



**MURIEL BOWSER**  
**MAYOR**

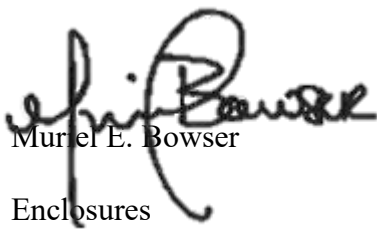
May 3, 2022

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

Dear Chairman Mendelson:

Enclosed for consideration by the Council of the District of Columbia is the "Childhood Lead Screening Report FY 2019" as required by the Childhood Lead Poisoning Screening and Reporting Act of 2002 (Act). This report documents blood lead level (BLL) results from Fiscal Years (FY) 2019 as reported to the District's Department of Energy and Environment (DOEE). Thank you for your consideration.

Sincerely,



Muriel E. Bowser

Enclosures

# **Childhood Lead Screening Report**

## **District of Columbia**

### **Fiscal Year 2019**

**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](http://doee.dc.gov)

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## Overview

There is no identified safe blood lead level (BLL).<sup>1</sup> 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.<sup>2,3,4</sup> Even low BLLs can damage the brain and nervous system, causing learning and behavior problems and lower IQ.<sup>5</sup> Higher BLLs may lead to hearing and speech problems, delayed growth, organ damage, and death.<sup>6</sup>

Childhood lead poisoning is preventable.<sup>7</sup> 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.<sup>8</sup> Children are most commonly 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.<sup>9</sup> Exposure to lead may also occur when homes are abated or renovated. 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.<sup>10</sup>

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 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 (D.C. Code § 7-871.03(g)) requires the Mayor to issue an annual report summarizing and analyzing the lead screening results obtained under the authority of the Act.<sup>11</sup> This report provides information on the incidence and prevalence of childhood lead poisoning in the District for Fiscal Year 2019 (October 1, 2018 through September 30, 2019). 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

DOEE is responsible for 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 (D.C. Code § 7-871.03(g)) requires the Mayor to issue an annual report summarizing and analyzing the lead screening results obtained under the authority of the Act.<sup>12</sup> This report provides information on the incidence and prevalence of childhood lead poisoning in the District for Fiscal Year 2019 (October 1, 2018 through September 30, 2019). 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 defined as a 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).<sup>13</sup> A confirmed EBLL case is defined as 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.<sup>14</sup>

During FY 2019, 15,391 District children had at least one BLL test result on record, virtually unchanged from the year before. **In FY 2019, more than 99% of tested children had a BLL below 5  $\mu\text{g}/\text{dL}$ .** Of the 135 reported EBLL test results in FY 2019, 51 (38%) were new confirmed (incident) cases, 20 (15%) were unconfirmed, and 64 (47%) were ongoing cases identified in a previous year. The majority of new confirmed EBLLs (77%) were in the 5.0–9.9  $\mu\text{g}/\text{dL}$  range.

During FY 2019, 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. Code §§ 7-871.01, *et seq.*) and 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.<sup>15</sup> 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.<sup>16</sup> 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 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 HHLPSS using Statistical Analysis Software (SAS) 9.4, Excel, ArcGIS, Tableau, and other analytic tools. Case counts for FY 2019 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 2019:

- 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.<sup>17</sup>
- **Incident (new confirmed) EBLL:** A child with no prior  $BLL \geq 5 \mu\text{g/dL}$  for whom: (1) one BLL result performed on venous blood was found to be  $\geq 5 \mu\text{g/dL}$ ; (2) one capillary and one venous test within 12 weeks were found to be  $\geq 5 \mu\text{g/dL}$ ; or two capillary tests not performed on the same day but within 12 weeks were found to be  $\geq 5 \mu\text{g/dL}$ .<sup>18</sup>
- **False-positive result:** One capillary BLL test result  $\geq 5 \mu\text{g/dL}$  followed by a venous test result  $< 5 \mu\text{g/dL}$  for the same child.
- **Ongoing EBLL:** A confirmed  $BLL \geq 5 \mu\text{g/dL}$  in a previous fiscal year followed by a  $BLL \geq 5 \mu\text{g/dL}$  for the same child in a subsequent fiscal year.
- **Unconfirmed EBLL:** A child with one capillary blood test  $\geq 5 \mu\text{g/dL}$  for whom no venous or capillary test occurred within the following 12 weeks.<sup>19</sup>
- **Not elevated:** A child who had either no  $BLL \geq 5 \mu\text{g/dL}$ , or who had an initially elevated capillary BLL that was found to be  $< 5 \mu\text{g/dL}$  on a venous retest.

