogs, as well as the repurposing of laboratory and health department resources for COVID-19 activities.

Our public health analysts projected that these conditions could result in an increase in lead exposure cases in FY 2021. This prediction assumed that children would be spending more time within their home environments due to COVID-19 restrictions, which could potentially have higher chances of lead exposure than schools. However, these projections were complicated by the limitations in BLL testing capacity despite these challenges, ongoing observations of patient testing and monthly changes during FY 2020 helped to monitor the situation. In FY 2021, despite an initial decline, we observed a gradual recovery of BLL testing to near pre-pandemic levels by the end of the year. This trend confirmed our analysts' earlier predictions. Further, we noted an increase in incident elevated BLL cases (67 cases) in FY 2021 compared to both FY 2019 (51 cases) and FY 2020 (35 cases). This increase aligns with the prediction that DOEE would see a rise in lead exposure cases due to patients living within their respective home environments and the lifting of COVID-19 closures.

COVID-19 Testing Trends

To better understand BLL testing trends among young children within the District of Columbia during the COVID-19 pandemic, we analyzed BLL data collected from the FY 2019, FY 2020, and FY 2021 HHLPSS database. The focus of BLL testing was among children aged six years of age. The results from this analysis are depicted in the table below (Table 1).

Table 1: Comparison of patients tested during prime coronavirus months of fiscal years 2019 – 2021.

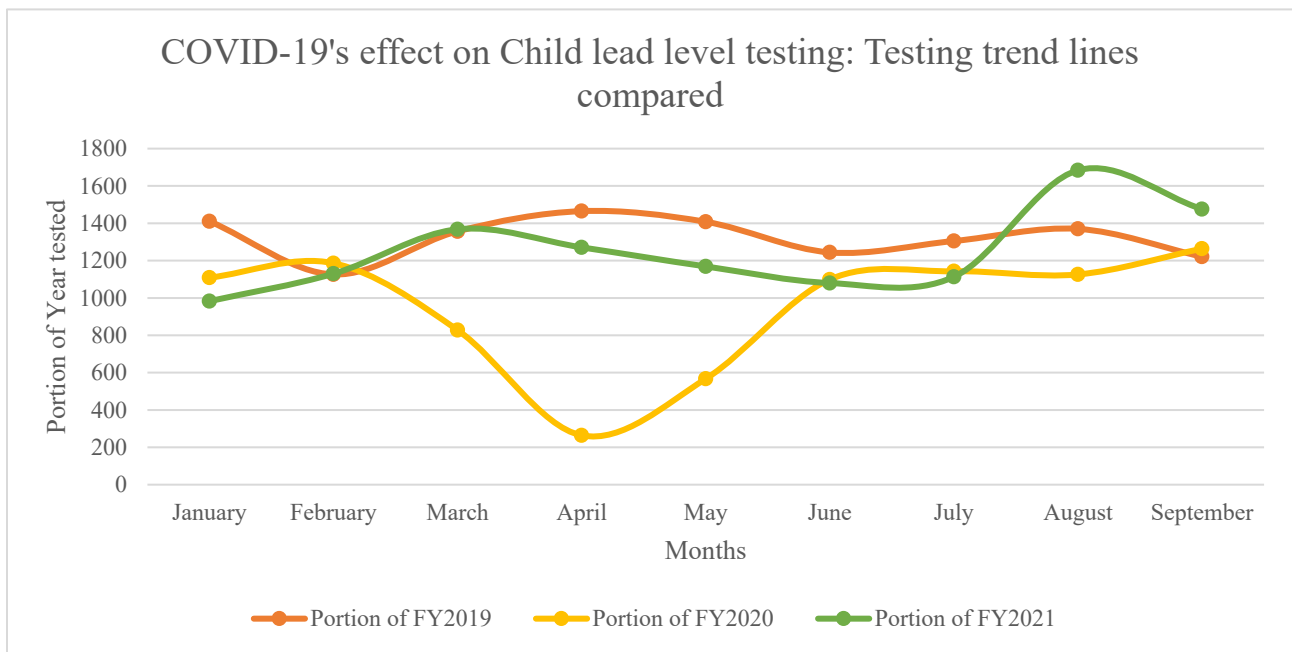
Year	Portion of FY 2019	Portion of FY 2020	Portion of FY 2021	% Change from the year prior FY 2020	% Change from the year prior FY 2021
January	1,411	1,109	983	-21.4	-11.4
February	1,126	1,186	1,130	5.3	-4.7
March	1,357	828	1,368	-39.0	65.2
April	1,465	264	1,271	-82.0	381.4
May	1,408	567	1,169	-59.7	106.2
June	1,244	1,099	1,080	-11.7	- 1.7
July	1,305	1,143	1,113	-12.4	-2.6

August	1,370	1,126	1,684	-17.8	49.6
September	1,221	1,264	1,476	3.5	16.8
Total	11,907	8,586	11,274	-27.9	31.3

During the analysis period, the number of children with BLL testing was lower from January–September 2020 compared with the same period in 2019; the largest proportional decrease (82.0%) occurred in April 2020 (Figure 1). During the early pandemic period (March–May 2020), the number of children with BLL tests (1,659) decreased by 60.8% compared with the same period in 2019 (4,230).

