



MURIEL BOWSER
MAYOR

August 25, 2022

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

Re: Fiscal Year 2020 Childhood Lead Screening Report

Dear Chairman Mendelson:

Pursuant to section 2003(g) of the Childhood Lead Poisoning Screening and Reporting Act of 2002, effective October 1, 2002, (D.C. Official Code § 7-781.03(g)), the Department of Energy and Environment (DOEE) is pleased to submit the enclosed Childhood Lead Screening Report for Fiscal Year (FY) 2020. This report documents blood lead level (BLL) results as reported to DOEE.

Please feel free to contact DOEE's Associate Director Amber Sturdivant at amber.sturdivant@dc.gov to discuss any questions you have regarding the FY 2020 Childhood Lead Screening Report.

Sincerely,

A handwritten signature in black ink, appearing to read "Muriel Bowser".

Muriel Bowser

Childhood Lead Screening Report

District of Columbia

Fiscal Year 2020

Lead-Safe and Healthy Housing Division

Childhood Lead Poisoning Prevention Program

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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
CDC	Centers for Disease Control and Prevention
DC AAP	District of Columbia Chapter of the American Academy of Pediatrics
DC Council	Council of the District of Columbia
D.C.M.R.	District of Columbia Municipal Regulations
DCR	District of Columbia Register
DHCF	Department of Health Care Finance
District, D.C.	District of Columbia
DOEE	Department of Energy and Environment
EBLL	Elevated blood lead levels. 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 (New Confirmed) Case	One 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 Case	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, peak at 18–36 months of age, and decline slowly over the next few years.²³⁴ Even low BLLs can damage the brain and nervous system, causing learning and behavior problems and lower IQ.⁵ Higher BLLs may lead to hearing and speech problems, delayed growth, organ damage, and death.⁶

Childhood lead poisoning is preventable.⁷ 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.⁸ Children are most likely to be exposed to lead by ingesting house dust or soil contaminated by deteriorated paint in and around older homes built before the 1978 ban on lead-based house paint.⁹ Exposure to lead may also occur when homes are abated or renovated. Children may also be 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.¹⁰

Removing lead hazards from the environment is the most effective way to prevent the harmful long-term effects of children's lead exposure. 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.

The Department of Energy and Environment (DOEE) is responsible for the oversight of the District of Columbia's requirements under the Childhood Lead Poisoning Screening and Reporting Act of 2002 (the Act). Section 2003(g) of the Act requires the Mayor to issue an annual report summarizing and analyzing the lead screening results obtained under the authority of the Act.¹¹ This report provides an update on the incidence and prevalence of childhood lead poisoning in the District for Fiscal Year 2020 (October 1, 2019 through September 30, 2020). 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.

Executive Summary

Through the Childhood Lead Poisoning Screening and Reporting Act of 2002 (Act of 2002), DOEE is required to issue an annual report summarizing and analyzing the lead screening results obtained under the authority of the Act.¹ This report provides an update on the incidence and prevalence of childhood lead poisoning in the District for Fiscal Year 2020 (October 1, 2019, through September 30, 2020). 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 a single blood lead test (capillary or venous) at or above the blood lead reference value of 5 Micrograms of lead per deciliter of whole blood ($\mu\text{g}/\text{dL}$) set by the Centers for Disease Control and Prevention (CDC).¹² 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 12 weeks of each other.

During FY 2020, 12,127 District children had at least one BLL test result on record. **In FY 2020, more than 98% of tested children had a BLL below 5 $\mu\text{g}/\text{dL}$.** Of the 144 reported EBLL test results in FY 2020, 35 (24%) were newly confirmed (incident) cases, 54 (38%) were unconfirmed, and 55 (38%) 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.

During FY 2020, DOEE found no major issues with compliance in reporting of test results by laboratories, health care providers, and health care 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.

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 (D.C. Law 16-265; 54 DCR 827), 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.¹³ 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.¹⁴ 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 the 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 health care 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 (HHLPSS). DOEE scientists monitor 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 HHLPSS using Statistical Analysis Software (SAS) 9.4, Excel, ArcGIS, Tableau, and other analytic tools. Case counts for FY 2020 are for children who were below six years (72 months) of age and resided in the District at the time of the BLL test.

This report summarizes the results of this analysis for the following measures in FY 2020:

- 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.¹⁵

- **Incident (new confirmed) EBLL:** A child with no prior BLL ≥ 5 Micrograms of lead per deciliter of whole blood ($\mu\text{g}/\text{dL}$) for whom: (1) one BLL result performed on venous blood was found to be $\geq 5 \mu\text{g}/\text{dL}$; (2) one capillary and one venous test within 12 weeks were found to be $\geq 5 \mu\text{g}/\text{dL}$ or two capillary tests not performed on the same day but within 12 weeks were found to be $\geq 5 \mu\text{g}/\text{dL}$.¹⁶
- **False-positive result:** One capillary BLL test result $\geq 5 \mu\text{g}/\text{dL}$ followed by a venous test result $< 5 \mu\text{g}/\text{dL}$ for the same child.
- **Ongoing EBLL:** A confirmed BLL $\geq 5 \mu\text{g}/\text{dL}$ in a previous fiscal year followed by a BLL $\geq 5 \mu\text{g}/\text{dL}$ for the same child in a subsequent fiscal year.
- **Unconfirmed EBLL:** A child with one capillary blood test $\geq 5 \mu\text{g}/\text{dL}$ for whom no venous or capillary test occurred within the following 12 weeks.¹⁷
- **Not elevated:** A child who had either no BLL $\geq 5 \mu\text{g}/\text{dL}$, or who had an initially elevated capillary BLL that was found to be $< 5 \mu\text{g}/\text{dL}$ on a venous retest.