## Lead Screening Results

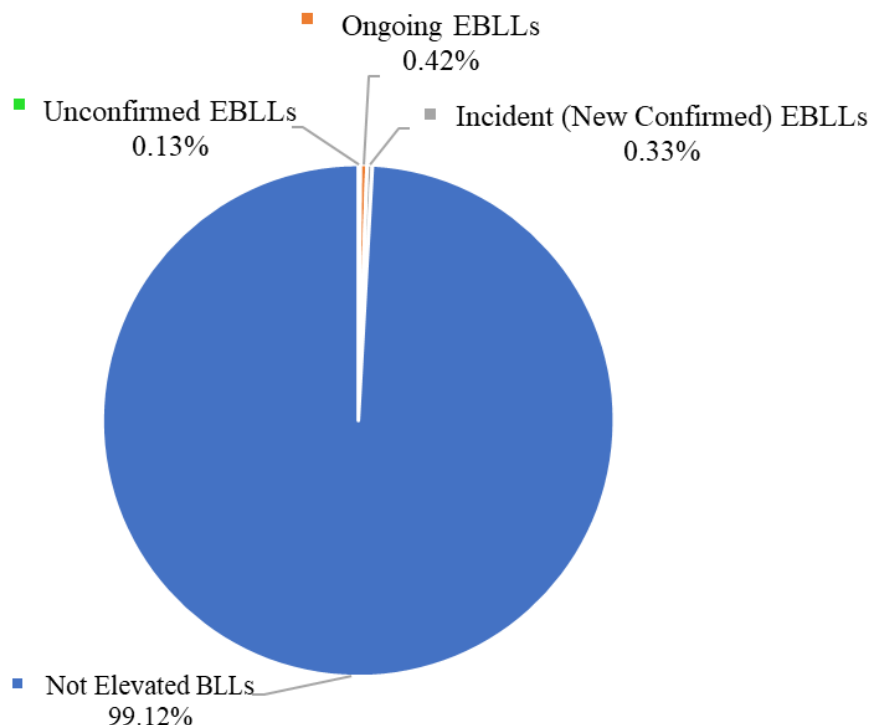
This section describes blood lead screening and EBLL prevalence among children by age and geographic location. In FY 2019, 15,391 District children under six years of age received at least one BLL screening test, a 1.9% decrease from the 15,577 children tested in FY 2018 (Table 1).

**Table 1:** Case detection among District children screened for blood lead, FY 2017–FY 2019

Measure		Number of Children Tested			Percent of Children Tested		
Fiscal Year		FY 2017	FY 2018	FY 2019	FY 2017	FY 2018	FY 2019
Children < 6 years of age		17,306	15,577	15,391	100%	100%	100%
Not elevated (< 5 µg/dL)		17,133	15,434	15,256	99.00%	99.08%	99.12%
Elevated (≥ 5 µg/dL)	Incident	118	97	51	0.68%	0.62%	0.33%
	Ongoing	33	29	64	0.19%	0.19%	0.42%
	Unconfirmed	22	17	20	0.13%	0.11%	0.13%

Among the 15,391 children below six years of age tested for lead in FY 2019, 15,256 (99.12%) had a BLL below the CDC reference value of 5 µg/dL (Figure 1). This analysis excludes false-positive test results from the count of EBLL results.