During the analysis period for FY 2021 (Table 1), testing stayed at its lowest point in comparison to the two other years, for the month of January (983) (Figure 1). In FY 2021, testing began to increase at the beginning of the year, January – March (1,368), but started to decline until the month of July. Testing began to recover to pre-pandemic levels between the months of July and August (1,684), surpassing that of 2019 and 2020 towards the end of the month.

Figure 1: COVID-19 BLL Test Comparison FY 2019 – FY 2021



During FY 2021, DOEE continued to conduct outreach to various communities through our CDC-funded grantees and through DOEE-led outreach activities, including June’s Healthy Homes Month and October’s National Lead Poisoning Prevention Week. Also, for children with EBLLs, DOEE provided case management, reminders for repeat blood lead testing, and referrals for lead risk assessments/enforcement and other follow-up services.

COVID-19 had a great impact in 2020, but through our efforts in FY 2021, DOEE was able to match the same testing trend in FY 2019 (pre-pandemic).

Lead Screening Results

Blood Lead Levels

This section describes blood lead screening and EBLL prevalence among children by age and geographic location. In FY 2021, 13,477 District children under six years of age received at least one BLL screening test, a 10.01% increase from the 12,127 children tested in FY 2020 (Table 2).

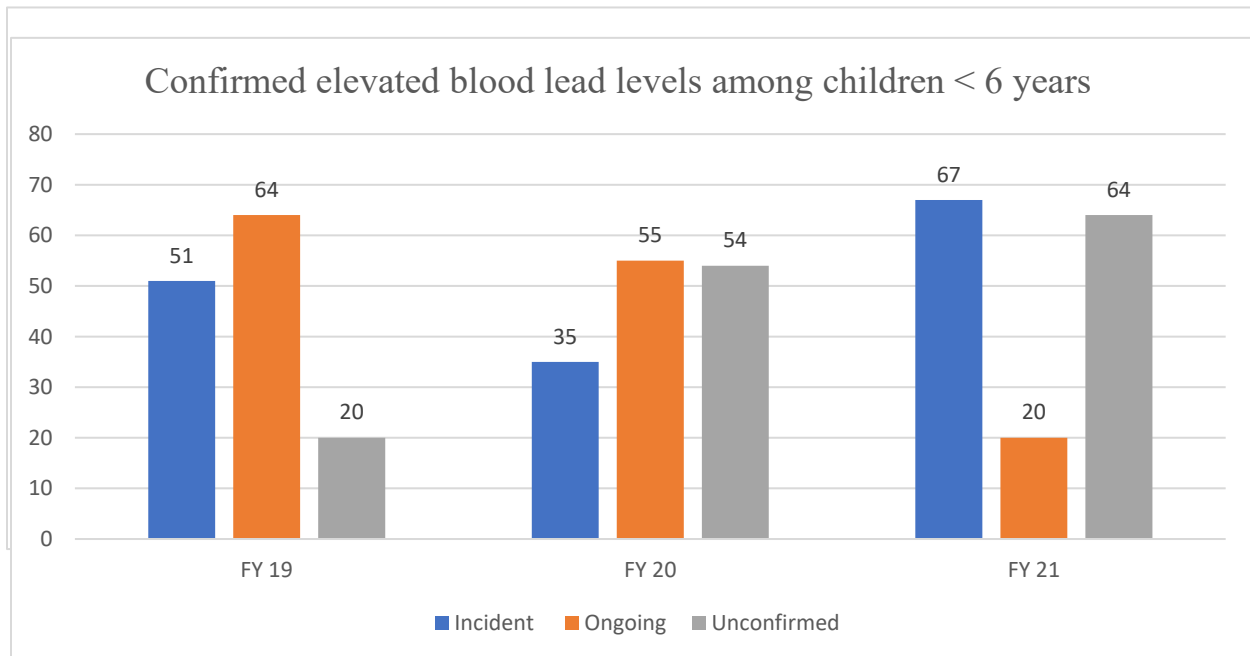
Table 2: Case detection among District children screened for blood lead, FY 2019–FY 2021

Measure	Number of Children Tested			Percent of Children Tested			
	FY 2019	FY 2020	FY 2021	FY 2019	FY 2020	FY 2021	
Children < 6 years of age	15,391	12,127	13,477				
Not elevated (< 5 µg/dL)	15,256	11,983	13,326	99.12%	98.81%	99%	
Elevated (≥ 5 µg/dL)	Incident	51	35	67	0.33%	0.24%	0.44%
	Ongoing	64	55	20	0.42%	0.38%	0.13%
	Unconfirmed	20	54	64	0.13%	0.37%	0.42%

Elevated Blood Lead Levels ≥ 5 µg/dL

Among the 13,477 children below six years of age tested for lead in FY 2021, 13,326 (98.90%) had a BLL below the CDC reference value of 5 µg/dL (Table 2). This analysis excludes false-positive test results from the count of EBLL results.