COVID-19's Effect on FY20 Blood Lead Level Testing

On March 11, 2020, Mayor Muriel Bowser issued Mayor's Orders 2020-045 and 2020-046, which respectively issued a declaration of public emergency and declaration public health emergency due to the coronavirus (COVID-19).¹⁸ During this time, due to an increased number of COVID-19 cases in the District and across the region and the nation, Mayor Bowser issued a stay-at-home order for the District of Columbia.¹⁸ This order reinforced the Mayor's directive for residents to stay at home except to perform essential activities. The stay-at-home order went into effect on April 1, 2020, at 12:01 am.¹⁸

The Covid-19 pandemic raised a real concern for several governmental agencies and city entities. Challenges emerged for public-facing services and inspections, mainly due to the safety of the personnel and the general public. DOEE Public Health Analysts estimated a decrease in the total amount of patients that would be tested for blood lead because of the growing concern about the potential exposure to the virus for both patients and employees, as well as the closures of child development facilities and the school environment (switching to in-person learning). During this period, analysts predicted that in FY21 DOEE would see an increase in lead exposure cases due to patients living within their respective home environments and the lifting of Covid-19 closures/policies and medical facility limited schedules equating to available services. All of these factors could have contributed to an increase more lead exposure in the home environment than in the schools. that built confidence with going to doctors' offices; this change would result in more lead exposure. Further analysis will be conducted in FY21 to understand the full impact of the pandemic on our patients.

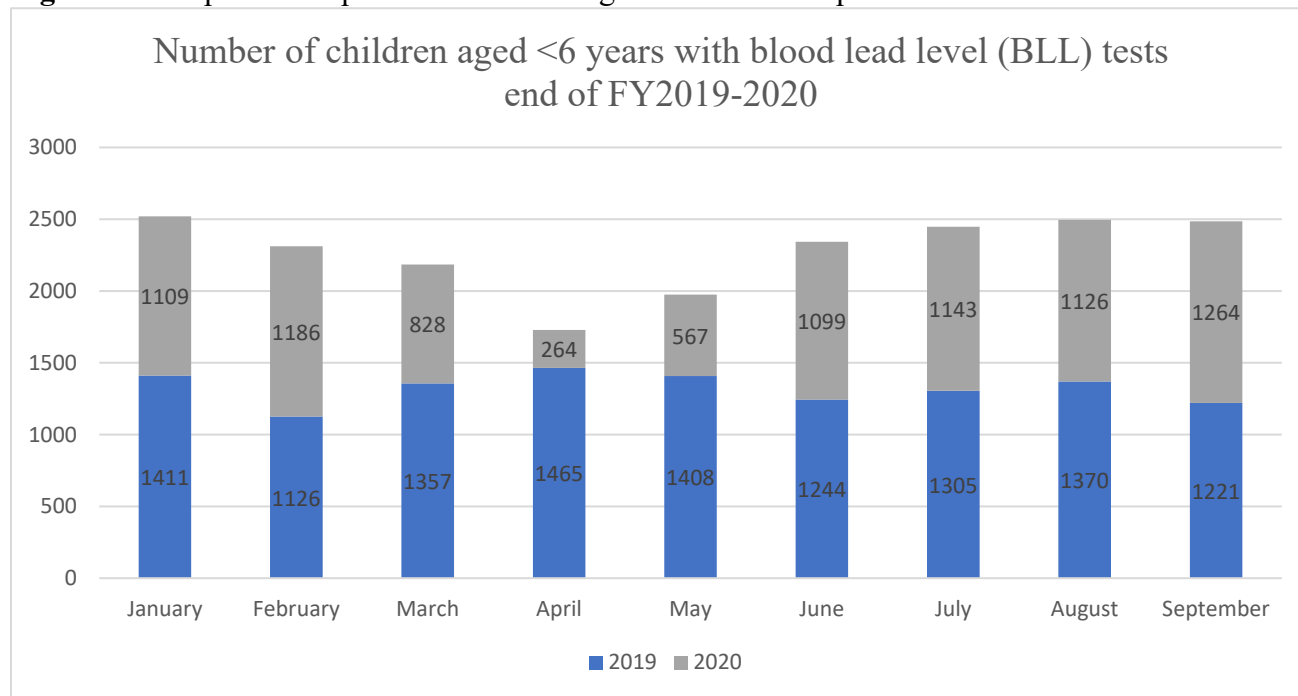
To better understand BLL testing trends among young children within the District of Columbia during the COVID-19 pandemic, DOEE analyzed BLL data collected from the FY19 and FY20 patient data reported from HHLPSS and collected from providers. BLL testing were among children aged six years between the months of January–September 2019 and January–September 2020. Compared with testing in 2019, testing from January–September 2020 decreased by 27.9%, with 3,321 fewer children tested (Table 1).