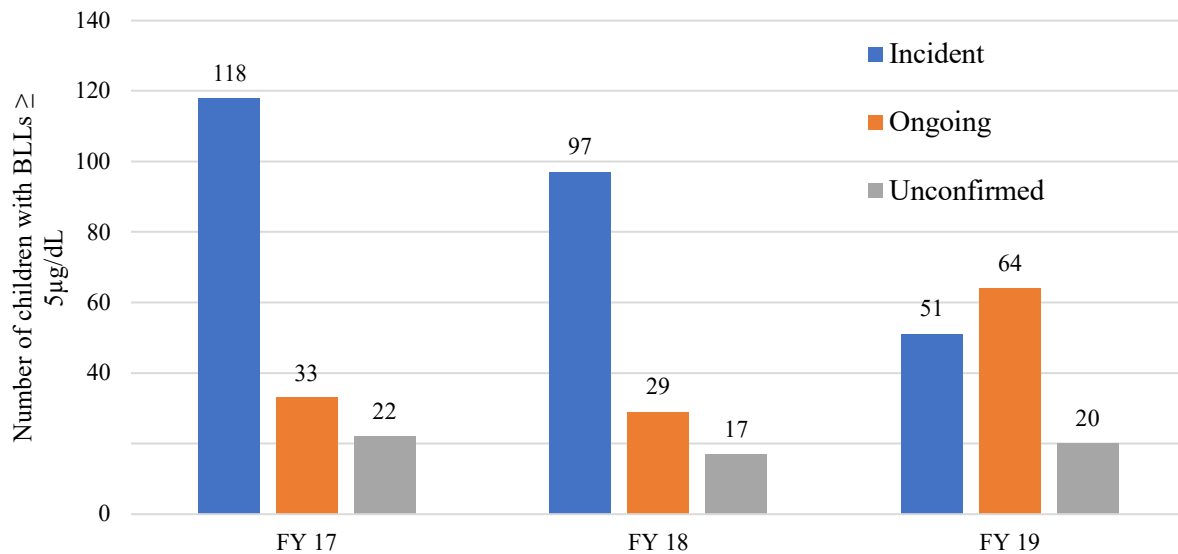
**Figure 1:** Proportion of children with a blood lead level ≥ 5 µg/dL among all children under 6 years of age residing in the District of Columbia with at least one reported blood lead test in FY 2019





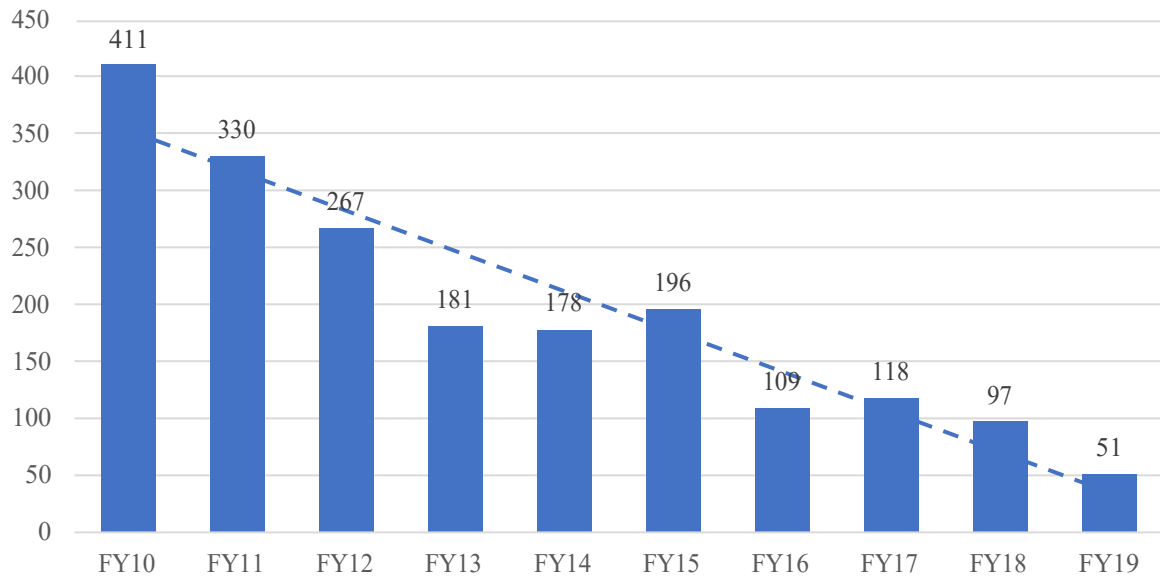
Of the 135 EBLL test results reported to DOEE in FY 2019, 51 (38%) were identified as new confirmed (incident) cases, 64 (47%) were EBLL cases first identified in a previous fiscal year, and 20 (15%) remained unconfirmed during the fiscal year (Figure 2).

**Figure 2:** 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 2017–FY 2019



Like many other jurisdictions around the country, the District has seen a declining trend in the incidence of EBLs over the past decade (Figure 3). There were 51 confirmed EBL cases among District children in FY 2019, down from 118 cases in FY 2017 and 97 cases in FY 2018.