Figure 2: Proportion of children with a blood lead level $\geq 5 \mu\text{g/dL}$ among all children under 6 years of age residing in the District of Columbia with at least one reported blood lead test in FY



2021

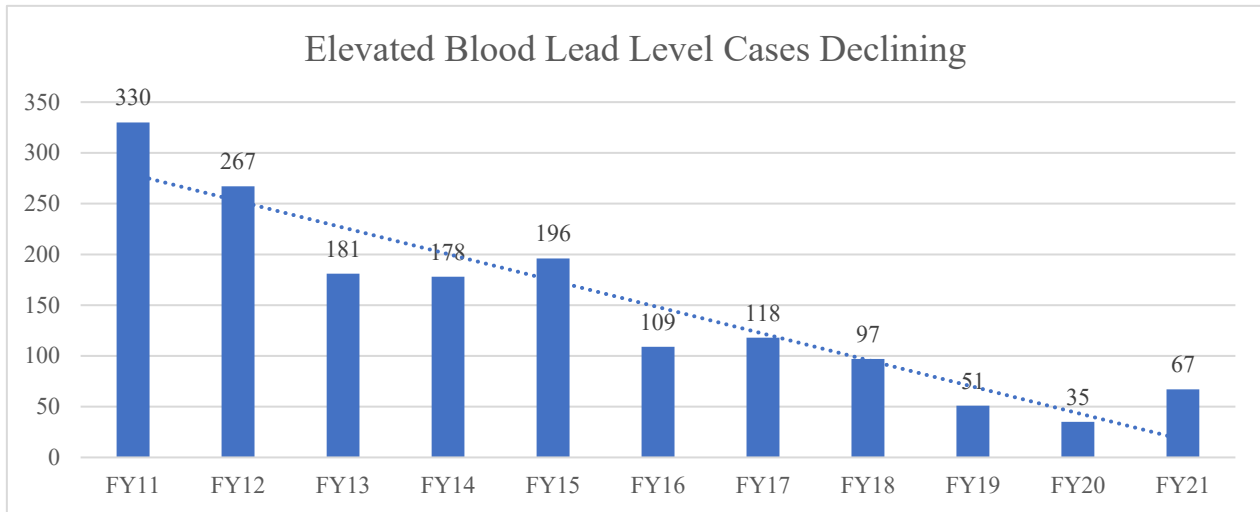
Of the 151 EBLL test results reported to DOEE in FY 2021, 67 (44%) were identified as new confirmed (incident) cases, 20 (13%) were EBLL cases first identified in a previous fiscal year, and 64 (42%) remained unconfirmed during the fiscal year (Figure 3).

Figure 3: Number of children with incident, ongoing, or unconfirmed elevated blood lead levels among children < 6 years residing in the District of Columbia and tested in FY 2019–FY 2021

Blood Lead Level Trends

Like many other jurisdictions around the country, the District has seen a declining trend in the incidence of EBLLs over the past decade (Figure 4). With the COVID-19 pandemic beginning in 2020, the increase in confirmed cases for the FY 2021 year was expected. There were 67 confirmed EBLL cases among District children in FY 2021, an increase from 51 cases in FY 2019 and 35 cases in FY 2020.

Figure 4: New confirmed elevated blood lead level cases declining in the District of Columbia



Number of confirmed cases of blood lead levels ≥ 5 $\mu\text{g}/\text{dL}$ in children <6 years of age and residing in the District of Columbia, FY 2010–FY 2020

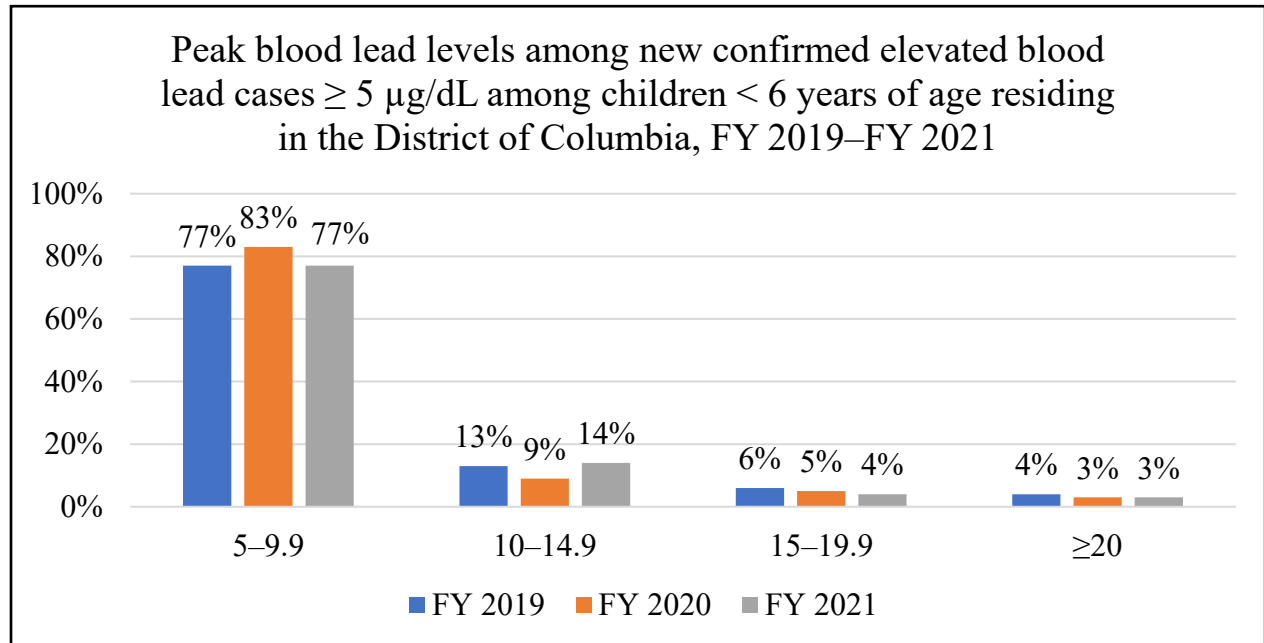
The risk of harmful health effects increases as the concentration of lead in the blood rises.¹¹ As stated earlier in this report, studies have shown that even low levels of lead in the blood can have harmful effects on a child’s development. Higher levels of lead in the blood can cause more severe health problems, such as organ damage and death.¹² To prevent lead exposure and reduce the risk of health problems in children, DOEE monitors the distribution of peak blood lead levels among cases of elevated blood lead in the DC population. This information, in turn, helps target prevention efforts and interventions to areas or groups of children where the risk of lead exposure is highest.

