CHILDHOOD LEAD EXPOSURE IN NEW JERSEY

ANNUAL REPORT

STATE FISCAL YEAR 2023
(July 1, 2022 – June 30, 2023)

New Jersey Department of Health
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GLOSSARY OF TERMS AND ACRONYMS

Abatement: Refers to long-term removal of an environmental lead hazard by a certified lead abatement contractor, such as removing lead-based paint and repairing a cracked wall or surface. N.J.A.C. 8:51 requires lead hazards to be abated (i.e., not remediated) when identified in the home of a lead-burdened child.

BLL: Blood lead level.

Children: Refers to children who are younger than 17 years of age, unless otherwise specified.

Children six to 26 months of age: Includes children in the age range for universal blood lead testing required by N.J.A.C. 8:51A, where health care providers should test children at or around age one (within the age range six to 18 months) and again at or around age two (within the age range 18 to 26 months).

Children younger than 72 months of age: Refers to children who are younger than six years, which is the age by which N.J.A.C. 8:51A requires that all children should have received at least one blood lead test.

CLP: The Department's Childhood Lead Program.

Communicable Disease Reporting and Surveillance System (CDRSS): The Department's secure, online central database for reportable conditions including childhood lead test results. As of August 2021, CDRSS has been the repository for all nurse case management and environmental investigation data; prior to this, childhood lead data was managed in a Department database called Lead Trax.

Confirmed BLL: A blood lead level obtained from a venous blood sample (i.e., blood drawn from a vein).

Department: The New Jersey Department of Health.

EBLL: Refers to an elevated blood lead test result above the minimum threshold, as established by New Jersey Administrative Code Title 8, Chapter 51 (N.J.A.C. 8:51). Since SFY 2018, N.J.A.C. 8:51 defines this threshold as any BLL greater than or equal to 5 µg/dL; prior to SFY 2018, the minimum threshold EBLL was 10 µg/dL. In SFY 2025, the Department lowered the minimum threshold EBLL from 5 µg/dL to 3.5 µg/dL to align with recommendations from the Centers for Disease Control and Prevention (CDC). All EBLLs require a public health response, such as nurse case management or environmental investigation.

Geocoding: Before SFY 2022, addresses were geocoded in ArcGIS Pro. Starting SFY 2022, addresses are geocoded within CDRSS. For more information on how cases are coded in CDRSS, please visit: https://cdrs.doh.state.nj.us/cdrss/common/geocodingNotes.

Large Municipality(ies): Municipality(ies) with a population greater than 35,000 residents.

Lead inspector/risk assessor: Someone who is certified to conduct an environmental inspection to identify lead hazards and order lead hazard removal.

LHD: Local health department.

Population Data: The CLP uses decennial population counts from the U.S. Census to calculate rates and other metrics. The U.S. Census 2020 was used for this report, unless otherwise specified, as this is the most recent decennial population count.

Unconfirmed BLL: A blood lead level obtained from a capillary (i.e., finger stick) blood sample. A venous sample is needed to confirm an unconfirmed BLL greater than or equal to 5 µg/dL according to N.J.A.C. 8:51.

Remediation: Refers to temporary measures to disrupt lead exposure, such as re-painting a cracked wall. Remediation may be used and/or required by other programs, but when a lead hazard is identified in a home with a lead-burdened child (i.e., a child with an elevated blood lead level), N.J.A.C. 8:51 requires the hazard must be abated, not remediated.

Screening/Testing Number Percent: Where each child is counted only once, regardless of the number of tests that the child has had during the reporting timeframe.

SFY: Refers to the State Fiscal Year in New Jersey, which for SFY 2023 includes the period of July 1, 2022, to June 30, 2023.

µg/dL: Micrograms of lead per deciliter of whole blood.

Universal screening: Requires health care providers and local health departments to test all children for lead, regardless of where they live, whether they have health insurance, or whether there is any risk factors present.

Unknown Address: A case address that could not be geocoded in CDRSS or an address that was not reported to the Department.

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EXECUTIVE SUMMARY

N.J.A.C. 8:51 and N.J.A.C. 8:51A protect children from the toxic effects of lead exposure by requiring a universal lead screening program in New Jersey and, for children with elevated blood lead levels (EBLL), public health intervention, including nursing case management and environmental investigation. This Annual Report on Childhood Lead Exposure in New Jersey for State Fiscal Year (SFY) 2023 is submitted as required by N.J.S.A. 26:2-135, which tasks the Commissioner of Health with issuing an annual report to the Governor and the Legislature that includes a summary of blood lead testing and environmental investigation activities in the State during the preceding SFY. Highlights of the report include the following:

- Eighty percent (80%) of children born in New Jersey who turned three years of age during SFY 2023 had received at least one blood lead test in their lifetime. This represents a higher percentage of children tested as compared to the same analysis in SFY 2022, where 78% of children born in New Jersey who turned three years of age during SFY 2022 had received at least one blood lead test. *From Chapter One, which describes blood lead screening of children less than 17 years of age in New Jersey.*

- Twenty-four percent (24%) of children born in New Jersey who turned three years of age during SFY 2023 received at least one blood lead test at age one year and age two years. *From Chapter One, which describes blood lead screening of children less than 17 years of age in New Jersey.*

- A total of 93,879 children between the ages of six months and 26 months were screened for lead in SFY 2023. This number is higher than the 83,463 children screened in SFY 2022. *From Chapter Two, which describes blood lead screening of children by age group, geographic location, gender, and month of test.*

- In the five years between SFY 2019 and SFY 2023, the percentage of tested children younger than six years of age with an EBLL dropped from 2.3% to 1.4%. Trend data for EBLLs cannot be generated using annual reports prior to SFY 2018, as the minimum threshold for an EBLL was higher before SFY 2018 (i.e., the actionable level was lowered from 10 ug/dL to 5 ug/dL in SFY 2018). In SFY 2025, the minimum threshold for an EBLL was lowered again, from 5 ug/dL to 3.5 ug/dL. These changes strengthen the standard for intervening in cases of child lead exposure, enabling public health officials and health care providers to intervene earlier with education, case management, and other steps at the earliest possible time. *From Chapter Two, which describes blood lead screening of children by age group, geographic location, gender, and month of test.*

- In SFY 2023, 57% of children younger than six years of age with an EBLL were male, and 43% were female. The peak months of screening for children younger than six years of age were July and August, and the months when the most EBLLs were detected were July through September. During warmer months exposure increases from lead dust produced from friction impact surfaces such as opening and closing windows. An uptick in testing occurs in the summer months due to an increase in testing during back-to-school medical visits. The increase in testing identifies more children with elevated

blood lead levels. *From Chapter Two, which describes blood lead screening of children by age group, geographic location, gender, and month of test.*

- The seven large municipalities with the highest percentage of children younger than six years of age with an EBLL in SFY 2023 are the following:
  - City of Trenton in Mercer County (41.0% screened, 5.3% EBLL),
  - City of Irvington in Essex County (53.6% screened, 4.3% EBLL),
  - City of East Orange in Essex County (42.4% screened, 2.9% EBLL),
  - City of Plainfield in Union County (60.1% screened, 2.5% EBLL),
  - Township of Montclair in Essex County (18.8% screened, 2.4% EBLL),
  - Township of Edison in Middlesex County (9.3% screened, 2.4% EBLL), and
  - City of Passaic in Passaic County (47.1% screened, 2.4% EBLL).

  While the percentage of children with an EBLL is the most widely used metric to represent the burden of childhood lead in a specific geographic area, comparisons of this metric between municipalities are not appropriate as they may be misleading. The variability in population size and the percentage screened can have a significant impact on the percentage of EBLLs (e.g., the smaller the population, the more dramatic the change to the percentage). Additionally, the causes of EBLLs can vary by municipality. Such causes may include community demographics [e.g., cultural practices (such as folk medicine, traditional remedies, herbal supplements, spices, candies with lead in the wrappers, cosmetics, jewelry, cooking items, etc.) and socioeconomics, etc.] and environmental sources of exposure (e.g., the age and/or condition of housing in a geographic area). *From Chapter Three, which compares blood lead screening and elevated blood lead levels in large municipalities.*

- In SFY 2023, local health departments (LHDs) required 872 environmental investigations (approximately 33% of EBLL cases); 341 (approximately 39%) of those that required environmental investigations resulted in the LHD issuing an order of abatement. Of these 341 new abatements ordered in SFY 2023, the LHDs with the largest number of orders of abatement were the City of Newark, Newark Department of Health & Community Wellness (n=40), and the City of Paterson, Division of Health (n=36). *From Chapter Four, which describes the volume and completion of environmental investigations conducted by local health departments.*

Preventing childhood lead exposure remains a priority for the New Jersey Department of Health (NJDOH). In SFY 2023, the Department continued its #kNOwLEAD prevention campaign to increase awareness of all lead hazards in homes, schools, and on the job, and to educate parents about what they can do to prevent exposure and have their children tested. Throughout SFY 2023, funding, technical support, and subject matter expertise were provided to a range of entities through various grants. These included local health departments, to support screening, environmental investigations, and nursing case management; regional childhood lead coalitions to support primary prevention, outreach, and education initiatives; Isles Inc, to support the New Jersey Healthy Homes Training Center; and Green and Healthy Homes Initiative (GHHI), to provide technical assistance to public health and community partners. Also, several Data Use Agreements (DUAs) were implemented with other governmental programs and agencies to

allow for the exchange of data to ensure lead-burdened children receive timely medical care and early intervention services, and to support regulatory programs in lead remediation, safe housing, and safe drinking water. Lastly, the Department participated in several interagency working groups to evaluate data sources and improve data transparency for all stakeholders addressing childhood lead exposure.