Table 1: Patients tested during the Coronavirus pandemic 2019 – 2020.

Year	Portion of FY2019	Portion of FY2020	Absolute Change no.	% Change
January	1411	1109	-302	-21.4
February	1126	1186	60	5.3
March	1357	828	-529	-39.0
April	1465	264	-1201	-82.0
May	1408	567	-841	-59.7
June	1244	1099	-145	-11.7
July	1305	1143	-162	-12.4
August	1370	1126	-244	-17.8
September	1221	1264	43	3.5
Total	11907	8586	-3321	-27.9

During the analysis period, the number of children with BLL testing was lower from January–September 2020 compared with the number of testings during 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 (1,639) decreased by 39.2% compared with the same period in 2019 (4,230).

Figure 1: Comparison of patients tested during the Coronavirus pandemic 2019 – 2020



As a result of COVID-19 stay at home orders and school closures, there has been concern that children spending more time in contaminated environments could have ongoing or increased exposure. Although telemedicine and other remote service delivery strategies provided an alternative to office and clinic visits during the pandemic; in-person visits are still necessary for many essential health examinations, including BLL testing among children.

For FY 2020, DC Health, the Department of Health Care Finance (DHCF), the Office of the State Superintendent for Education (OSSE), and other District Government agencies, health care facilities, and organizations have encouraged families to make sure their child sees their pediatrician for a well-child checkup and Early and Periodic Screening, Diagnostic and Treatment (EPSDT) screens, which included lead screening tests. Furthermore, DC Health ran print and digital (web) advertising to promote pediatric visits. DOEE and DHCF also issued and transmitted a joint letter to DC Medicaid Pediatric.

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. Finally, 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.

Lead Screening Results

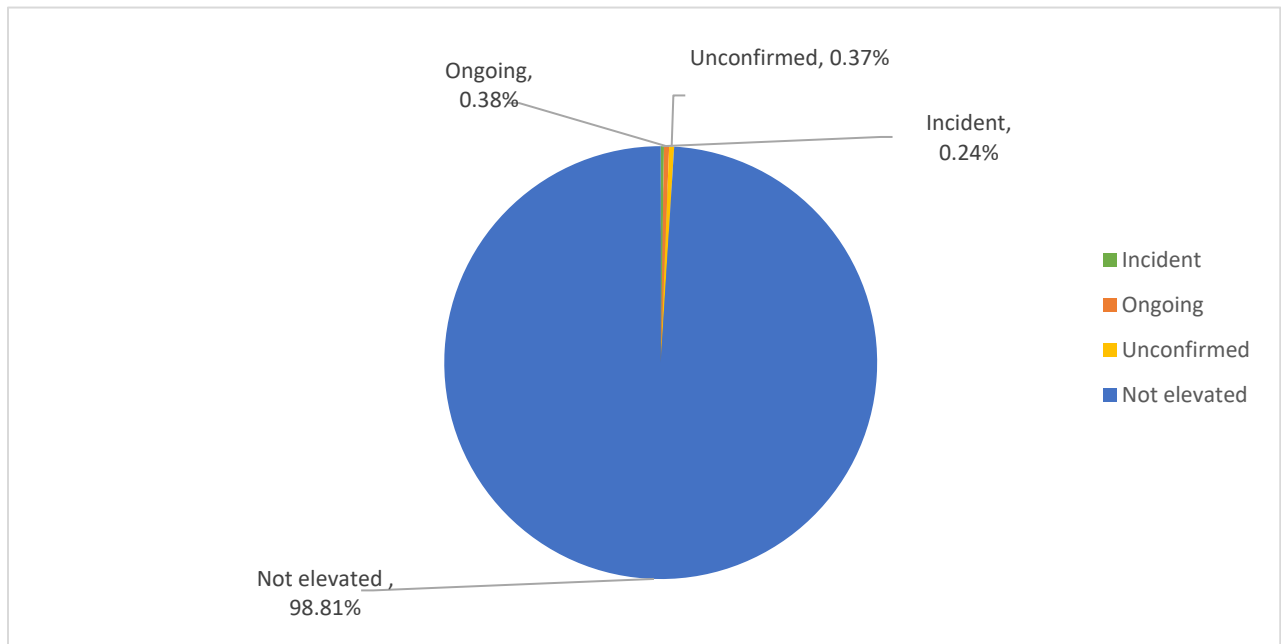
This section describes blood lead screening and EBLL prevalence among children by age and geographic location. In FY 2020, 12,127 District children under six years of age received at least one BLL screening test, a 23.3% decrease from the 15,391 children tested in FY 2019 (Table 2).

Table 2: Case detection among District children screened for blood lead, FY 2018-2020.