¹¹ Grosse, S. D., Matte, T. D., Schwartz, J., Jackson, R. J., & Sharrett, A. R. (2002). Cumulative lead dose and cognitive function in elderly men: The Veterans Affairs Normative Aging Study. *Environmental Health Perspectives*, 110(3), 543-548.

¹² Needleman, H. L., Gatsonis, C. A., Kennedy, D., et al. (2002). The long-term effects of exposure to low doses of lead in childhood: An 11-year follow-up report. *The New England Journal of Medicine*, 346(22), 1621-1627.

In FY 2020, 83% of new confirmed EBLL cases among District children had a peak BLL between 5.0 µg/dL and 9.9 µg/dL (Figure 5). Although less common, EBLs at higher levels still occur.

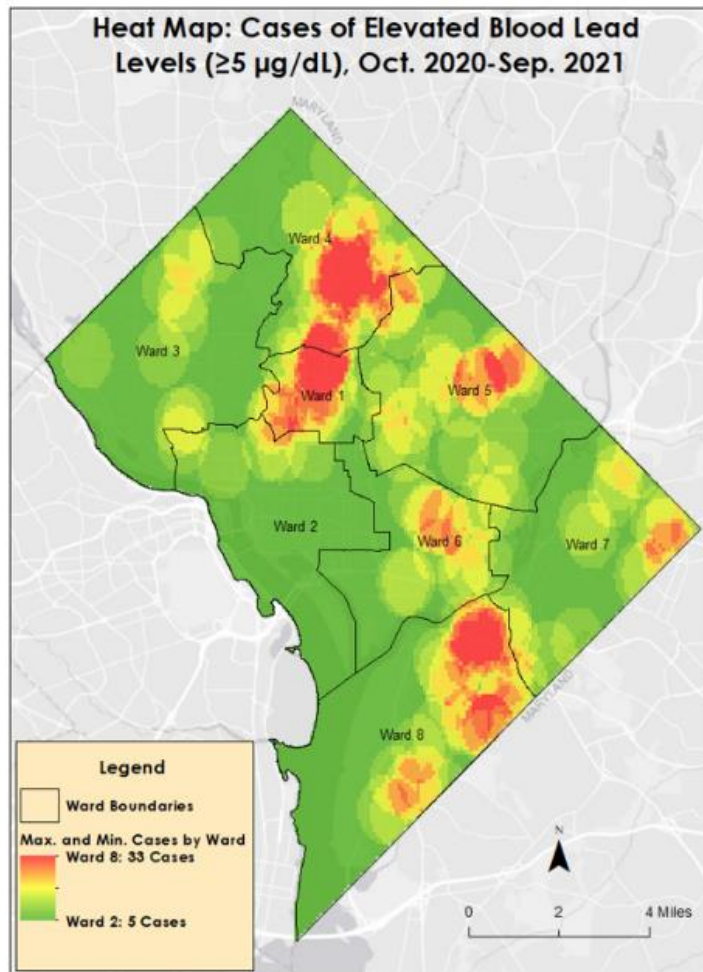
Figure 5: Distribution of peak blood lead levels among new confirmed elevated blood lead cases ≥ 5 µg/dL among children < 6 years of age residing in the District of Columbia, FY 2019–FY 2021



With the widespread distribution of pre-1978 housing, the District is a high-risk jurisdiction for residential lead hazards. Almost two thirds (63%) of owner-occupied units and one-third (34%) of renter-occupied units in the District were built before 1950.¹³ The District also exceeds fifty states in the portion of the housing (34%) built in 1939 or earlier, with nine in ten homes likely to have had lead-based paint.¹³ GIS mapping of case data for FY 2021 reveals case clustering along the Georgia Avenue corridor in Wards 1 and 4, with additional clustering in adjacent Wards 5 and 6 (Figure 6). The Georgia Avenue corridor is home to some of the District’s most vulnerable residents, including Latin American and African-born District immigrant and refugee populations. Case clusters are also visible east of the Anacostia River in parts of Wards 7 and 8 in areas with predominantly African American residents, many of whom live in poverty.