In SFY 2023 NJDOH continued the above initiatives to support its public health mission to prevent, screen, and intervene to ensure the health and safety of New Jersey children.

Previous SFY annual reports can be found online at https://www.nj.gov/health/childhood-lead/reports-data.

CHAPTER ONE

TESTING CHILDREN FOR ELEVATED BLOOD LEAD LEVELS

In New Jersey, N.J.A.C. 8:51A requires health care providers to screen all children for lead at or around 12 months and at or around 24 months of age. Children three years of age or older must be tested at least once before their sixth birthday if they have not already been screened at ages one or two. Laboratories are required to report all blood lead tests to the Department. This chapter describes statewide blood lead screening findings among children in New Jersey.

Figures 1a and 1b represent the percentage of children who were born in New Jersey and had at least one blood lead test performed by three or six years of age, respectively, during SFY 2023. To generate statistics for these figures, each child is counted only once, regardless of the number of tests the child has received. The number of tests in a specific age group is then compared to the number of children who were born in New Jersey and are turning three or six years of age during SFY 2023. Because this method uses birth records to calculate screening rates, these statistics closely reflect the population of children in New Jersey who were eligible for and received screening.

As depicted in Figure 1a, 80% of children who were born in New Jersey and turned three years of age during SFY 2023 had at least one blood lead test in their lifetime. This represents a slightly higher percentage than the 78% reported for this metric for SFY 2022. In Figure 1b, 93% of children who were born in New Jersey and turned six years old during SFY 2023 had at least one blood lead test in their lifetime. This number reflects a decrease from the 96% rate for this metric for SFY 2022. **Please note, in SFY 2023, in addition to a shift in surveillance databases, further efforts in data cleaning and deduplication were applied to all data analyses and thus, percentages reported represent more precise calculations.**

Figure 1c represents the percentage of children who were born in New Jersey and turned three years old during SFY 2023 and had received at least two blood lead tests, including one blood lead test performed between the ages of six months through less than 24 months <u>and</u> at least one blood lead test performed between the ages of 24 months through less than 36 months. Each child is counted only once in their age group to generate this figure regardless of the number of tests the child has received.

Of the children who were born in New Jersey and turned three years old during SFY 2023, 24% had at least two blood lead tests.

Young children absorb more lead than adults when ingested. As children become more mobile, the exposure risk increases. Early identification of children with elevated blood lead levels allows for timely nurse case management and environmental investigation to identify the sources of exposure.

Figure 1d represents the number of children who were born in New Jersey and turned <u>six years old</u> during SFY 2023 and had received at least two blood lead tests, including one blood lead test performed prior to age 48 months <u>and</u> at least one blood lead test performed between 48

months and younger than 72 months. To generate the statistics represented in this figure, each child is counted only once in their age group, regardless of the number of tests they received. Of the children who were born in New Jersey and turned six years old during SFY 2023, 17% had at least two blood lead tests.

Figure 2 represents annual trends in children six months through 26 months of age. This age range is used throughout the annual report and was selected to match N.J.A.C. 8:51A, which requires that a child's first blood lead test should take place when they turn one year or when they are six months to 18 months of age, and a child's second blood lead test should take place when they turn two years, or when they are 18 through 26 months. Given the requirement that children be tested twice, data generated for Figure 2 include children tested at ages six through 26 months. The number of tests is then divided by the total population of children one year and two years old, as reported in the U.S. Census. This method generates screening rates that are less precise than using birth records, as 10-year census counts may not capture annual changes in the population. For example, a decrease in the annual percent screened may reflect factors other than screening practices, such as fewer children eligible for screening that year or screening saturation, where children were already tested in a previous year and do not require testing again.

Figure 1a

**Percentage of Children* Who Turned Three Years of Age During SFY 2023
and Had At Least One Blood Lead Test in their Lifetime**
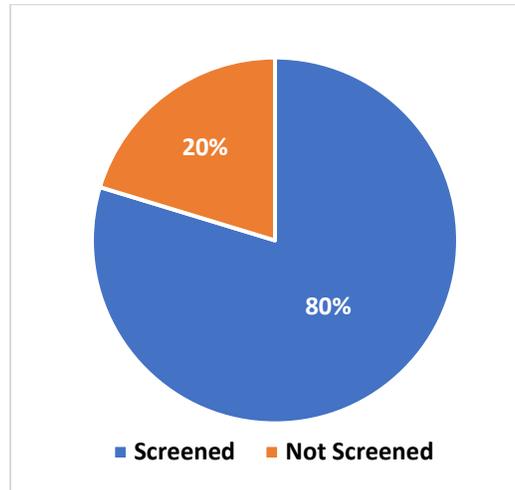
**Number of children born in New Jersey between July 1, 2019 and June 30, 2020 (n =99,214)
Source: New Jersey Department of Health, Center for Health Statistics, New Jersey Birth Certificate Database*

Figure 1b

**Percentage of Children* Who Turned Six Years of Age During SFY 2023
and Had At Least One Blood Lead Test in their Lifetime**
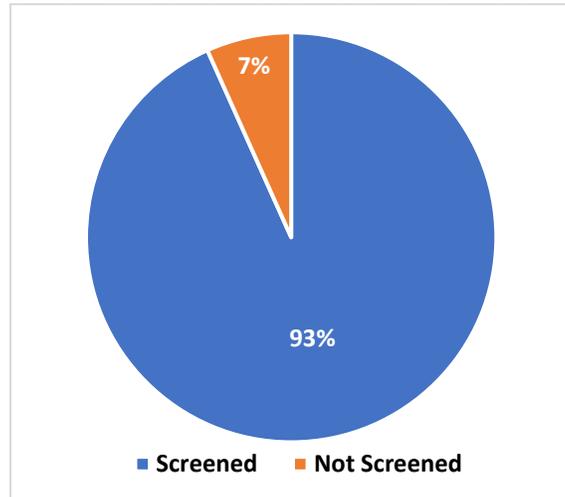
**Number of children born in New Jersey between July 1, 2016 and June 30, 2017 (n =101,340)
Source: New Jersey Department of Health, Center for Health Statistics, New Jersey Birth Certificate Database*

Figure 1c

Percentage of Children* Who Turned Three Years of Age During SFY 2023 and Had Two Blood Lead Tests in their Lifetime
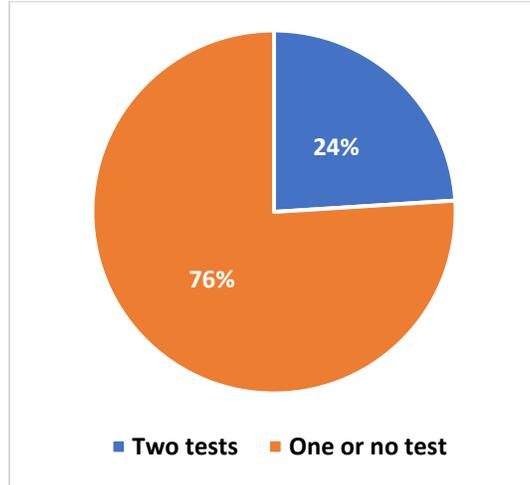
*Number of children born in New Jersey between July 1, 2019 and June 30, 2020 (n = 99,214)
Source: New Jersey Department of Health, Center for Health Statistics, New Jersey Birth Certificate Database

Figure 1d

Percentage of Children* Who Turned Six Years of Age During SFY 2023 and Had Two Blood Lead Tests in their Lifetime
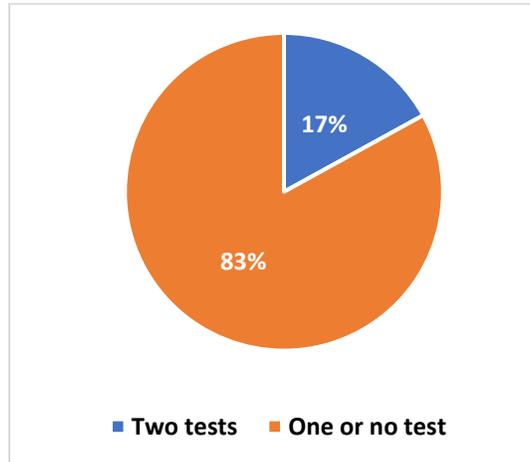
*Number of children born in New Jersey between July 1, 2016 and June 30, 2017 (n =101,340)
Source: New Jersey Department of Health, Center for Health Statistics, New Jersey Birth Certificate Database