Measure		Number of Children Tested					
		FY 2018	FY 2019	FY 2020	FY 2018	FY 2019	FY 2020
Children Tested < 6 years of age		15,577	15,391	12,127	15,577	15,391	12,127
Not elevated (< 5 µg/dL)		15,434	15,256	11,983	99.08%	99.12%	98.81%
Elevated (≥ 5 µg/dL)	Incident	97	51	35	0.62%	0.33%	0.24%
	Ongoing	29	64	55	0.19%	0.42%	0.38%
	Unconfirmed	17	20	54	0.11%	0.13%	0.37%

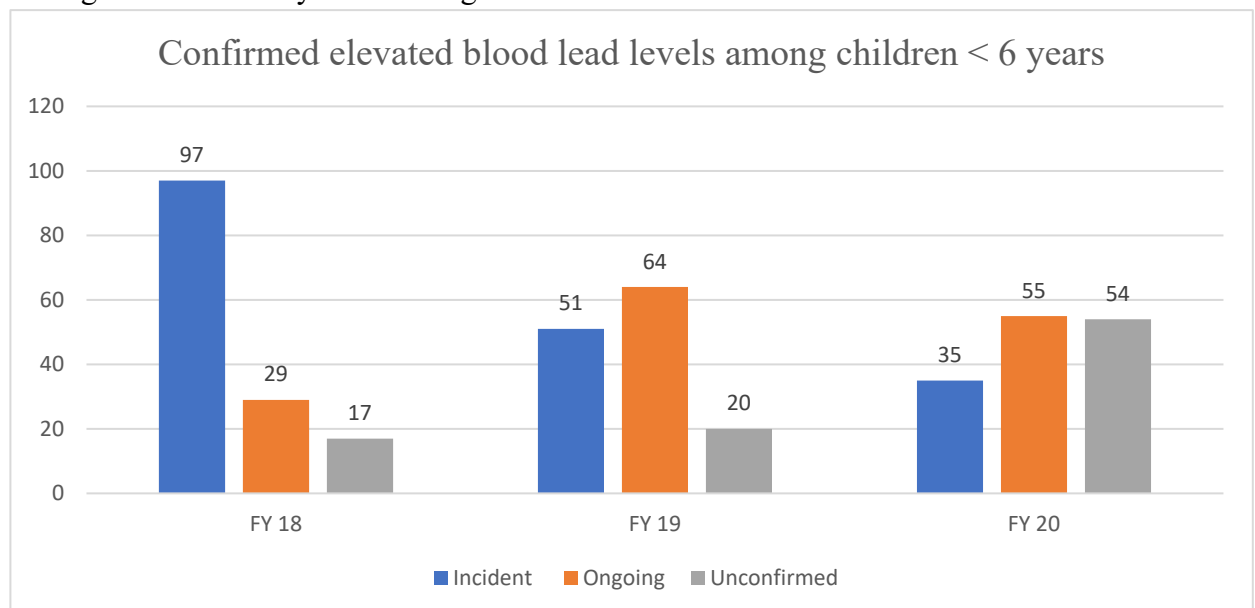
Among the 12,127 children below six years of age tested for lead in FY 2020, 11,983 (98.81%) had a BLL below the CDC reference value of 5 µg/dL (Figure 2).

Figure 2: Proportion of children with a blood lead level $\geq 5 \mu\text{g/dL}$ among all children under six years of age residing in the District of Columbia with at least one reported blood lead test in FY 2020.



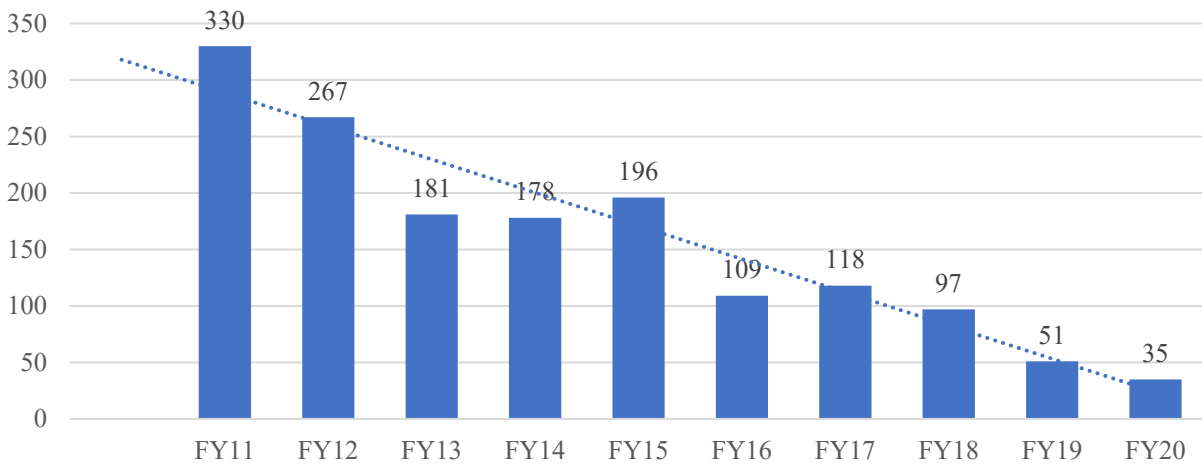
Of the 144 EBLL test results reported to DOEE in FY 2020, 35 (24%) were identified as (incident) cases, 55 (38%) were EBLL cases first identified in a previous fiscal year, and 54 (37%) remained unconfirmed during the fiscal year (Figure 3).

Figure 3: Number of children with incident, ongoing, or unconfirmed elevated blood lead levels among children < six years residing in the District of Columbia and tested in FY 2018–FY 2020.