Wards 1 and 5 also appear to have a larger proportion of cases than the size of their respective child populations would warrant. Together, Wards 1, 4, 6, and 8 accounted for nearly 70 percent of the blood lead levels equal to or greater than the CDC reference value of 5 µg/dL in FY 2021).

Figure 6: Hotspots for new confirmed elevated blood lead cases $\geq 5 \mu\text{g/dL}$ among District children < 6 years of age, FY 2021.



Lead Screening Compliance

The District requires two blood lead tests by 26 months of age and testing up to six years of age if a child has not previously been tested for blood lead or has had a likely exposure to lead.¹⁴ CDC defines the percent of children tested, or “screening penetrance,” as the number of children less than 72 months of age tested for blood lead divided by the total number of children less than 72

¹³ US Census Bureau. (n.d.). American FactFinder - Results. Retrieved from <https://factfinder.census.gov/>

¹⁴ District of Columbia Department of Energy and Environment. (n.d.). Lead Poisoning Prevention - Children 6 Years and Younger. Retrieved from <https://doee.dc.gov/page/lead-poisoning-prevention-children-6-years-and-younger>

months of age within a geographic unit (that is, county or state) based on annual intercensal estimates for the most recent United States Census data, multiplied by 100.¹⁵

Again, District law requires that all children living in the District be tested at 6-14 months of age, retested at 22-26 months, and tested a third time before 6 months of age. In FY 2021, patients eligible for testing were born between June 1, 2020, and March 30, 2021. This made patients eligible to be tested in December 2020 (6 months), and September 2021 (14 months), close to the end of the fiscal year. Patients born 22-26 months prior to the end of FY 2021 would have been born between March 30, 2019, and July 30, 2019. There were 1,216 patients in the 22–26-month period who were tested and/or retested.

FY 2021, DC Vital Records Department (DCVRD) reported 23,562 eligible patients. The match reports that DOEE only tested 6,575 patients, mainly because it is nearly impossible to track the movement of patients born in the District and whether they were tested in D.C. or another state. The Lead-Safe and Healthy Housing Division (LSHHD) conducted a compliance analysis based on the number of children eligible to be tested by ward. This analysis included separating the number of eligible children by ward and comparing that result to how many children were tested in that area. Meaning the total number of eligible children that could be tested provided by DCVRD totaled 21,674; the total number of patients tested by DOEE was 13,477.

Table 3: Compliance percentage of patients separated by ward.

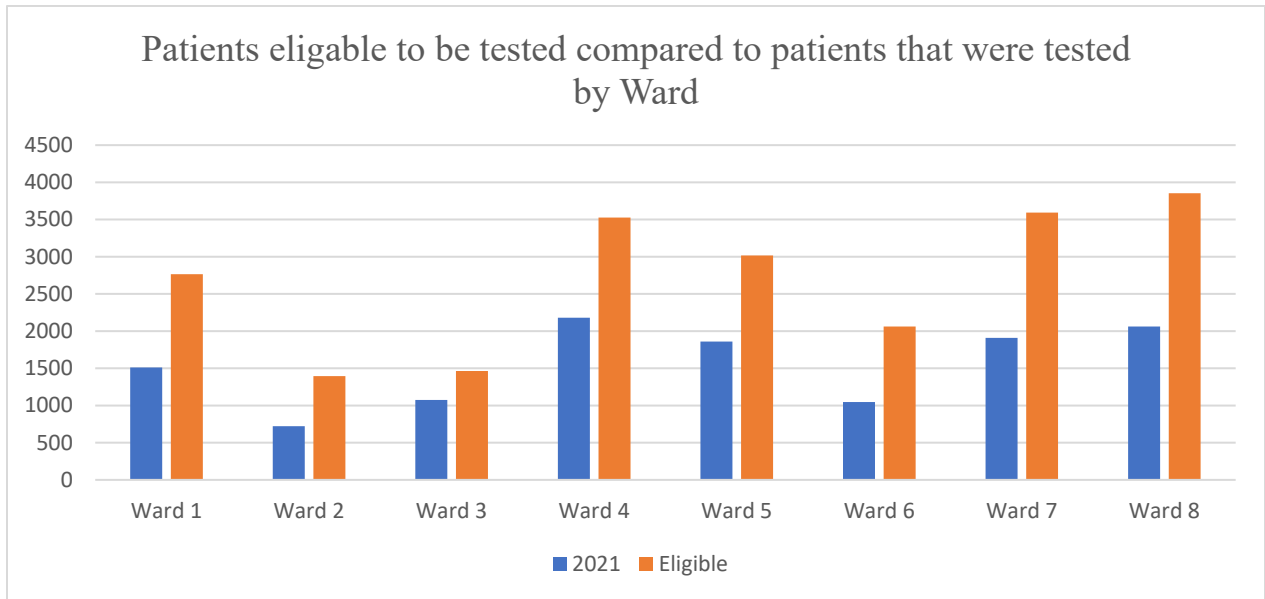
WARD	Compliance percentage of patients tested
Ward 1	55%
Ward 2	52%
Ward 3	73%
Ward 4	62%
Ward 5	62%
Ward 6	51%
Ward 7	53%
Ward 8	53%