Figure 2

Trend in Percentage* of Children Six Months Through 26/29* Months of Age Screened
by SFY****
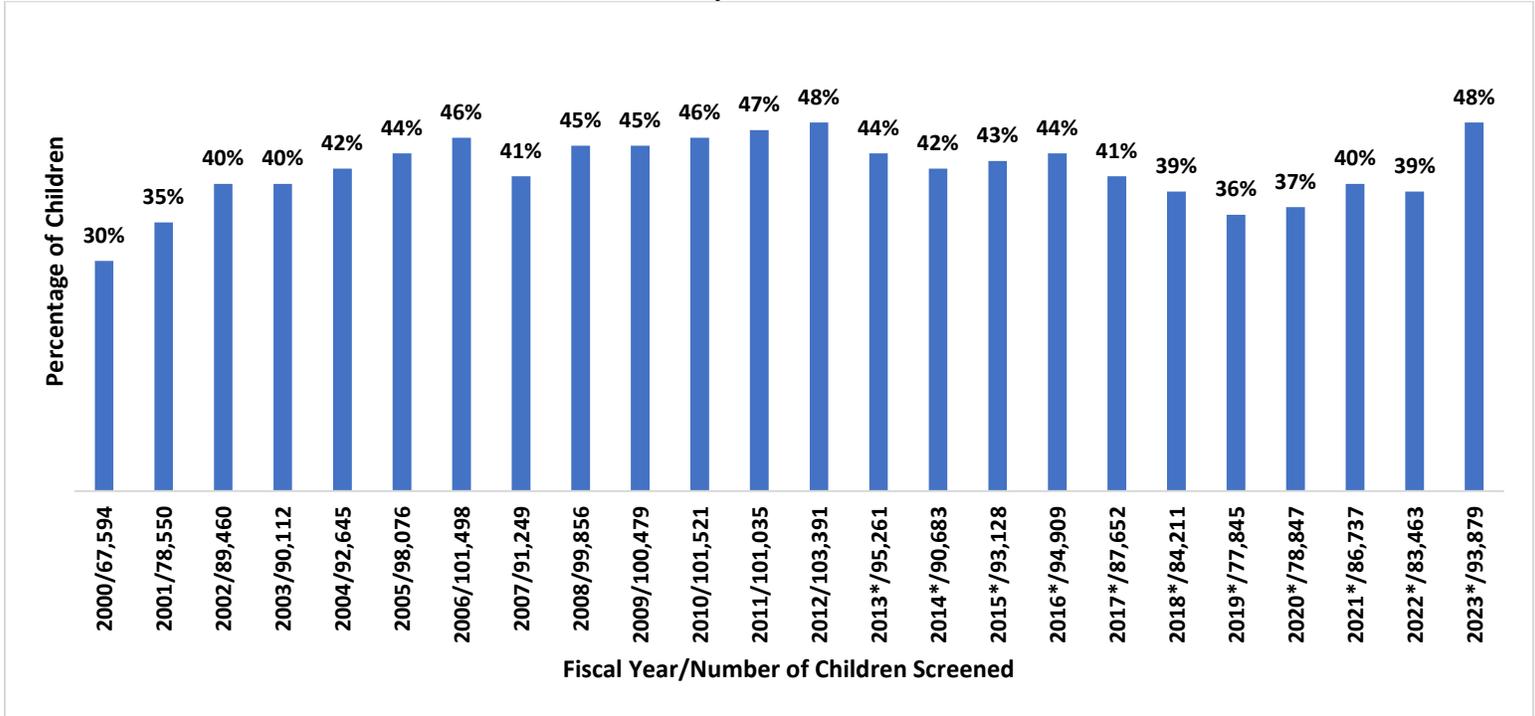
*Caution is advised when interpreting these numbers, as percentages calculated using the 10-year census counts do not capture annual changes in the population.

**For SFY 2000 through SFY 2016, the number of blood lead tests used to calculate percentages may include duplicate records.

***For SFY 2000 through SFY 2010:
- Total Children = 2000 U.S. Census for Children 1 and 2 Years of Age
- Total Screened = Frequency of Children 6-29 Months of Age with a Blood Lead Test
- Percent Screened = (Total Screened / Total Children) * 100

For SFY 2011 through SFY 2022:
- Total Children = 2010 U.S. Census for Children 1 and 2 Years of Age
- Total Screened = Frequency of Children 6-26 Months of Age with a Blood Lead Test
- Percent Screened = (Total Screened / Total Children) * 100

For SFY 2023:
- Total Children = 2020 U.S. Census for Children 1 and 2 Years of Age
- Total Screened = Frequency of Children 6-26 Months of Age with a Blood Lead Test
- Percent Screened = (Total Screened / Total Children) * 100

CHAPTER TWO

PROFILE OF BLOOD LEAD TESTS PERFORMED AND PREVALENCE OF ELEVATED BLOOD LEAD LEVELS IN CHILDREN

In addition to universal blood lead testing required by N.J.A.C. 8:51A, New Jersey requires public health intervention for all children with an EBLL at or above 5 μg/dL, as defined in N.J.A.C. 8:51 (Note: This number will be lowered to 3.5 ug/dL in SFY 2025 to align with the current CDC standard). This chapter provides a more in-depth look at blood lead screening data and EBLL prevalence by county and by municipality of residence (which may differ from the county/municipality of exposure), the gender of children screened, and the month the sample was taken.

To protect patient confidentiality, only municipalities with a population of 35,000 or more residents (i.e., large municipalities) are included in this report, as the proportion of children in the blood lead screening age range comprises an even smaller part of each municipal population. For each table in this chapter, a child with an EBLL is counted only once, using the highest EBLL. The number of children with an EBLL is then divided by the total population of children in a given age group, as reported in the 2020 U.S. Census. This method generates screening and prevalence statistics that may not reflect the size of the current population, as 10-year census counts do not capture annual changes such as decreases in the population.

Tables 1 and 2 show screening numbers and results by county and large municipality, respectively, for children six through 26 months of age. As per N.J.A.C. 8:51A, children in this age group must be screened twice, at ages 12 and 24 months. Table 1 shows that in SFY 2023, the average percentage of children ages six through 26 months screened by county was 32.4%, with a range of 22.7% (Hudson County) to 42.8 % (Hunterdon County). The average percentage of children ages six through 26 months with an EBLL by county was 1.1%, ranging from 0.3% (Ocean County) to 3.0% (Cumberland County).

Table 2 shows that in SFY 2023, the average percentage of children ages six through 26 months screened in large municipalities was 31.9%, with a range of 4.6% (the City of Hoboken in Hudson County) to 50.2 % (the City of Plainfield in Union County). In large municipalities in New Jersey, the average percentage of children six to 26 months of age with an EBLL was 1.1%. The range includes zero cases reported in several municipalities— the Borough of Fort Lee (Bergen County), the Township of Freehold (Monmouth County), the Townships of Washington and Monroe (Gloucester County), the Townships of Toms River and Berkeley (Ocean County), the Township of Egg Harbor (Atlantic County), and the Township of Wayne (Passaic County) —and up to 5.8 % in the City of Trenton (Mercer County).

Tables 3 and 4 show screening numbers and results by county and by large municipality, respectively, for children younger than six years of age. As per N.J.A.C. 8:51A, children must be screened at least once by six years of age. Table 3 shows that in SFY 2023, the average percentage of children younger than six years of age screened by county was 25.5 %, with a range of 17.0% (Cape May County) to 39.7 % (Essex County). The average percentage of

children younger than six years of age with an EBLL by county was 1.3%, with a range of 0.3% (Ocean County) to 3.4% (Cumberland County).

Table 4 shows that in SFY 2023, the average percentage of children younger than six years of age screened in large municipalities was 28.4 %, with a range of 4.6% (The City of Hoboken in Hudson County) to 60.1 % (City of Plainfield in Union County), and the average percentage of children younger than six years of age with an EBLL by large municipality was 1.1%, with a range of zero cases (the Townships of Berkeley and Toms River in Ocean County, the Borough of Fort Lee in Bergen County, the Townships of Monroe and Washington in Gloucester County, the Township of Freehold in Monmouth County, and the Township of Wayne in Passaic County) to 5.3% (City of Trenton in Mercer County).

Table 5 shows EBLL by county for all children less than 17 years of age. A total of 194,133 children in this age range were screened for lead in SFY 2023 compared to the 176,299 children screened in SFY 2022.

Figures 3a and 3b compare the statewide BLL results among children by year of age. Figure 3a shows children with an EBLL (i.e., BLL of 5 µg/dL and greater) and Figure 3b shows children without an EBLL (i.e., BLL less than 5 µg/dL). As illustrated in Figure 3a, children between one year and three years of age comprise the largest category of EBLL.

Figure 4a shows the percentage of children statewide with an EBLL compared to children without an EBLL and shows that in SFY 2023, 98.7% of all children had a BLL less than 5 µg/dL. Figure 4b includes all children with an EBLL and compares categories of EBLL. In SFY 2023, 73.5% of children with an EBLL had a blood lead level in the lowest category of results (5-9 µg/dL), and 0.5% of children had a blood lead level in the highest category of results (at or above 45 µg/dL).

Figure 5 shows the statewide gender distribution of children younger than six years of age with an EBLL. In SFY 2023, 57% of children younger than six years of age with an EBLL were male, and 43% were female.

Figure 6 shows the seasonal distribution of screening and percentage of EBLL among children younger than six years of age. Here, the highest percentage of children younger than six years of age with an EBLL were detected between July and August, which may be due in part to increased exposure to lead dust in and/or around the home, such as frequent opening and closing of windows contaminated with lead-based paint, home renovations, and yard maintenance that occur during warmer months.