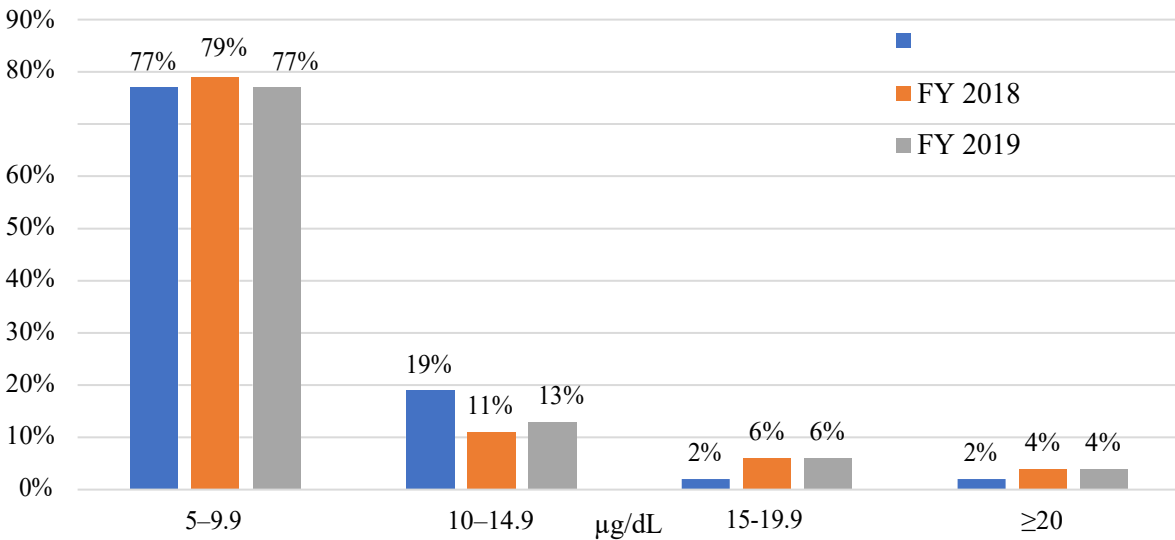
**Figure 3:** New confirmed elevated blood lead level cases declining in the District of Columbia



Number of confirmed cases of blood lead levels  $\geq 5 \mu\text{g/dL}$  in children  $<6$  years of age and residing in the District of Columbia, FY 2010–FY 2019

The risk of harmful health effects increases as the concentration of lead in the blood rises. In FY 2019, 77% of new confirmed EBLL cases among District children had a peak BLL between  $5.0 \mu\text{g/dL}$  and  $9.9 \mu\text{g/dL}$  (Figure 4). Although less common, EBLs at higher levels still occur.

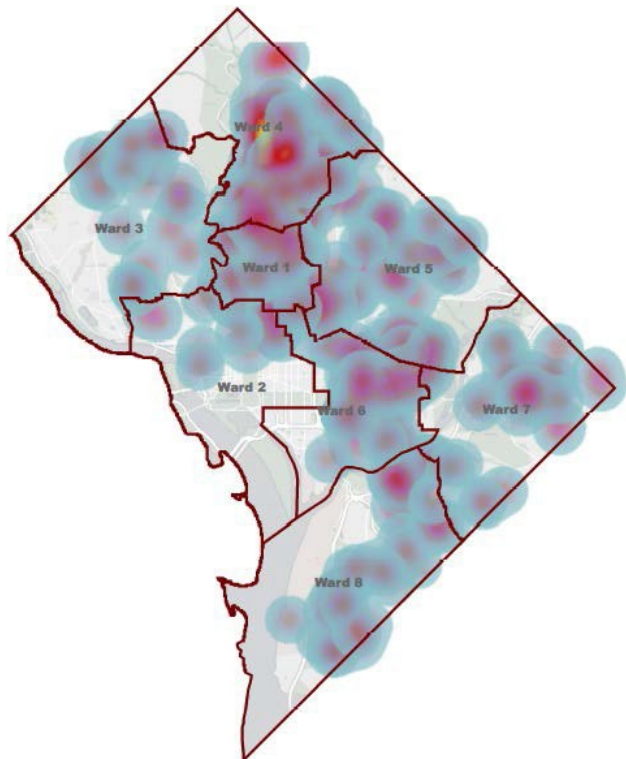
**Figure 4:** Distribution of peak blood lead levels among new confirmed elevated blood lead cases  $\geq 5 \mu\text{g/dL}$  among children  $< 6$  years of age residing in the District of Columbia, FY 2017–FY 2019