As shown in the chart above, the LSHHD successfully reached a great percentage of patients within the various wards—all above 50 percent. DOEE reached these percentages by separating the number of patients eligible within their respective ward as provided by DCVRD, using the

¹⁵ Centers for Disease Control and Prevention. (n.d.). Lead Poisoning Prevention - Surveillance and Data. Retrieved from https://www.cdc.gov/nceh/lead/acclpp/surveillance_and_data.htm

HHLPPS system to compare the number of patients tested by LSHHD within the same ward, and dividing the two numbers to reach a percentage.

Figure 9: Patients eligible to be tested compared to patients that were tested by ward



Based on Figure 9, testing was most effective in Wards 3 (73%), 4 (62%) and 5 (62%), as all were over the 60th percentile. The LSHHD is taking serious measures to effectively tackle the compliance rate by partnering with sister agencies to address community needs and working with the CDC-funded grantees to serve specific ward residents.

Lead Reporting Compliance

The District requires laboratories to report all BLL test results for District children to DOEE's Childhood Lead Poisoning Prevention Program within one (1) week of analysis. All EBLL test results $\geq 10 \mu\text{g/dL}$ must be reported immediately. Healthcare providers and facilities must report EBLs to DOEE within 72 hours of laboratory notification of the test result. For children with confirmed EBLs, healthcare providers or facilities must provide medical case management and treatment, follow-up BLL testing, lead awareness and poisoning education, and appropriate referrals for social and environmental services. Failure to perform any of these actions is enforceable and may result in fines of up to \$100 per violation.

The District also requires:

- Laboratories that perform or analyze blood lead tests for District-residing children to forward all test results to DOEE and the health care provider or facility where the blood sample was taken;

- Health care providers or facilities to forward all EBLL results immediately to the child’s parent or guardian; and
- Health care providers or facilities to provide written evidence of testing for lead poisoning that includes the date of the test and the test results upon request of the child’s parent or guardian.

During FY 2021, laboratories appeared by and large to comply with the District’s blood lead test reporting requirements. DOEE has no direct evidence that healthcare providers or facilities are failing to comply with the requirements related to reporting test results to parents or guardians of children less than 6 years old. Similarly, DOEE has no evidence that healthcare providers and facilities failed to comply with parent or guardian requests for written details regarding their child’s blood lead test and test result.

DOEE collaborates with other District agencies and organizations to remind pediatric healthcare providers of blood lead testing and reporting requirements. In FY 2021, for example, DOEE and the Department of Health Care Finance (DHCF) jointly issued a letter during October’s National Lead Poisoning Prevention Week. DOEE and DHCF also supported the efforts of the District of Columbia Chapter of the American Academy of Pediatrics (DC AAP) to launch a quality improvement project with pediatric practices to increase blood lead testing of young children. The project serves as a learning collaborative for pediatricians committed to improving lead screening within their practices.

Holistic Approach to Addressing Lead Contamination

The District acknowledges the significance of primary prevention, early intervention, and testing young children for lead poisoning. DOEE has three branches within the LSHHD working collaboratively to address lead issues in the District. Below is a synopsis of each branch’s involvement.

The Healthy Housing (HH) Branch is responsible for receiving all lead tests for children under 6 years of age in the District. The results primarily arrive at the HH branch electronically and are reviewed manually to detect any inconsistencies. If inconsistencies are detected, the reporting lab is contacted for clarification. If DOEE personnel determine that a child has been poisoned by lead, DOEE’s public health analysts work with health care providers and parents or caregivers to ensure they are knowledgeable about the services DOEE and sister agencies have available to combat lead poisoning. The public health analysts provide ongoing case coordination, education, and support as needed through calls, texts, emails, home visits, and referrals to additional services. A few key services performed by our public health analysts are:

- Confirmatory blood lead tests: DOEE’s public health analysts make initial calls to parents or caregivers in all EBLL cases ≥ 5 $\mu\text{g}/\text{dL}$. For unconfirmed cases, (i.e., those

where EBLL reports are from only one capillary result), public health analysts encourage confirmatory venous testing for the child if the test has not already been scheduled or performed.

- Repeat blood lead tests: DOEE's public health analysts use HHLPSS to track compliance with the recommended schedule of repeated blood lead tests for EBLL cases. As needed, public health analysts remind parents, caregivers, and physicians about when the child's next follow-up blood lead test is due.
- In-Home Risk assessments: DOEE's public health analysts routinely refer children with EBLLs of ≥ 5 $\mu\text{g}/\text{dL}$ to DOEE's Lead Compliance and Enforcement Branch (which is discussed more in the following section). If warranted or beneficial to District residents, DOEE refers both EBLL and lead enforcement cases to available resources for home remediation repair, including the Department of Housing and Community Development and District of Columbia Housing Authority.