Table 1

SFY 2023: Number of Children Six Months Through 26 Months of Age by BLL and County of Residence

County	Total Children	% Screened*	BLL (mg/dL) <5	EBLL (mg/dL)								Total Screened
				5-9	10-14	15-19	20-44	≥45	Total EBLL	% EBLL		
ATLANTIC	7,862	31.4	2,444	16	3	2	0	0	21	0.9		2,465
BERGEN	27,354	26.8	7,287	33	7	2	5	0	47	0.6		7,334
BURLINGTON	13,309	34.6	4,572	20	4	4	1	0	29	0.6		4,601
CAMDEN	17,334	28.2	4,855	20	3	1	1	1	26	0.5		4,881
CAPE MAY	2,198	27.5	599	4	2	0	0	0	6	1.0		605
CUMBERLAND	5,007	31.8	1,542	33	9	2	4	0	48	3.0		1,590
ESSEX	29,682	36.0	10,472	161	40	13	10	1	225	2.1		10,697
GLOUCESTER	8,894	27.2	2,402	11	3	0	0	0	14	0.6		2,416
HUDSON	27,477	22.7	6,127	81	11	13	6	0	111	1.8		6,238
HUNTERDON	3,167	42.8	1,349	4	0	1	0	0	5	0.4		1,354
MERCER	11,517	39.9	4,479	90	14	11	3	0	118	2.6		4,597
MIDDLESEX	25,615	33.2	8,415	65	18	7	3	0	93	1.1		8,508
MONMOUTH	16,899	29.4	4,957	16	3	0	0	0	19	0.4		4,976
MORRIS	14,044	35.5	4,954	26	3	3	0	0	32	0.6		4,986
OCEAN	26,823	31.1	8,330	18	3	0	1	0	22	0.3		8,352
PASSAIC	17,855	36.7	6,448	78	14	6	7	0	105	1.6		6,553
SALEM	2,032	29.2	582	7	2	2	1	0	12	2.0		594
SOMERSET	9,450	36.5	3,421	22	5	1	1	1	30	0.9		3,451
SUSSEX	3,699	27.8	1,025	3	1	0	0	0	4	0.4		1,029
UNION	19,596	38.9	7,513	76	20	3	5	0	104	1.4		7,617
WARREN	2,899	32.9	942	10	2	0	1	0	13	1.4		955
Unknown Address	NA	NA	80	0	0	0	0	0	1	1.2		80
Total	292,713	32.1	92,795	794	167	71	49	3	1,084	1.2		93,879

Total Children = 2020 U.S. Census for Children 0-2 Years of Age

Total Screened = Frequency of Children 6-26 Months of Age with a Blood Lead Test Reported in SFY 2023

Total EBLL = Frequency of Children 6-26 Months of Age with an EBLL ≥ 5ug/dL Reported in SFY 2023

Percent Screened = (Total Screened / Total Children) * 100

Percent EBLL = (Total EBLL / Total Screened) * 100

*Caution is advised when interpreting these numbers, as percentages calculated using 10-year census counts do not capture annual changes in the population.

Table 2

SFY 2023: Number of Children Six Months Through 26 Months of Age by BLL and Large Municipality of Residence

Municipality	Total Children	% Screened*	BLL (mg/dL) <5	EBLL (mg/dL)							Total Screened
				5-9	10-14	15-19	20-44	≥45	Total EBLL	% EBLL	
ATLANTIC CITY	1,455	32.0	453	8	2	2	0	0	12	2.6	465
BAYONNE	2,510	26.5	657	7	1	1	0	0	9	1.4	666
BELLEVILLE	1,155	41.6	479	2	0	0	0	0	2	0.4	481
BERKELEY	717	29.7	213	0	0	0	0	0	0	0.0	213
BLOOMFIELD	1,839	31.3	570	3	1	0	1	0	5	0.9	575
BRICK	1,866	27.5	512	1	0	0	1	0	2	0.4	514
BRIDGEWATER	1,213	35.6	430	1	1	0	0	0	2	0.5	432
CAMDEN	3,041	31.1	936	6	0	1	1	1	9	1.0	945
CHERRY HILL	2,254	24.8	558	0	1	0	0	0	1	0.2	559
CLIFTON	2,870	33.1	943	6	0	0	0	0	6	0.6	949
EAST BRUNSWICK	1,238	34.6	427	0	0	0	1	0	1	0.2	428
EAST ORANGE	2,503	32.4	791	16	2	1	0	0	19	2.3	810
EDISON	3,172	32.0	990	18	4	2	0	0	24	2.4	1,014
EGG HARBOR	1,314	31.4	412	0	0	0	0	0	0	0.0	412
ELIZABETH	5,357	37.7	1,985	27	6	1	0	0	34	1.7	2019
EVESHAM	1,359	25.7	348	1	0	0	0	0	1	0.3	349
EWING	906	38.6	344	5	0	1	0	0	6	1.7	350
FORT LEE	1,102	18.5	204	0	0	0	0	0	0	0.0	204
FRANKLIN (Somerset County)	2,077	30.6	634	1	0	1	0	0	2	0.3	636
FREEHOLD	797	22.1	176	0	0	0	0	0	0	0.0	176
GALLOWAY	942	31.8	298	2	0	0	0	0	2	0.7	300
GLOUCESTER	2,036	26.5	539	1	0	0	0	0	1	0.2	540
HACKENSACK	1,383	32.8	450	3	1	0	0	0	4	0.9	454
HAMILTON (Mercer County)	2,665	36.4	954	14	1	0	0	0	15	1.5	969
HILLSBOROUGH	1,088	35.2	381	2	0	0	0	0	2	0.5	383
HOBOKEN	2,910	4.6	130	3	0	0	0	0	3	2.3	133
HOWELL	1,523	31.0	471	1	0	0	0	0	1	0.2	472
IRVINGTON	2,523	36.9	888	29	11	2	1	0	43	4.6	931
JACKSON	2,137	42.8	912	1	1	0	0	0	2	0.2	914
JERSEY CITY	11,822	20.5	2371	37	5	5	4	0	51	2.1	2422
KEARNY	1,284	30.4	383	5	1	1	0	0	7	1.8	390
LAKEWOOD	14,032	31.0	4,339	10	2	0	0	0	12	0.3	4,351

Municipality	Total Children	% Screened*	BLL (mg/dL) <5	EBLL (mg/dL)								Total Screened
				5-9	10-14	15-19	20-44	≥45	Total EBLL	% EBLL		
LINDEN	1,438	30.1	430	1	1	0	1	0	3	0.7		433
MANALAPAN	898	26.1	233	1	0	0	0	0	1	0.4		234
MANCHESTER	565	38.2	215	1	0	0	0	0	1	0.5		216
MARLBORO	796	29.1	231	1	0	0	0	0	1	0.4		232
MIDDLETOWN	1,964	29.2	572	2	0	0	0	0	2	0.3		574
MONROE (Gloucester County)	1,088	27.9	304	0	0	0	0	0	0	0.0		304
MONROE (Middlesex County	721	40.5	289	3	0	0	0	0	3	1.0		292
MONTCLAIR	1,192	26.6	309	2	3	2	1	0	8	2.5		317
MOUNT LAUREL	1,160	40.8	472	0	0	1	0	0	1	0.2		473
NEW BRUNSWICK	1,909	33.2	623	8	2	0	0	0	10	1.6		633
NEWARK	11,685	36.5	4,171	68	15	7	6	1	97	2.3		4268
NORTH BERGEN	1,978	30.7	596	9	2	0	1	0	12	2.0		608
NORTH BRUNSWICK	1,491	34.1	507	0	1	0	0	0	1	0.2		508
OLD BRIDGE	1,837	30.8	563	2	0	0	0	0	2	0.4		565
PARSIPPANY-TROY HILLS	1,610	26.7	424	4	0	2	0	0	6	1.4		430
PASSAIC	3,043	36.6	1,079	26	3	3	2	0	34	3.1		1,113
PATERSON	6,573	41.7	2,690	34	8	3	5	0	50	1.8		2,740
PENNSAUKEN	1,126	26.6	299	1	0	0	0	0	1	0.3		300
PERTH AMBOY	2,126	37.9	796	8	2	0	0	0	10	1.2		806
PISCATAWAY	1,610	34.1	545	3	0	0	1	0	4	0.7		549
PLAINFIELD	2,498	50.2	1,212	31	8	1	3	0	43	3.4		1,255
SAYREVILLE	1,475	28.9	426	0	1	0	0	0	1	0.2		427
SOUTH BRUNSWICK	997	35.4	352	0	1	0	0	0	1	0.3		353
TEANECK	1,217	25.3	303	4	0	0	1	0	5	1.6		308
TOMS RIVER	2,855	28.4	811	0	0	0	0	0	0	0.0		811
TRENTON	3,868	40.5	1,475	68	11	8	3	0	90	5.8		1,565
UNION CITY	2,317	33.0	754	7	1	2	1	0	11	1.4		765
UNION	1,574	40.5	628	9	0	0	0	0	9	1.4		637
VINELAND	1,930	29.3	561	4	0	0	0	0	4	0.7		565
WASHINGTON (Gloucester County)	1,411	23.0	325	0	0	0	0	0	0	0.0		325
WAYNE	1,315	39.8	523	0	0	0	0	0	0	0.0		523
WEST NEW YORK	1,832	32.3	584	6	0	1	0	0	7	1.2		591
WEST ORANGE	1,500	36.2	535	6	1	0	1	0	8	1.5		543
WINSLOW	1,257	29.9	375	1	0	0	0	0	1	0.3		376

Municipality	Total Children	% Screened*	BLL (mg/dL)	EBLL (mg/dL)								Total Screened
			<5	5-9	10-14	15-19	20-44	≥45	Total EBLL	% EBLL		
WOODBRIDGE	3,389	32.9	1,101	8	5	2	0	0	15	1.3		1,116

Total Children = 2020 U.S. Census for Children 0-2 Years of Age

Total Screened = Frequency of Children 6-26 Months of Age with a Blood Lead Test Reported in SFY 2023

Total EBLL = Frequency of Children 6-26 Months of Age with an EBLL ≥ 5ug/dL Reported in SFY 2023

Percent Screened = (Total Screened / Total Children) * 100

Percent EBLL = (Total EBLL / Total Screened) * 100

*Caution is advised when interpreting these numbers, as percentages calculated using 10-year census counts do not capture annual changes in the population.