Like many other jurisdictions around the country, the District has seen a declining trend in the incidence of EBLs over the past decade (Figure 4). There were 35 confirmed EBL cases among District children in FY 2020, down from 97 cases in FY 2018 and 51 cases in FY 2019. **Note: With decreased testing within the Covid-19 pandemic DOEE still did not see a drop in dynamics/testing trends for FY 20.**

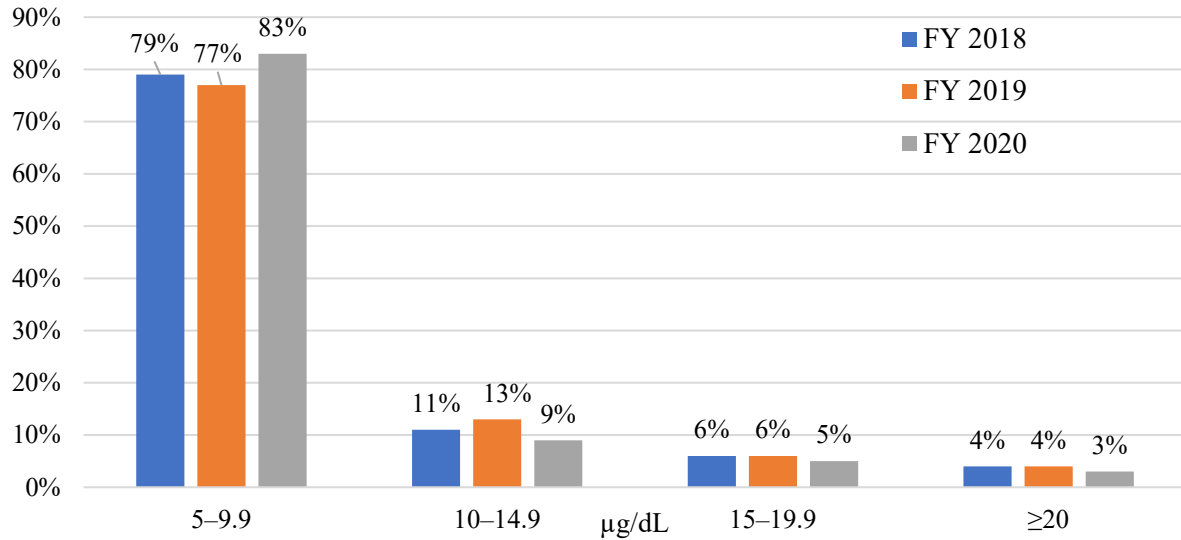
Figure 4: New confirmed elevated blood lead level cases declining in the District of Columbia.



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

In FY 2020, 83% of new confirmed EBL cases among District children had a peak BLL between 5.0 $\mu\text{g}/\text{dL}$ and 9.9 $\mu\text{g}/\text{dL}$ (Figure 5). Although less common, EBLs at higher levels still occur. The risk of harmful health effects increases as the concentration of lead in the blood rises.

Figure 5: Distribution of peak blood lead levels among new confirmed elevated blood lead cases $\geq 5 \mu\text{g/dL}$ among children < 6 years of age residing in the District of Columbia, FY 2018–FY 2020.



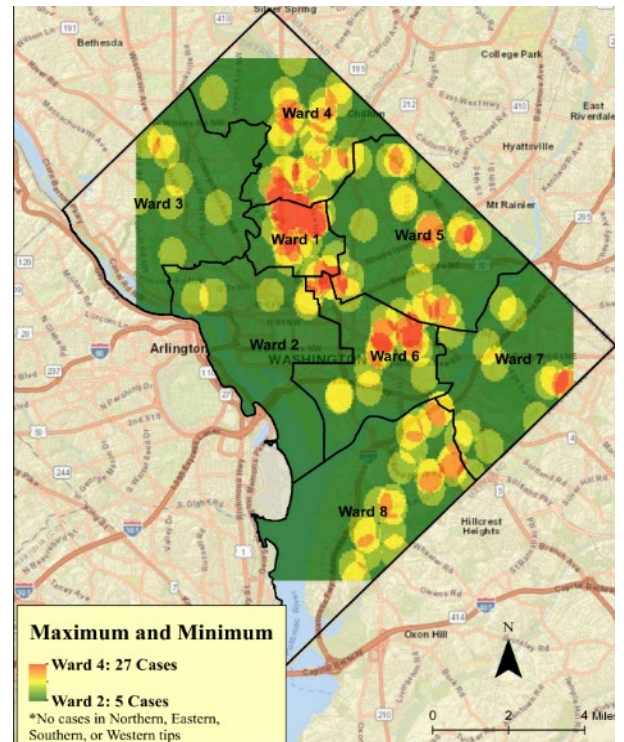
Geographical Distribution of Elevated Blood Lead

With the widespread distribution of houses built before 1978 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 1950.¹⁹ The District also exceeds fifty states in the portion of housing (34%) built in 1939 or earlier,²⁰ when nine in ten homes likely had lead-based paint.²¹

GIS mapping data of case data for FY 2020 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 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.