In the past, initial visits to EBLL homes typically included a public health analysts and lead risk assessor from the Lead Compliance and Enforcement Branch (LCEB). The lead risk assessor conducts an environmental investigation that includes use of an X-Ray Fluorescence (XRF) Analyzer and collection of dust, water, bare soil, food, spices, makeup, medicine, and other samples. When a lead-based paint hazard is identified, DOEE requires its elimination by issuing the owner an Order to Eliminate Lead-Based Paint Hazards, or in the case of owner-occupants, a Notice of Lead-Based Paint Hazards to address the identified hazards.

Beyond lead-based paint hazards and lead in drinking water at Child Development Facilities (discussed below), lead risks for children include potential exposure to lead in bean pots, spices, and home remedies, particularly in high-risk areas where many of the district's immigrant and refugee populations reside.

The Lead Compliance and Enforcement Branch (LCEB) conducts in-home risk assessments (i.e., testing of chipping or peeling paint and water for lead) in homes identified with an EBLL child by the HH Branch. As documented above, the LCEB collaborates with the HH Branch on many in-home visits to determine if any potential sources of lead contamination exist in the house.

Since FY 2010, the LCEB has collaborated with the Department of Child and Family Services Agency (CFSA) under a Memorandum of Understanding (MOU) to proactively ensure a lead-safe environment for prospective foster or adoptive parents. The MOU is an essential part of lowering the amount of lead poisoning in the District of Columbia. The MOU specifies services performed by DOEE, which includes:

(1) Conducting lead risk assessments to confirm the presence or absence of lead-based paint hazards in homes identified by CFSA that are proposed to be used as foster or adoptive homes for children under the age of 6.

(2) Notifying and educating prospective foster and adoptive parents about any lead-based paint hazards in their homes and recommending methods to reduce lead hazards in conformance with District law. A DOEE-certified lead risk assessor holds multiple orientation sessions annually to provide information related to lead risk assessment and clearance examination procedures. These are beneficial in providing information to clients before conducting a lead risk assessment and clearance examination. The sessions are instrumental in lowering the number of identified hazards during lead risk assessments and educating property owners of hazards to be aware of and remediate (using lead-safe work practices) before children occupy the structure.

(3) Conduct clearance examinations as required on a case-by-case basis. DOEE assigns one risk assessor who has the primary responsibility for conducting the work specified under the MOU, and a secondary risk assessor who conducts the work in the event the primary risk assessor is unavailable. The DOEE program liaison is responsible for implementing the MOU, including assigning referrals, conducting presentations/trainings, and submitting a weekly report to CFSA via email.

A DOEE-certified lead risk assessor conducts a lead risk assessment which includes a visual assessment, XRF testing, dust/soil sampling, and photos in the home of prospective foster or adoptive parents to identify lead-based paint hazards. DOEE will issue a Notice or Order to the property owner as appropriate and notify the property owner about local regulatory requirements. DOEE submits Notices or Orders and reports to CFSA on the addresses of the premises assessed. DOEE conducts follow-up clearance examinations in homes post-hazard elimination if those homes are not enrolled in a grant program where such inspection already occurs. This MOU ended on September 30, 2021. CFSA is currently conducting the activities above with internal staff.

The LCEB is partially funded by a grant from the U.S. Environmental Protection Agency (EPA) to implement professional certifications, accreditations, and permitting operations. In FY 2021, the LCEB certified (or recertified) 387 lead professionals, enabling those individuals to work in the District and providing DOEE quality control by monitoring the activities and work product of a subset of these certified professionals. The total number of certified individuals and business entities is broken down as follows:

Discipline	Total Number of Newly Certified/Recertified in FY 2020	Total Number Certified in the District at the end of FY 2021

Certified Workers	218	464
Certified Inspectors	21	46
Certified Risk Assessors	48	109
Certified Supervisors	41	79
Certified Project Designers	0	2
Certified Business Entities	46	175
Dust sampling Technician	8	26

Also, in FY 2021, the LCEB had three accredited training providers and issued 62 lead abatement/renovation permits for lead activities in dwelling units, child-occupied facilities, and commercial properties.

The Licensing and Certification Branch addresses lead in drinking water in a licensed child development facility (CDF). The program was developed when D.C. Council passed the Childhood Lead Exposure Prevention Amendment Act of 2017 (D.C. Law 22-21, D.C. Official Code §§ 38-821.01 *et seq.*). The District is committed to addressing lead in drinking water at recreation facilities, public and charter schools, and CDFs. The law mandates that the Department of General Services must sample and test public schools and recreation facilities. Charter schools are responsible for sampling and testing at their schools, while DOEE focuses its efforts on CDFs. The Childhood Lead Exposure Prevention Amendment Act defines a drinking water source as “a source of water from which a person can reasonably be expected to consume or cook with the water originating from the source.” Specific to CDFs, the aforementioned requires each CDF to locate all drinking water sources, install and maintain filters for reducing lead at all drinking water sources, and post conspicuous signs on water sources that are not drinking water sources. The water should not be used for cooking or consumption. All CDF drinking water sources must be tested for lead annually and if a test result indicates a lead concentration above 5 parts per billion (ppb), the drinking water source must be shut off within 24 hours after receiving the test result. Then, the CDF must determine the proper remediation steps and notify parents and guardians of children at the CDF of the test results and remediation steps. Further, DOEE and the Office of the State Superintendent of Education (OSSE) are required to report annually on CDF compliance with the Childhood Lead Exposure Prevention Amendment Act and amend Chapter 1 of Title 5-A of the District of Columbia Municipal Regulations to require CDFs to demonstrate compliance in order to obtain or renew an operating license.