Table 3

SFY 2023: Number of Children Younger Than Six Years of Age by BLL and County of Residence

County	Total Children	% Screened*	BLL (mg/dL) <5	EBLL (mg/dL)						Total EBLL	% EBLL	Total Screened
				5-9	10-14	15-19	20-44	≥45				
ATLANTIC	16,460	25.8	4,201	36	6	2	2	0	46	1.1	4,247
BERGEN	58,669	21.3	12,391	58	8	3	7	1	77	0.6	12,468
BURLINGTON	27,792	22.4	6,161	35	11	6	1	1	54	0.9	6,215
CAMDEN	35,735	19.3	6,833	52	8	3	3	1	67	1.0	6,900
CAPE MAY	4,796	17.0	807	6	2	1	0	0	9	1.1	816
CUMBERLAND	10,582	28.6	2,919	75	20	4	5	0	104	3.4	3,023
ESSEX	62,977	39.7	24,436	387	91	31	37	2	548	2.2	24,984
GLOUCESTER	18,721	18.5	3,435	16	4	2	0	0	22	0.6	3,457
HUDSON	52,967	26.6	13,855	163	22	19	18	1	223	1.6	14,078
HUNTERDON	6,624	23.9	1,574	7	0	1	0	0	8	0.5	1,582
MERCER	24,217	32.0	7,521	173	26	13	7	2	221	2.9	7,742
MIDDLESEX	54,448	29.8	15,999	153	32	12	8	1	206	1.3	16,205
MONMOUTH	36,120	22.6	8,120	30	7	0	0	0	37	0.5	8,157
MORRIS	29,610	25.2	7,416	47	6	3	2	0	58	0.8	7,474
OCEAN	54,003	24.0	12,901	35	6	0	3	0	44	0.3	12,945
PASSAIC	37,215	38.2	13,963	185	33	16	19	2	255	1.8	14,218
SALEM	4,242	21.0	860	20	5	2	2	0	29	3.3	889
SOMERSET	20,085	25.0	4,977	35	10	2	2	1	50	1.0	5,027
SUSSEX	7,866	17.6	1,383	4	1	0	0	0	5	0.4	1,388
UNION	40,772	35.8	14,396	151	35	9	13	1	209	1.4	14,605
WARREN	6,030	20.7	1,227	17	3	0	1	0	21	1.7	1,248
Unknown Address	NA	NA	139	0	0	0	0	0	0	0.0	139
Total	609,931	27.5	165,514	1,685	336	129	130	13	2,293	1.4	167,807

Total Children = 2020 U.S. Census for Children 0-6 Years of Age

Total Screened = Frequency of Children 0-72 Months of Age with a Blood Lead Test Reported in SFY 2023

Total EBLL = Frequency of Children 0-72 Months of Age with an EBLL ≥ 5ug/dL Reported in SFY 2023

Percent Screened = (Total Screened / Total Children) * 100

Percent EBLL = (Total EBLL / Total Screened) * 100

*Caution is advised when interpreting these numbers, as percentages calculated using 10-year census counts do not capture annual changes in the population.

Table 4

SFY 2023: Number of Children Younger Than Six Years of Age by BLL and Large Municipality of Residence

Municipality	Total Children	% Screened*	BLL (mg/dL)	EBLL (mg/dL)							Total Screened
			<5	5-9	10-14	15-19	20-44	≥45	Total EBLL	% EBLL	
ATLANTIC CITY	2,979	33.1	964	16	4	2	0	0	22	2.2	986
BAYONNE	5,150	31.4	1,599	11	1	1	3	0	16	1.0	1,615
BELLEVILLE	2,384	41.1	975	4	1	0	0	1	6	0.6	981
BERKELEY	1,592	21.8	347	0	0	0	0	0	0	0.0	347
BLOOMFIELD	3,590	31.4	1,115	8	1	1	1	0	11	1.0	1,126
BRICK	3,812	20.8	784	3	2	0	2	0	7	0.9	791
BRIDGEWATER	2,653	21.3	562	3	1	0	0	0	4	0.7	566
CAMDEN	6,406	24.0	1,506	23	3	2	2	1	31	2.0	1,537
CHERRY HILL	4,697	15.8	737	2	2	0	0	0	4	0.5	741
CLIFTON	5,873	32.9	1,917	14	1	1	1	0	17	0.9	1,934
EAST BRUNSWICK	2,770	25.8	710	2	0	0	3	0	5	0.7	715
EAST ORANGE	5,217	42.4	2,147	44	10	4	5	0	63	2.9	2,210
EDISON	7,160	29.3	2,049	38	8	4	1	0	51	2.4	2,100
EGG HARBOR	2,804	23.5	658	1	0	0	1	0	2	0.3	660
ELIZABETH	11,055	41.8	4,540	60	13	5	0	0	78	1.7	4,618
EVESHAM	2,801	16.0	447	1	0	0	0	0	1	0.2	448
EWING	1,783	31.1	544	9	1	1	0	0	11	2.0	555
FORT LEE	2,301	16.0	369	0	0	0	0	0	0	0.0	369
FRANKLIN (Somerset County)	4,238	23.0	968	3	1	2	0	0	6	0.6	974
FREEHOLD	1,777	18.8	334	0	0	0	0	0	0	0.0	334
GALLOWAY	1,979	22.6	444	3	0	0	0	0	3	0.7	447
GLOUCESTER	4,123	17.3	711	2	0	0	0	0	2	0.3	713
HACKENSACK	2,701	35.8	956	8	1	0	0	1	10	1.0	966
HAMILTON (Mercer County)	5,499	29.3	1,584	22	2	0	1	0	25	1.6	1,609
HILLSBOROUGH	2,428	20.8	503	3	0	0	0	0	3	0.6	506
HOBOKEN	5,112	4.6	229	3	1	0	0	0	4	1.7	233
HOWELL	3,240	22.7	733	1	0	0	0	0	1	0.1	734
IRVINGTON	5,184	53.6	2,659	84	22	8	5	0	119	4.3	2,778
JACKSON	4,594	32.3	1,482	2	1	0	0	0	3	0.2	1,485
JERSEY CITY	22,701	24.2	5,372	90	13	9	11	1	124	2.3	5,496
KEARNY	2,523	35.1	873	10	1	1	1	0	13	1.5	886
LAKEWOOD	26,780	24.2	6,452	21	3	0	1	0	25	0.4	6,477
LINDEN	2,838	34.6	975	4	1	0	1	0	6	0.6	981
MANALAPAN	2,087	19.2	399	1	0	0	0	0	1	0.3	400

Municipality	Total Children	% Screened*	BLL (mg/dL) <5	EBLL (mg/dL)						Total EBLL	% EBLL	Total Screened
				5-9	10-14	15-19	20-44	≥45				
MANCHESTER	1,198	31.7	378	2	0	0	0	0	2	0.5	380
MARLBORO	1,945	21.1	410	1	0	0	0	0	1	0.2	411
MIDDLETOWN	4,102	19.3	791	2	0	0	0	0	2	0.3	793
MONROE (Gloucester County)	2,276	19.6	446	0	0	0	0	0	0	0.0	446
MONROE (Middlesex County	1,762	25.7	447	5	1	0	0	0	6	1.3	453
MONTCLAIR	2,613	18.8	478	4	4	2	2	0	12	2.4	490
MOUNT LAUREL	2,485	23.1	571	1	0	1	0	0	2	0.3	573
NEW BRUNSWICK	3,919	30.9	1,191	17	3	0	1	0	21	1.7	1,212
NEWARK	24,625	48.6	11,726	172	39	14	18	1	244	2.0	11,970
NORTH BERGEN	3,984	33.3	1,309	14	2	0	1	0	17	1.3	1,326
NORTH BRUNSWICK	2,961	30.8	909	2	1	0	0	0	3	0.3	912
OLD BRIDGE	3,839	24.1	920	6	1	0	0	0	7	0.8	927
PARSIPPANY-TROY HILLS	3,389	21.2	708	8	2	2	0	0	12	1.7	720
PASSAIC	6,427	47.1	2,953	52	10	7	4	0	73	2.4	3,026
PATERSON	13,711	47.4	6,359	102	18	8	12	2	142	2.2	6,501
PENNSAUKEN	2,398	18.2	435	2	0	0	0	0	2	0.5	437
PERTH AMBOY	4,563	46.4	2,092	18	3	1	1	0	23	1.1	2,115
PISCATAWAY	3,394	28.4	956	7	0	1	1	0	9	0.9	965
PLAINFIELD	5,132	60.1	3,005	53	15	3	6	1	78	2.5	3,083
SAYREVILLE	3,047	26.7	809	4	1	0	0	0	5	0.6	814
SOUTH BRUNSWICK	2,378	25.6	600	7	2	0	0	0	9	1.5	609
TEANECK	2,653	20.3	534	4	0	0	1	0	5	0.9	539
TOMS RIVER	6,062	21.9	1,326	0	0	0	0	0	0	0.0	1,326
TRENTON	8,022	41.0	3,119	136	20	10	5	2	173	5.3	3,292
UNION	3,182	33.6	1,052	13	1	0	2	0	16	1.5	1,068
UNION CITY	4,691	36.6	1,697	14	2	3	1	0	20	1.2	1,717
VINELAND	4,151	25.7	1,056	8	1	0	0	0	9	0.8	1,065
WASHINGTON (Gloucester County)	2,886	14.9	430	0	0	0	0	0	0	0.0	430
WAYNE	2,926	24.6	719	0	0	0	0	0	0	0.0	719
WEST NEW YORK	3,598	40.2	1,432	10	1	2	0	0	13	0.9	1,445
WEST ORANGE	3,086	31.1	947	9	3	1	1	0	14	1.5	961
WINSLOW	2,575	20.2	517	2	0	0	0	0	2	0.4	519
WOODBRIDGE	7,005	30.3	2,096	20	8	2	0	0	30	1.4	2,126