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.<sup>20</sup> The District also exceeds fifty states in the portion of housing (34%) built in 1939 or earlier,<sup>21</sup> when nine in ten homes likely had lead-based paint.<sup>22</sup>

GIS mapping data of case data for FY 2016 to FY 2019 reveals case clustering along the Georgia Avenue corridor in Wards 1 and 4, with additional clustering in adjacent Wards 5 and 6 (Figure 5). 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 Ward 7 and 8 in areas with predominantly African American residents, many of whom live in poverty.

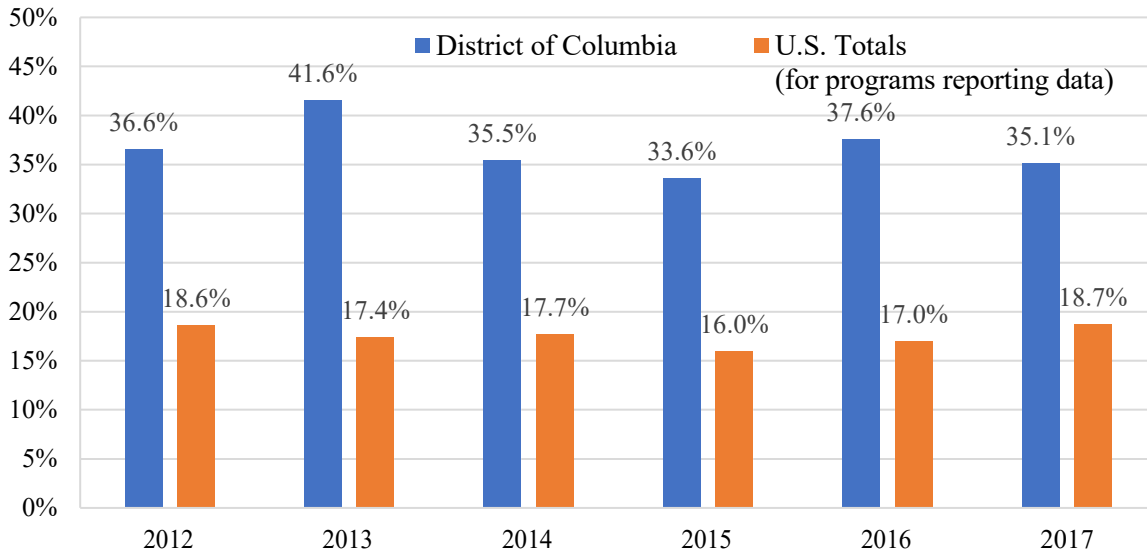
**Figure 5:** Hotspots for new confirmed elevated blood lead cases  $\geq 5 \mu\text{g/dL}$  among District children  $< 6$  years of age, FY 2016–FY 2019



## 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. 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.<sup>23</sup> Based on the most recent CDC estimates, the District exceeds most states in the percentage of children tested for blood lead. In 2017, CDC estimated that more than a third (35.1%) of District children below six years of age were tested for lead compared with 18.7% nationally (Figure 6).

**Figure 6:** Percentage of children tested for lead among children < 72 months of age: District of Columbia versus United States for childhood lead programs reporting to CDC, 2012–2017



CDC, National Lead Surveillance Table, accessed July 4, 2021, [www.cdc.gov/nceh/lead/data/national.htm](http://www.cdc.gov/nceh/lead/data/national.htm).

\* Totals are not representative of the United States. Blood lead surveillance data received and processed by CDC as of April 30, 2019 from 24–33 state-based programs annually. Population estimates calculated as population under 5 years of age plus 20% of population ages 5–9 years from U.S. Census Bureau's American FactFinder.