In 2021, DOEE inspectors collected 1,376 drinking water samples from 106 CDFs, including 1,320 samples from child development centers, 44 samples from child development homes, and 12 samples from child development expanded homes. Ward 4 had the most facilities sampled in 2021. Of the samples collected, nine (9) child development facilities had a water source with a lead concentration exceeding 5 ppb. DOEE focused the sampling in 2021 for those that were open and operating as new facilities within the 2021 calendar year.

Implementing a lead filtration program is important to OSSE and DOEE's shared commitments to ensure that children and staff at childcare facilities in the District are not exposed to unsafe levels of lead from drinking water sources. Since the implementation of the Act, CDFs have installed lead filters, tested for lead in drinking water, and implemented any necessary corrective actions. In the future, more webinars will take place for "Lead in Water" compliance education for all CDFs. This ensures that all facilities understand the current legislation every year and allows for continued updates. OSSE and DOEE will continue to work collaboratively to improve the implementation and monitoring of water sources in CDFs to ensure that children, and staff, at childcare facilities in the District are not overburdened/exposed to unsafe levels of lead from drinking water sources.

In FY 2021 the **Lead Reduction Program (LRP)** used U.S. Department of Housing and Urban Development funds to assist eligible households with lead hazard reduction activities. The primary purpose of the LRP is to protect the maximum number of young children under the age of six years old from lead poisoning in the District. To be eligible, the household must meet income requirements, and the property must have been built before 1978. Priority for this program is given to households with children with elevated blood lead levels ($\geq 5 \mu\text{g/dL}$). Once DOEE receives a complete application with required documentation and verifies that a household is eligible for LRP, they are assigned to a non-profit that coordinates with contractors to:

- Complete a Lead Inspection and Risk Assessment (LIRA) to identify lead-based paint and health or safety hazards.
- If lead-based hazards are discovered during the LIRA, prepare a scope of work, and assign it to a contractor.
- Once the scope of work is assigned, schedule and complete the work. (Note: The inhabitants may be required to relocate to a temporary lead-free facility during this phase)
- Perform a lead clearance test prior to the household reoccupying the dwelling.

The **Lead Pipe Replacement Assistance Program (LPRAP)** assists property owners by paying a portion or all the costs to complete the replacement of a partial lead service line. Residential service lines with lead or galvanized pipes in the private space and non-lead pipes in the public space qualify for LPRAP. Every eligible property owner can receive coverage for 50% of their costs (up to \$2,500) regardless of income. Some residents will qualify for up to 100% assistance

depending on household size and income. After a homeowner submits a complete application, DOEE will process the application and assign a relief level based on the applicant’s household size and income. The next steps are:

- DOEE will notify the homeowner of the assistance level for which they have been approved and send the homeowner DC Water’s Contractor List;
- The homeowner will choose a contractor from the Contractor List to perform the replacement;
- The chosen contractor will submit a Cost Proposal Form, with the homeowner’s signature, to DC Water for review; and
- Once DC Water recommends approval for the Cost Proposal, DOEE will send the homeowner a Benefit Confirmation Letter detailing the next steps.

Recommendations

Based on the findings of this report, below are key recommended strategies and activities to improve future childhood lead screening, surveillance, and prevention in the District of Columbia.

Action	Description	Agencies	Completion Date
Blood Lead levels	Further analysis of the impact of COVID-19 on childhood testing in FY 2022 (i.e., the association of staying home and the fluctuation of patients with EBLLs).	DOEE	9/30/22
	Monitor EBLL cases in hotspots to identify the radius of patient exposure. Pinpoint hotspots to be evaluated and addressed through community outreach.	DOEE	9/30/22
Continuous updating of the lead registry	In FY 2022, the lead registry should continue to be updated and remain operational for all District service providers. This will help foster the overall understanding of blood lead levels collected in the District.	DOEE and hired contractor, Chesapeake Regional Information System for our Patients (CRISP)	9/30/22

Improve linkages to recommended services for children with EBLs.	Use the epidemiological surveillance model to assess the cause for elevated blood lead levels in clustered Wards (1 and 4).	DOEE	Ongoing
	DOEE will collaborate with DC Water to understand the cause of elevated lead levels in areas that have had a persistently high percentage of lead exposure cases per year.	DOEE and DC Water	9/30/22
Community outreach supported by DOEE	DOEE conducted a community health assessment to better understand and serve communities within the District. More CDC-funded grantee information needs to be shared in FY 2022 to understand how areas are being served.	DOEE	9/30/22
Compliance	A comparison of compliance rates for further direction is needed for the next report.	DOEE	9/30/22