Total Screened = Frequency of Children < 17 Years of Age with a Blood Lead Test Reported in SFY 2023
Total EBLL = Frequency of Children < 17 Years of Age with an EBLL ≥ 5ug/dL Reported in SFY 2023
Percent EBLL = (Total EBLL / Total Screened) * 100

Table 5

SFY 2023: Number of Children by BLL and County of Residence

County	BLL (mg/dL) <5	EBLL (mg/dL)							Total Screened
		5-9	10-14	15-19	20-44	≥45	Total EBLL	% EBLL	
ATLANTIC	4,488	41	7	2	2	0	52	1.1	4,540
BERGEN	13,962	74	9	3	8	1	95	0.7	14,057
BURLINGTON	6,467	39	12	7	1	1	60	0.9	6,527
CAMDEN	7,199	56	9	3	3	1	72	1.0	7,271
CAPE MAY	878	7	2	1	0	0	10	1.1	888
CUMBERLAND	3,336	83	23	4	5	0	115	3.3	3,451
ESSEX	30,192	443	104	35	40	2	624	2.0	30,816
GLOUCESTER	3,543	18	4	2	0	0	24	0.7	3,567
HUDSON	16,775	196	27	21	18	1	263	1.5	17,038
HUNTERDON	1,631	8	0	1	0	0	9	0.5	1,640
MERCER	9,188	188	34	14	8	2	246	2.6	9,434
MIDDLESEX	19,207	180	40	17	9	1	247	1.3	19,454
MONMOUTH	9,657	34	8	0	1	0	43	0.4	9,700
MORRIS	8,190	53	8	4	2	0	67	0.8	8,257
OCEAN	14,031	50	6	0	4	0	60	0.4	14,091
PASSAIC	16,175	205	38	19	21	2	285	1.7	16,460
SALEM	905	22	5	3	2	0	32	3.4	937
SOMERSET	5,711	41	11	2	3	1	58	1.0	5,769
SUSSEX	1,563	6	2	0	0	0	8	0.5	1,571
UNION	16,872	168	38	11	15	1	233	1.4	17,105
WARREN	1,375	18	3	0	1	0	22	1.6	1,397
Unknown address	163	0	0	0	0	0	0	0.0	163
Total	191,508	1,930	390	149	143	13	2,625	1.4	194,133

Total Screened = Frequency of Children < 17 Years of Age with a Blood Lead Test Reported in SFY 2023
Total EBLL = Frequency of Children < 17 Years of Age with an EBLL ≥ 5ug/dL Reported in SFY 2023
Percent EBLL = (Total EBLL / Total Screened) * 100

Figure 3a

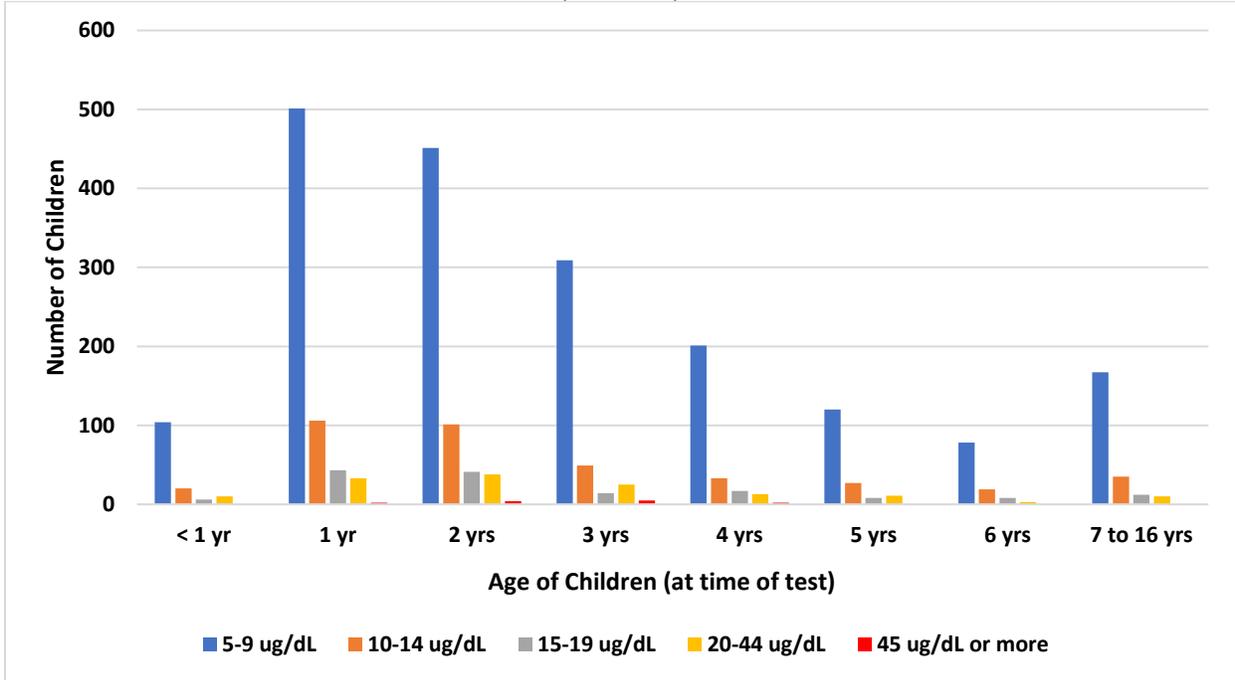**SFY 2023: Statewide Frequency of Children with an EBLL by Age
(n=2,625)**

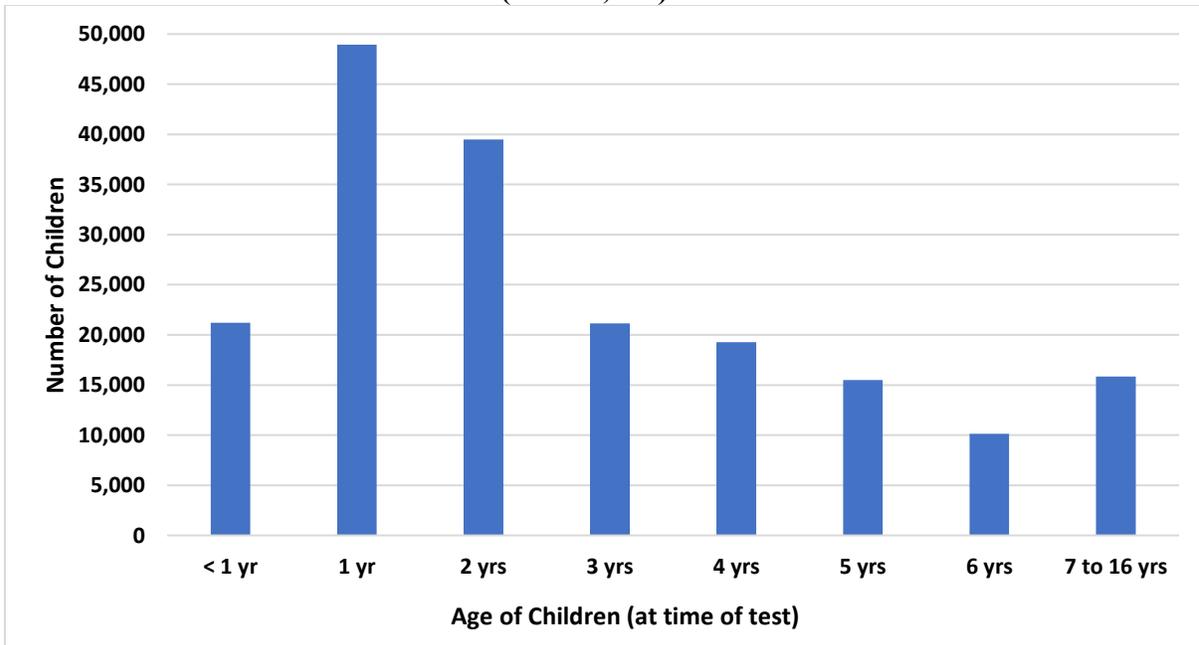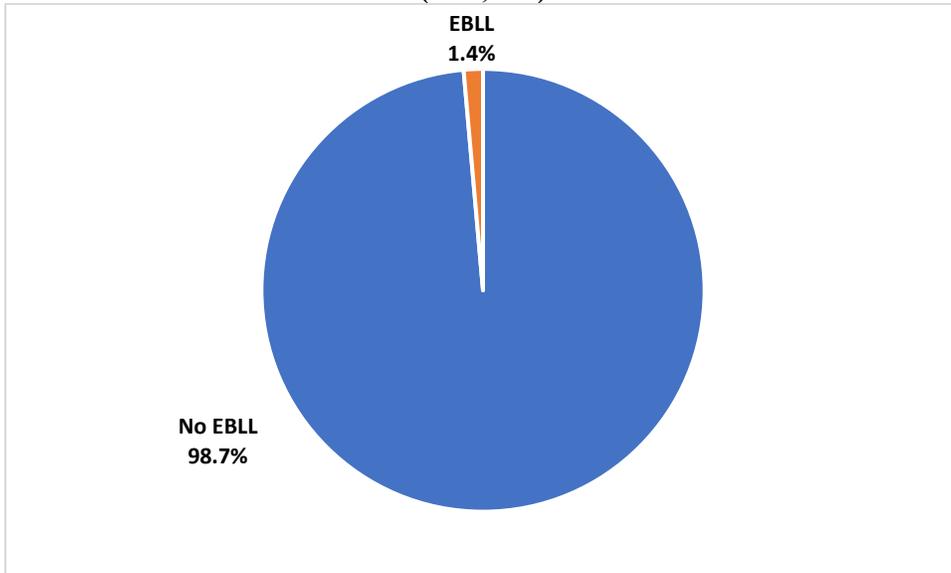**Figure 3b**