Using single-age estimates of the population of children in the District from the United States Census Bureau provided by the District of Columbia Office of Planning,<sup>24</sup> DOEE estimates that 29% of children below six years of age received at least one BLL test in FY 2019, unchanged from the percent of eligible children tested in FY 2018. Caution is also advised, however, when interpreting the District’s lead screening rate, as intercensal population estimates based on ten-year census counts may not capture annual changes in the population. Moreover, most children tested for lead in the District are tested at younger ages. DOEE’s previous cohort analyses suggest that up to 90% of children in the District receive at least one blood lead test result by the time they turn three years of age, with greater adherence to requirements for the first test than to the second test.<sup>25</sup>

## 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.<sup>26</sup> 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.<sup>27</sup> 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.<sup>28</sup> 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.<sup>29</sup>
- Health care providers or facilities to forward all elevated blood lead level results immediately to the child's parent or guardian.<sup>30</sup>
- 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.<sup>31</sup>

During FY 2019, 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 Department 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 2019, 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 will serve as a learning collaborative for pediatricians committed to improving lead screening within their practices.

## Holistic Approach to Addressing Lead

DOEE uses CDC's reference value of 5 µg/dL to initiate actions to prevent further lead exposure in a child with a known or suspected (unconfirmed capillary) EBLL test result. DOEE provides family case management, environmental lead investigation, and enforcement. DOEE also makes referrals to other services, including financial assistance programs to remove or remediate lead-based paint hazards and lead service pipes, legal assistance, and developmental screening.

Leveraging locally appropriated funds and federal grants from CDC and the United States Environmental Protection Agency, the three branches within DOEE's Lead-Safe and Healthy Housing Division work collaboratively to address lead issues in the District. The Healthy Housing Branch conducts childhood lead surveillance, case management, and outreach. The branch works closely with the Lead Compliance and Enforcement Branch, which provides lead risk assessments; professional certifications, accreditations, and permitting; and enforcement of the District's lead laws to ensure children live in lead-safe environments. The Licensing and Certification Branch conducts a drinking water lead testing and filtration program in licensed child development facilities. The branch launched the program in June 2018 following passage of D.C. Law 22-21, the Childhood Lead Exposure Prevention Amendment Act of 2017.

In FY 2019, the Lead-Safe and Healthy Housing Division also:

- Renewed a formal agreement with the DC Housing Authority to help the agency identify and address publicly owned and subsidized properties with lead hazards per the United States Department of Housing and Urban Development's Lead-Safe Housing Rule.
- Renewed a formal agreement with the Department of Child and Family Services Agency to conduct proactive lead risk assessments in prospective adoptive and foster care homes.
- Certified (or recertified) 572 lead professionals to perform work in the District, raising the total number of DOEE-certified lead professionals to 1,113 by the end of FY 2019.
- Completed initial sampling of drinking water sources in the District's 472 licensed child development facilities and installed 406 drinking water filters.
- Awarded grants to the Central American Resource Center, Ethiopian Community Center, and Latino Economic Development Corporation of Washington, DC for childhood lead screening and prevention outreach with minority and immigrant residents in Wards 1, 4, and 5, and renewed a grant with DC AAP to pilot a lead screening text reminder program.
- Convened bimonthly Lead Poisoning Elimination and Healthy Homes Advisory Committee meetings where diverse experts reviewed the District's lead surveillance data and advised public agencies on program responses to prevent and address lead exposure.

## 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.

**A. Increase blood lead testing and reporting** by working with health care providers, families, and community stakeholders to reduce missed opportunities for lead screening.

1. Establish a lead screening registry that will allow health care providers to track data on whether and when a child's blood has been tested for elevated lead. Starting in FY 2019, the Council of the District of Columbia included funding in DOEE's budget to support the preparation, development, and implementation of the lead registry.
2. Expand the pilot lead test reminder program with DC AAP. Once in operation, enrolled caregivers will receive a text message close to a child's first and second birthdays, coinciding with well-child visits and emphasizing the need for testing.
3. Enlist at-risk communities in outreach and prevention, including issuing new grants to support community-driven, capacity-building strategies for engaging, educating, and training caregivers, providers, and workers in protecting children from lead.

**B. Enhance blood lead surveillance.** Strengthen data analysis and dissemination to inform policies and interventions to increase blood lead screening and eliminate BLL disparities.

1. Refine measures for estimating adherence to the District's lead screening mandate.
2. Analyze lead surveillance data by social, demographic, and geographic factors.
3. Submit annual lead screening reports to the DC Council, provide data updates for discussion at stakeholder meetings, and disseminate data analyses to the public.