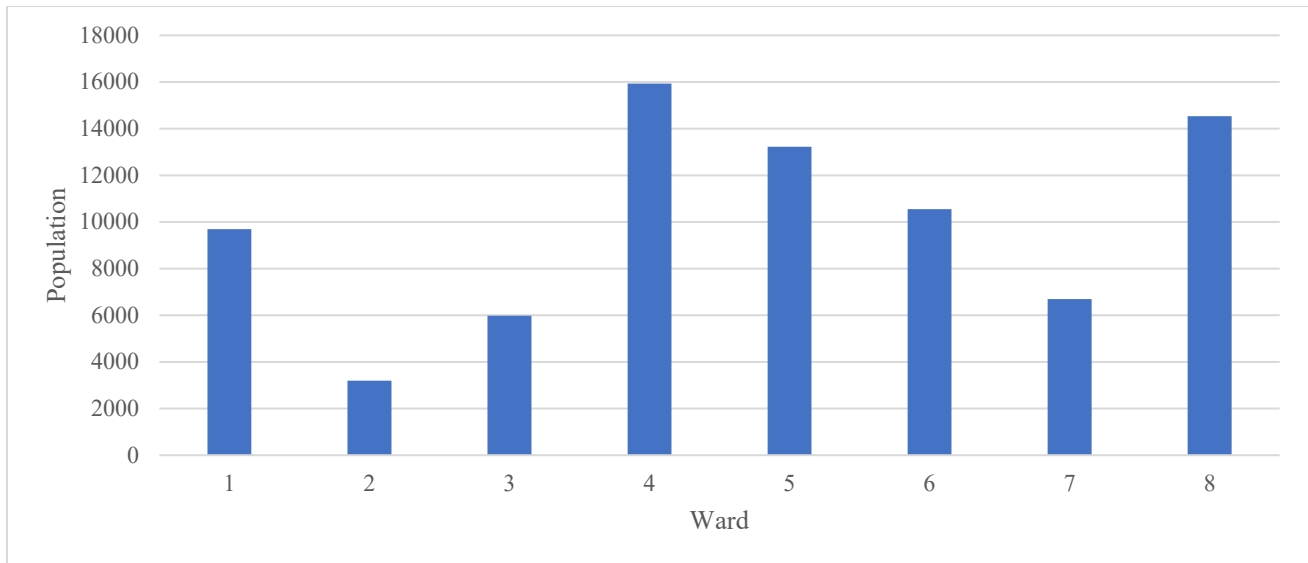
Wards 1 and 4 also appear to have a larger proportion of cases than the size of their respective child populations would warrant. Together, Wards 1, 4, 5, 6 and 8 accounted

Figure 6: Hotspots by total amount of new confirmed elevated blood lead cases $\geq 5 \mu\text{g/dL}$ among District children < 6 years of age, FY 2020.



for nearly 70% of the blood lead levels equal to or greater than the CDC reference value of 5 µg/dL in FY18–FY20 (Figure 7).

Figure 7: Population tested for BLL by ward for FY18-20



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. The 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 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 100.²²

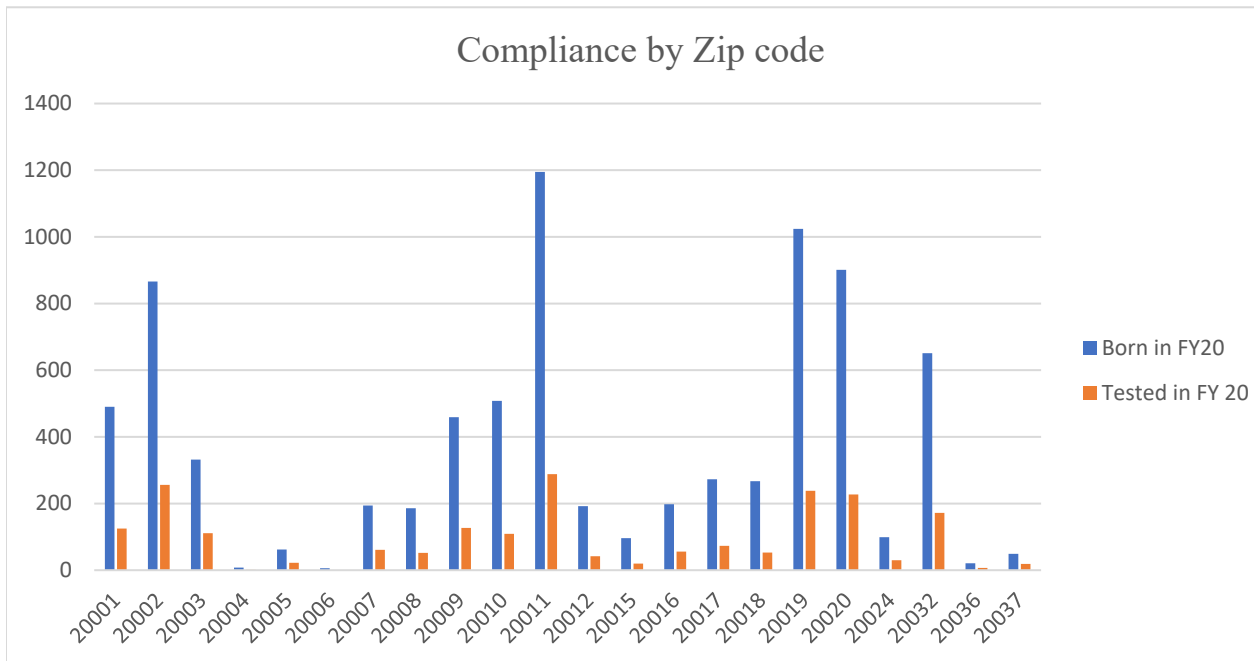
Based on the CDCs definition of compliance rate, the District followed the same steps to calculate the compliance rate, 26%, for FY 2020 (Table 4). The number of children that were less than 72 months of age that were tested for blood lead was 11,952 children. DC vital records indicates that 11,201 children were born in FY 2020 and of this number only 8,077 of those children born were eligible to be tested in FY 2020. Through a matching process using SAS 9.4, DOEE was able to analyze how many of the 11,952 patients had been tested for the first time and were under the age of 72 months. This equaled 2,089 patients, with a visual depiction by zip code featured in Figure 8.²³

Table 4: Percent of patients that were tested compared to the total number of patients born in FY 20, compared by zip code.