**SFY 2023: Statewide Frequency of Children without an EBLL by Age
(n= 191,508)**

Figure 4a

**SFY 2023: Statewide Percentage of Children with an EBLL
(n=2,625)**

EBLL
1.4%

No EBLL
98.7%

Figure 4b

**SFY 2023: Statewide Percentage of Children by Category of EBLL
(n=2,625)**

15-19 ug/dL
5.7%

20-44 ug/dL
5.4%

45 ug/dL or more
0.5%

10-14 ug/dL
14.9%

5-9 ug/dL
73.5%
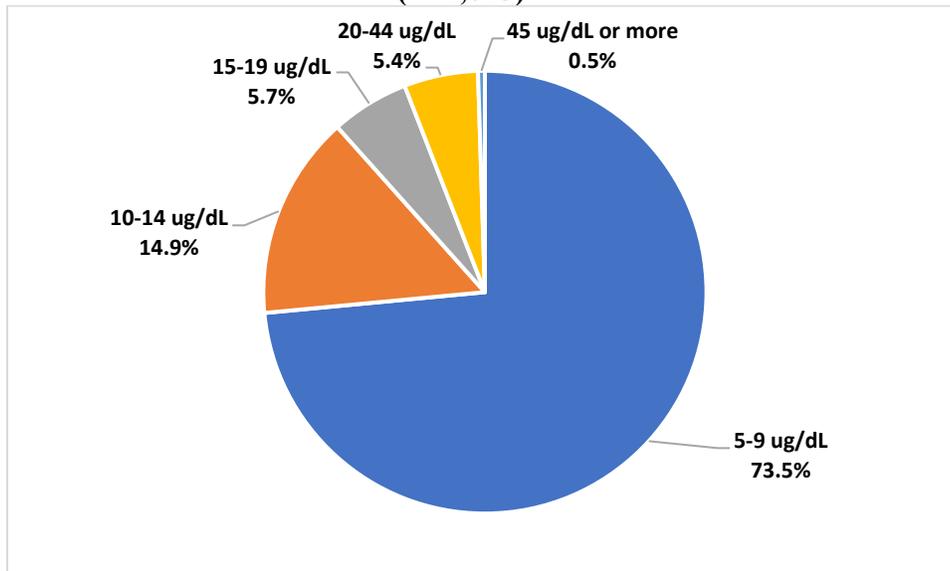
Figure 5

SFY 2023: Statewide Percentage of Children Younger Than Six Years of Age with an EBLL by Gender*
(n=2,293)
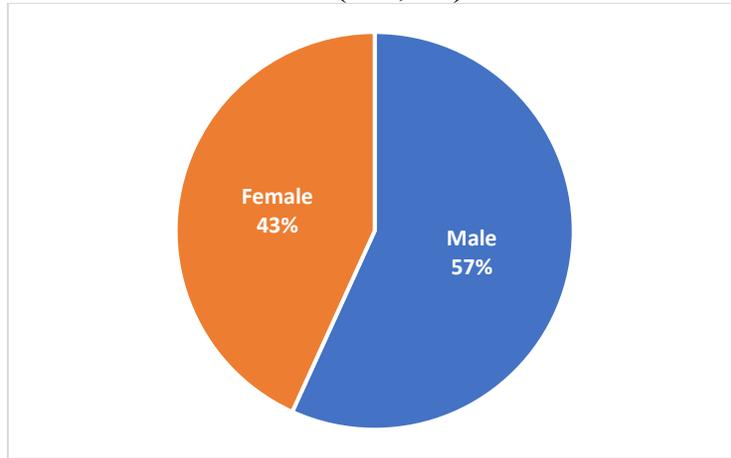
*Gender is self-reported and provided through lab data.

Figure 6

SFY 2023: Statewide Total Children Screened and Percentage of EBLL for Children Younger Than Six Years of Age by Month of Test
(n=2,293)

CHAPTER THREE

SPOTLIGHT ON LARGE MUNICIPALITIES IN NEW JERSEY

Childhood lead exposure is an issue that affects all municipalities in New Jersey. This chapter provides a closer look at some large municipalities and how they rank according to attributes such as the population of children younger than six years of age, percentage of children screened in SFY 2023, and percent EBLL.

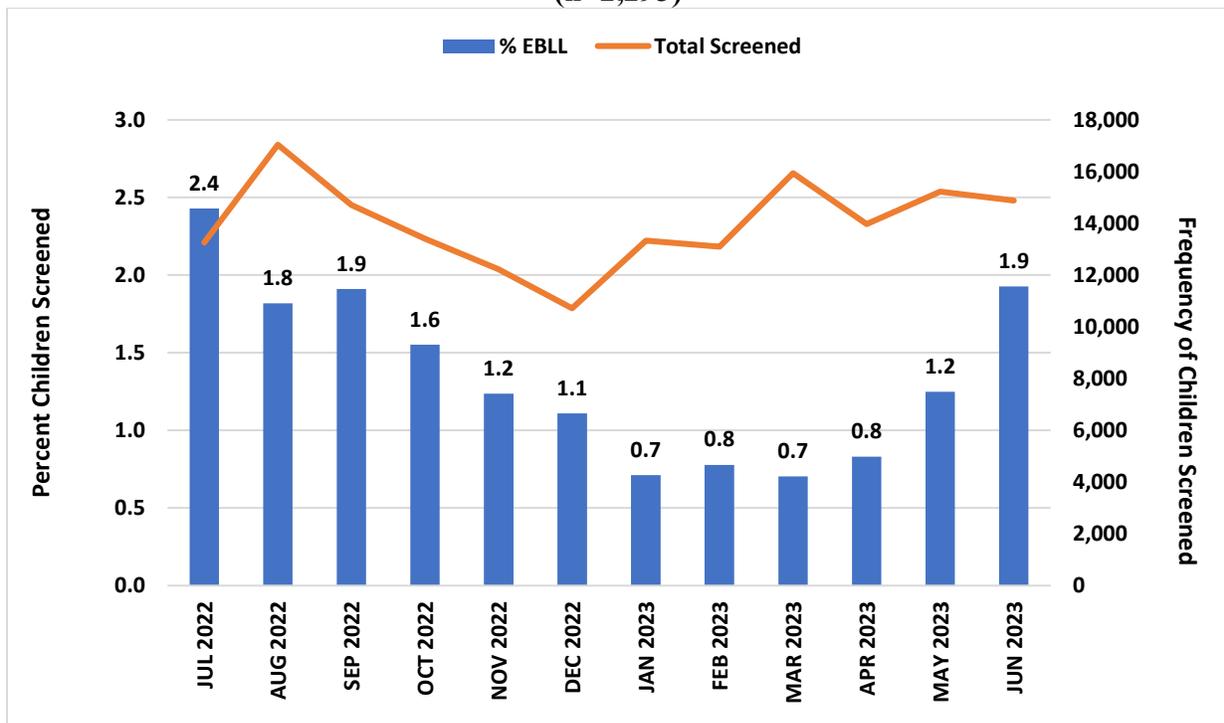Many large municipalities also have the highest number of children younger than six years of age. Table 6 ranks the top 10 large municipalities by the largest population of children younger than six years of age (based on data from the 2020 U.S. Census). The Township of Lakewood has the largest population of children younger than six years of age (26,780), followed by Newark (24,625), and then by Jersey City (22,701).

Because N.J.A.C. 8:51A requires that children be screened for lead at least once before they turn six years of age, Table 7 ranks the top 10 large municipalities by the highest percentage of children younger than six years of age who were screened in SFY 2023. The City of Plainfield in Union County (60.1%) had the highest percentage of children younger than six years of age screened in SFY 2023, followed by the City of Irvington in Essex County (53.6%), the City of Newark in Essex County (48.6%), and then the City of Paterson in Passaic County (47.4%). It is important to note that despite the Township of Lakewood in Ocean County having the largest number of children younger than six years of age, only 24% of this population were screened for lead exposure in SFY 2023.

Table 8 ranks the top 10 large municipalities by the lowest percentage of children younger than six years of age who were screened in SFY 2023. The City of Hoboken in Hudson County (4.6%) had the lowest percentage of children younger than six years of age screened in SFY 2023, followed by the Township of Washington in Gloucester County (14.9%), the Township of Cherry Hill in Camden County (15.8%), and then the Township of Evesham in Burlington County as well as the Borough of Fort Lee in Bergen County, both at 16.0%.