**C. Improve linkages to recommended services for children with EBLs.**

1. Expand strategic partnerships with, and referrals to, programs that provide services to mitigate the effects of elevated blood lead levels and the risk of further exposure.

**D. Expand targeted approaches for primary prevention of lead exposure in children**

1. Work with internal and external partners to identify and leverage resources for primary prevention, including acquiring new funding to eliminate lead hazards.
2. Use lead surveillance information to target and coordinate primary prevention interventions in high-risk areas with the District's health, housing, code enforcement, health care, human service, early child development, and early education agencies.

## 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 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 $\geq 5$ 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
HHLPSS	Healthy Homes and Lead Poisoning Surveillance System
Incident (New Confirmed) Case	One venous blood lead test result $\geq 5$ µg/dL or two capillary blood lead test results $\geq 5$ µg/dL drawn within 12 weeks of each other
Ongoing EBLL Case	A preexisting case where a confirmed BLL $\geq 5$ µg/dL in a previous fiscal year is followed by a BLL $\geq 5$ 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 $\geq 5$ µg/dL, or two capillary tests $\geq 5$ 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



## Endnotes

<sup>1</sup> “Blood Lead Levels in Children,” Centers for Disease Control and Prevention, accessed May 8, 2021, <https://www.cdc.gov/nceh/lead/prevention/blood-lead-levels.htm>.

<sup>2</sup> Council on Environmental Health, “Prevention of Childhood Lead Toxicity,” *Pediatrics* 138, no. 1 (2016): 224, <https://pediatrics.aappublications.org/content/138/1/e20161493.long>.

<sup>3</sup> Centers for Disease Control and Prevention. “Interpreting and Managing Blood Lead Levels <10 µg/dL in Children and Reducing Childhood Exposures to Lead: recommendations of the Advisory Committee on Childhood Lead Poisoning Prevention.” *MMWR Recommendations and Reports*, Atlanta, GA: United States Department of Health and Human Services, CDC; November 2, 2007 / 56(RR08);1-14;16, accessed May 9, 2021, <https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5608a1.htm>.

<sup>4</sup> Dixon, Sherry L et al. “Exposure of U.S. children to residential dust lead, 1999-2004: II. The contribution of lead-contaminated dust to children's blood lead levels.” *Environmental health perspectives* vol. 117,3 (2009): 468-74. doi:10.1289/ehp.11918, accessed May 9, 2021. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2661919/pdf/ehp-117-468.pdf?tool=EBI>.

<sup>5</sup> “Blood Lead Levels in Children,” CDC, accessed May 9, 2021, <https://www.cdc.gov/nceh/lead/prevention/blood-lead-levels.htm>.

<sup>6</sup> “Health Effects of Lead Exposure,” Centers for Disease Control and Prevention, accessed May 8, 2021, <https://www.cdc.gov/nceh/lead/prevention/health-effects.htm>.

<sup>7</sup> “Prevent Children’s Exposure to Lead,” Centers for Disease Control and Prevention, accessed May 9, 2021, <https://www.cdc.gov/nceh/features/leadpoisoning/index.html>.

<sup>8</sup> Egan, Kathryn B et al. “Blood Lead Levels in U.S. Children Ages 1-11 Years, 1976-2016.” *Environmental health perspectives* vol. 129,3 (2021): 37003. doi:10.1289/EHP7932, accessed May 9, 2021, <https://ehp.niehs.nih.gov/doi/pdf/10.1289/EHP7932>.

<sup>9</sup> Council on Environmental Health, “Prevention of Childhood Lead Toxicity,” *Pediatrics* 138, no. 1 (2016): 224, <https://pediatrics.aappublications.org/content/138/1/e20161493.long>.

<sup>10</sup> Council on Environmental Health, “Prevention of Childhood Lead Toxicity,” *Pediatrics* 138, no. 1 (2016): 224, <https://pediatrics.aappublications.org/content/138/1/e20161493.long>.

<sup>11</sup> D.C. Code § 7-871.03 (g), <https://code.dccouncil.us/dc/council/code/sections/7-871.03.html>.