Zip Code	Children born in FY20	Total Tested in FY20	Percentage
20001	490	125	26%

20002	866	256	30%
20003	332	111	33%
20004	8	1	13%
20005	62	22	35%
20006	6	0	0%
20007	194	61	31%
20008	186	52	28%
20009	459	127	28%
20010	508	109	21%
20011	1195	288	24%
20012	192	42	22%
20015	96	20	21%
20016	198	56	28%
20017	273	73	27%
20018	267	53	20%
20019	1024	238	23%
20020	901	227	25%
20024	99	30	30%
20032	651	172	26%
20036	21	7	33%
20037	49	19	39%
Total	8077	2089	26%

Figure 8: Comparison of patients that were tested compared to the total number born in FY 20



DOEE estimates that 26% of children below six years of age received at least one BLL test in FY 2020. DOEE also analyzed the percentage of patients that were born and tested by zip code within

FY 2020 using the same process to find compliance rates. This information is useful to DOEE's efforts to curb lead poisoning by concentrating efforts to more residential areas that are exposed to lead hazards while taking into account vulnerable populations.

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 week of analysis and all EBLL test results $\geq 10 \mu\text{g/dL}$ immediately.²⁴ Health care providers or facilities have 72 hours after they have been notified of the test result by a laboratory to report EBLLs to DOEE. For children with confirmed EBLLs, health care providers or facilities must also provide medical case management and treatment, follow-up BLL testing, lead education, and appropriate referrals for social and environmental services to the family of a child with an EBLL. Failure to perform any of these provisions 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 involving children who reside in the District to forward all test results to the health care provider or facility where the blood sample was taken, and to DOEE.
- Health care providers or facilities to forward all elevated blood lead level results immediately to the child's parent or guardian.
- 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 2020, laboratories appeared by and large to comply with the District's blood lead test reporting requirements. DOEE has no direct evidence that health care providers and facilities are failing to comply with the requirements related to reporting test results to parents/guardians of children less than six years old. Anecdotally, based on the experience of DOEE case managers in contacting families when a child has an EBLL result, widespread compliance with these requirements does indeed seem to be occurring. Similarly, the DOEE has no evidence that health care providers and facilities are failing to comply with parent/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 health care providers of blood lead testing and reporting requirements. In FY 2020, for example, DOEE and 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 of young children for lead poisoning. DOEE has three branches within the Lead-Safe and Healthy Housing Division 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 six 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 case managers work with health care providers and parents/caregivers to ensure they are knowledgeable about the services DOEE and sister agencies have available to combat lead poisoning. The case manager provides 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 case managers are:

- **Confirmatory blood lead tests**: DOEE's case managers 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), case managers encourage confirmatory venous testing for the child if the test has not already been scheduled or performed.
- **Repeat blood lead tests**: case managers use HHLPSS to track compliance with the recommended schedule of repeated blood lead tests for EBLL cases. As needed, case managers remind parents, caregivers, and physicians of when the child's next follow-up blood lead test is due.
- **In-Home Risk assessments**: DOEE's case managers routinely refer children with EBLs 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 include a case manager and lead risk assessor from the Lead Compliance and Enforcement branch. 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. Currently, operations for lead risk assessments have been slower because of the COVID-19 pandemic. The branch decided it was safer not to conduct in-person visits for the health and safety of both client and public health professional but will resume once appropriate.

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

The Lead Compliance and Enforcement (C&E) branch 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 C&E branch collaborates with the HH branch on many in-home visits to determine if any potential sources of lead contamination exist in the house.

Also, since FY 2010, the C&E branch 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 percentage of lead poisoning in the District of Columbia. The MOU specifies services to be performed by DOEE to include:

(1) Conducting lead risk assessments in order 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 six.

(2) Notifying and educating prospective foster and adoptive parents about any lead-based paint hazards in their homes and recommend methods to reduce the lead hazards in conformance with District law. A DOEE-certified lead risk assessor presents multiple orientation sessions annually to provide information related to the 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) Conducting clearance examinations as required on a case-by-case basis. DOEE appoints one specific risk assessor who is responsible 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 not available. The DOEE program liaison is responsible for

implementing the MOU, including assigning referrals, conducting presentations/trainings, and submitting a weekly report to CFSA via electronic mail.

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 Order 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.