- <sup>12</sup> D.C. Code § 7-871.03 (g), <https://code.dccouncil.us/dc/council/code/sections/7-871.03.html>.
- <sup>13</sup> “Blood Lead Reference Value,” Centers for Disease Control and Prevention, accessed May 8, 2021, <https://www.cdc.gov/nceh/lead/data/blood-lead-reference-value.htm>.
- <sup>14</sup> “Blood Lead Reference Value,” Centers for Disease Control and Prevention, accessed May 8, 2021, <https://www.cdc.gov/nceh/lead/data/blood-lead-reference-value.htm>.
- <sup>15</sup> D.C. Code § 7-871.03, <https://code.dccouncil.us/dc/council/code/sections/7-871.03.html>.
- <sup>16</sup> D.C. Code § 7-871.03, <https://code.dccouncil.us/dc/council/code/sections/7-871.03.html>.
- <sup>17</sup> “Standard Surveillance Definitions and Classifications,” Centers for Disease Control and Prevention, accessed May 9, 2021, <https://www.cdc.gov/nceh/lead/data/case-definitions-classifications.htm>.
- <sup>18</sup> “Standard Surveillance Definitions and Classifications,” Centers for Disease Control and Prevention, accessed May 9, 2021, <https://www.cdc.gov/nceh/lead/data/case-definitions-classifications.htm>.
- <sup>19</sup> “Standard Surveillance Definitions and Classifications,” Centers for Disease Control and Prevention, accessed May 9, 2021, <https://www.cdc.gov/nceh/lead/data/case-definitions-classifications.htm>.
- <sup>20</sup> United States Census Bureau, 2015–2019 American Community Survey 5-Year Estimates. Tenure by Year Structure Built, Table B25036, accessed April 6, 2021, [https://data.census.gov/cedsci/table?q=B25036&g=0100000US\\_0400000US11&tid=ACSDT5Y2019.B25036&hidePreview=true](https://data.census.gov/cedsci/table?q=B25036&g=0100000US_0400000US11&tid=ACSDT5Y2019.B25036&hidePreview=true).
- <sup>21</sup> United States Census Bureau, 2015–2019 American Community Survey 5-Year Estimates. Year Structure Built, Table B25034, accessed July 4, 2021, <https://data.census.gov/cedsci/table?q=B25036&g=0100000US.04000.001&y=2019&tid=ACSDT5Y2019.B25034&hidePreview=true&moe=false>.
- <sup>22</sup> United States Environmental Protection Agency. *The Lead-Safe Certified Guide to Renovate Right*. September 2011, 740-K-10-001, Washington, DC: United States Government Publishing Office, page 5.
- <sup>23</sup> “Standard Surveillance Definitions and Classifications,” Centers for Disease Control and Prevention, accessed May 9, 2021, <https://www.cdc.gov/nceh/lead/data/case-definitions-classifications.htm>.

<sup>24</sup> U.S. Census Bureau, Population Division. Annual Estimates of the Resident Population by Single Year of Age and Sex for District of Columbia: April 1, 2010 to July 1, 2019 (SC-EST2019-SYASEX-11). Release Date: June 2020.

<sup>25</sup> Department of Energy and Environment, Lead-Safe and Healthy Housing Division. *Annual Report: FY15 Childhood Lead Screening Report*, August 2016, <https://lims.dccouncil.us/Legislation/RC21-0123>.

<sup>26</sup> District of Columbia Municipal Regulations (D.C.M.R.) Tit. 22, § B7303 – Reporting, <https://www.dcregs.dc.gov/Common/DCMR/RuleList.aspx?ChapterNum=22-B73>

<sup>27</sup> D.C.M.R. Tit. 22, § B7303 – Reporting, <https://www.dcregs.dc.gov/Common/DCMR/RuleList.aspx?ChapterNum=22-B73>

<sup>28</sup> D.C.M.R. Tit. 22, § B7303 – Testing and Case Management, <https://www.dcregs.dc.gov/Common/DCMR/RuleList.aspx?ChapterNum=22-B73>

<sup>29</sup> D.C. Code § 7-871.03(c), <https://code.dccouncil.us/dc/council/code/sections/7-871.03.html>.

<sup>30</sup> D.C. Code § 7-871.03(d), <https://code.dccouncil.us/dc/council/code/sections/7-871.03.html>.

<sup>31</sup> D.C. Code § 7-871.03(d), <https://code.dccouncil.us/dc/council/code/sections/7-871.03.html>.