The C&E branch is partially funded by a grant from the U.S. Environmental Protection Agency (EPA) to implement professional certifications, accreditations, and permitting operations. In FY 2020, the C&E branch certified (or recertified) 382 lead professionals, enabling those individuals to work in the District and also providing DOEE quality control by monitoring the activities and work product of a subset of these certified professionals. The 382 number is broken down as follows:

Discipline	Total Number of Newly Certified/Recertified in FY19	Total Number Certified in the District at the end of FY20
Certified Workers	218	577
Certified Inspectors	21	48
Certified Risk Assessors	48	112
Certified Supervisors	41	87
Certified Project Designers	0	2
Certified Business Entities	46	149
Dust sampling Technician	8	28

Also, the C&E branch had four accredited training providers during FY 2020 and issued 37 lead abatement permits during FY 2020 for lead abatement activities taking place in dwelling units and in child-occupied facilities.

The Licensing and Certification branch addresses lead in drinking water in a licensed child development facility (CDF). The program was developed because of D.C. Council passing the Childhood Lead Exposure Prevention Amendment Act of 2017, effective). The District is committed to addressing lead in drinking water at recreation facilities, public and charter schools, and CDFs. To eliminate confusion and redundancy, an agreement was made for the Department of General Services to sample and test public schools and recreation facilities. The charter schools would address their schools, while DOEE would focus 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 in child development facilities, post conspicuous signs on water sources that are not drinking water sources that communicate that the water should not be used for cooking or consumption, test all drinking water sources in CDFs for lead annually, if a test result shows that a drinking water source’s lead concentration exceeds 5 parts per billion (ppb), shut off the drinking water source within 24 hours after receiving the test result, determine 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 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.

Initially, the program sampled all drinking water sources in CDFs identified by the facilities. In that initial round of sampling of the 472 licensed CDFs, 33 out of 1,136 individual water sources were identified as having lead content greater than 5 ppb. Those individual sources were tagged as “non-potable” within 24 hours of DOEE receiving laboratory results. The Childhood Lead Exposure Prevention Amendment Act not only requires the initial round of sampling, it also requires every potable water source to be filtered for lead. During the initial phase of the operation, a total of 406 filters were installed.

Most licensed CDFs are independently owned and operated. Each CDF is free to pick the type of water fountain and faucets installed at the CDF. That individuality resulted in the following limitation to universal DOEE filter installation:

- 243 sinks, at 217 facilities were incompatible with the PUR Maxion filter.
- 372 water fountains and 50 mixed fountains/sinks required a different type of filter that must be installed by a professional experienced contractor;
- Some facilities removed the DOEE-installed PUR Maxion filter because it was an inconvenience for the facility due to the size (too big for small faucets) or weight (too

heavy), which caused leaks at the tap base;

- Some facilities replaced faucets that were incompatible with the PUR Maxion filter; and
- Some filter attachment devices were replaced throughout the fiscal year due to excessive wear and tear.

CDF owners and operators communicated to DOEE that many of the sinks in classrooms and bathrooms were often used to wash plates, utensils, formula bottles, and fruit, or to teach dental hygiene. Limited data is available linking residual lead on eating surfaces after the water dries. However, because of the potential direct ingestion of water on washed fruit or during dental hygiene, DOEE responded to the needs of the District and installed filters on “non-traditional” drinking water sources at CDF. This action resulted in the sampling of an additional 190-point sources. Out of the 190-point sources, 10 were identified as containing lead at levels greater than 5 ppb, which were tagged as non-potable water sources within 24 hours of receipt of laboratory results.

The **Lead Reduction Program (LRP)** uses U.S. Department of Housing and Urban Development and American Rescue Plan Act funds to assist eligible households with lead hazard reduction activities. The primary purpose of the LRP is to maximize the number of young children under the age of six years old protected from lead poisoning in the District. To be eligible, the household must meet the 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 (≥ 5 $\mu\text{g}/\text{dL}$). 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 execute the following key activities:

- 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 for part or all of the cost 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 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. Key actions include the following:

- 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 next steps.

Recommendations

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

Action	Description	Agencies	Completion Date
Blood Lead levels	Because of Covid-19, testing for elevated blood lead levels were slowed. In FY 21 the agency would like see an increase in patient testing in the March, April, and May months compared to the same months in FY20.	DOEE	9/30/21
	Committing to more surveillance methods to better understand the increase of more newly confirmed cases within hotspot areas, specifically within wards 1 and 4.	DOEE	9/30/21
Development of the lead registry	With the implementation of the Lead registry, DOEE can now communicate with healthcare professionals to understand our patients and areas of testing. In FY21 the lead registry should continue to be updated and be operational for all district service providers, thus helping with the overall understanding of blood lead levels collected within the district.	DOEE	9/30/21

Improve linkages to recommended services for children with EBLs.	Using the epidemiological surveillance model to assess the cause for hyper elevated blood lead levels.in clustered wards (1 and 4).	DOEE	Ongoing
	DOEE will collaborate with sister agencies, DC water, to understand the cause of hyper 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	In the next report, DOEE will discuss more outreach activities would better understand how areas are being served and what affiliates are helping to serve, whether community grantees are involved or other third parties.	DOEE	9/30/21
Compliance	Since the Covid-19 pandemic led to a decrease in the overall access of patient testing in FY20, DOEE intends to encourage a more comprehensive patient testing for the FY21 cycle; FY20 and FY21 data can then be compared through a detailed analyses for both years.	DOEE	9/30/21

Endnotes

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