Table 9 ranks the top large municipalities by the highest percentage of children younger than six years of age with an EBLL at or above 5 μg/dL. The five large municipalities with the highest percentage of children with an EBLL at or above 5 μg/dL in SFY 2023 were the City of Trenton in Mercer County (5.3%), the City of Irvington in Essex County (4.3%), the City of East Orange in Essex County (2.9%), the City of Plainfield in Union County (2.5%), the Township of Montclair in Essex County (2.4%), and the Township of Edison in Middlesex County (2.4%). While the percentage of children with an EBLL is one metric that examines the burden of childhood lead in a geographic area, it does not account for factors that may vary from place to place such as population size, screening rates, and sources of exposure (e.g., age of housing).

Table 6

Top 10 Large Municipalities Ranked by
Largest Population of Children Younger Than Six Years of Age

Municipality (County)	Population <6 Years
Lakewood Township (Ocean)	26,780
Newark City (Essex)	24,625
Jersey City (Hudson)	22,701
Paterson City (Passaic)	13,711
Elizabeth City (Union)	11,055
Trenton City (Mercer)	8,022
Edison Township (Middlesex)	7,160
Woodbridge Township (Middlesex)	7,005
City of Passaic (Passaic)	6,427
Camden City (Camden)	6,406

Total Children = 2020 U.S. Census for Children 0-6 Years of Age

Table 7

Top 10 Large Municipalities Ranked by
Highest Percentage of Children Younger Than Six Years of Age Screened in SFY 2023

Municipality (County)	% Children <6 Years Screened for Lead
Plainfield City (Union)	60.1%
Irvington Township (Essex)	53.6%
Newark City (Essex)	48.6%
Paterson City (Passaic)	47.4%
Passaic City (Passaic)	47.1%
Perth Amboy City (Middlesex)	46.4%
East Orange City (Essex)	42.4%
Elizabeth City (Union)	41.8%
Belleville Township (Essex)	41.1%
Trenton City (Mercer)	41.0%

Total Children = 2020 U.S. Census for Children 0-6 Years of Age
Total Screened = Frequency of Children 0-72 Months of Age with a Blood Lead Test Reported in SFY 2023

Table 8

Top 10 Large Municipalities Ranked by
Lowest Percentage of Children Younger Than Six Years of Age Screened in SFY 2023

Municipality (County)	% Children <6 Years Screened for Lead
Hoboken City (Hudson)	4.60%
Washington Township (Gloucester)	14.90%
Cherry Hill Township (Camden)	15.80%
Gloucester Township (Camden)	17.30%
Pennsauken Township (Camden)	18.20%
Manalapan Township (Monmouth)	19.20%
Fort Lee Borough (Bergen)	16.0% (tie with Evesham Township)
Evesham Township (Burlington)	16.0% (tie with Fort Lee Borough)
Montclair Township (Essex)	18.8% (tie with Freehold Township)
Freehold Township (Monmouth)	18.8% (tie with Montclair Township)

Total Children = 2020 U.S. Census for Children 0-6 Years of Age
Total Screened = Frequency of Children 0-72 Months of Age with a Blood Lead Test Reported in SFY 2023

Table 9

Top 10 Large Municipalities Ranked by
Highest Percentage of Children Younger Than Six Years of Age with an EBLL in SFY 2023

Municipality (County)	% Children <6 Years with an EBLL
Trenton City (Mercer)	5.3%
Irvington Township (Essex)	4.3%
East Orange City (Essex)	2.9%
Plainfield City (Union)	2.5%
Montclair Township (Essex)	2.4% (tie with Edison and Passaic)
Edison Township (Middlesex)	2.4% (tie with Montclair and Passaic)
Passaic City (Passaic)	2.4% (tie with Montclair and Edison)
Jersey City (Hudson)	2.3%
Atlantic City (Atlantic)	2.2% (tie with Paterson)
Paterson City (Passaic)	2.2% (tie with Atlantic City)

Total Children = 2020 U.S. Census for Children 0-6 Years of Age
Percent EBLL = (Total EBLL / Total Screened) * 100

CHAPTER FOUR

ENVIRONMENTAL INVESTIGATIONS BY LOCAL HEALTH DEPARTMENTS

N.J.A.C. 8:51 requires LHDs to investigate reported cases of EBLL that meet or exceed the threshold for public health intervention within their jurisdiction and to order the abatement of lead hazards identified during an investigation. The procedures for conducting environmental investigations are specified in N.J.A.C. 8:51 and include an inspection of the child's primary residence and any secondary addresses, such as a childcare center, the home of a relative or caregiver, or wherever the child spends at least 10 hours per week. If the child has recently moved, the property where the child resided when the blood lead test was performed must be inspected. The environmental inspection includes a determination of the presence of lead-based paint and leaded dust; the identification of locations where that paint is in a hazardous condition, such as peeling, chipping, or flaking; and, as appropriate, the presence of lead on the dwelling's exterior or soil. The licensed lead inspector/risk assessor, together with a public health nurse case manager, speak to the child's parent/legal guardian and completes a questionnaire to help determine any other potential sources of exposure to lead such as water and/or consumer products.

The data in this chapter reflects the frequency and results of environmental investigations conducted by LHDs. The data are accurate to the extent that LHDs enter complete and timely information in the New Jersey Communicable Disease Reporting and Surveillance System (CDRSS) before August 15 of each SFY (i.e., the date when data for the annual report is captured). Open investigations/abatements may reflect the fact that it can take several years to complete the abatement process for a property where lead hazards are identified due to factors such as difficulty in identifying and communicating with property owners, lengthy enforcement actions and court proceedings against recalcitrant property owners, delays in contracting with and/or scheduling work by certified lead abatement contractors, and the inability of property owners to obtain financial assistance to pay for the cost of the required abatement. The New Jersey Department of Community Affairs provides lead abatement assistance funding throughout the State to low-to-moderate income landlords and tenants to offset abatement costs; more information is available online at https://www.nj.gov/dca/dhcr/offices/leadsafe.shtml.

Note: Starting in SFY 2022, the date source for *Abatement Completed* reporting changed from *Date Referred* to *Abatement Completed Date*. This change has resulted in the removal of *Percentage Abatement Completed* from Tables 10 and 11 as abatements completed during the current fiscal year may have been initiated in previous fiscal years and therefore cannot be linked to the number of abatements ordered.

Table 10 shows environmental case activity by county. In SFY 2023, Essex County had the highest number of environmental cases requiring investigation (213), followed by Hudson County (120), Passaic County (98), and Union County (82), whereas Cape May County (2) and Sussex County (2) had the fewest number of environmental cases requiring investigation, followed by Hunterdon County (3), Warren County (4), and Gloucester County (7). Environmental case activity is based on crude data and is not adjusted for factors such as

population size, population density, or differences in blood lead screening rates. As shown in Table 10, of the 872 cases requiring an environmental investigation in SFY 2023, over one-third (39.1%) resulted in an LHD issuing an order of abatement.

Table 11 and Figures 7 and 8 display environmental case activity by LHD. As shown in Table 11 and Figure 8, the Newark Department of Community Health & Wellness had the highest number of cases requiring environmental investigation (112) in SFY 2023, followed by the Jersey City, Department of Health & Human Services (73), and the City of Paterson, Division of Health (51).

In addition to environmental investigations, for all reported cases of EBLL that meet or exceed the threshold for public health intervention, the LHD arranges for a home visit by a public health nurse case manager to educate the child's parent/legal guardian about how to reduce their child's EBLL and the steps that he/she/they can take to protect the child from further exposure. The public health nurse case manager also provides ongoing assistance and the coordination of interventions including but not limited to follow-up testing, medical treatment, and social services to the family that may be necessary to address the effects of the child's exposure to lead. Nurse case management for children with EBLLs requires individualized care plans and services for each child and are not part of the annual report.

Table 10

SFY 2023: Environmental Case Activity Status by County

County	Cases Referred *	Investigation Required**	% Investigation Required	Investigation Completed***	% Investigation Completed	Abatement Required	Abatement Completed ****
ATLANTIC	12	11	91.7	6	54.5	1	1
BERGEN	45	43	95.6	42	97.7	23	24
BURLINGTON	21	20	95.2	17	85.0	6	1
CAMDEN	30	26	86.7	19	73.1	14	17
CAPE MAY	2	2	100.0	2	100.0	2	0
CUMBERLAND	42	35	83.3	34	97.1	22	19
ESSEX	219	213	97.3	126	59.2	83	73
GLOUCESTER	7	7	100.0	4	57.1	3	3
HUDSON	122	120	98.4	79	65.8	33	31
HUNTERDON	3	3	100.0	1	33.3	0	3
MERCER	76	67	88.2	37	55.2	23	21
MIDDLESEX	85	78	91.8	41	52.6	4	2
MONMOUTH	15	15	100.0	13	86.7	10	12
MORRIS	17	14	82.4	11	78.6	4	5
OCEAN	14	9	64.3	6	66.7	4	0
PASSAIC	101	98	97.0	76	77.6	63	62
SALEM	9	8	88.9	8	100.0	8	5
SOMERSET	19	15	78.9	11	73.3	6	1
SUSSEX	2	2	100.0	2	100.0	0	1
UNION	89	82	92.1	37	45.1	28	29
WARREN	4	4	100.0	4	100.0	4	8
Total	934	872	93.4	576	66.1	341	318

*An environmental case is referred to a local health department when a child with an EBLL, who resides at an address that does not have an existing environmental case open, is reported.

**An environmental investigation is required for all environmental cases referred unless the property was built after 1978 or the property has a lead-free certificate. Click here for N.J.A.C. 8:51-4.1.

***An environmental investigation is completed when abatement is completed, and a child's blood lead level is below 5 ug/dL.

****Abatement Completed is cumulative to include abatements from previous years.

Data for this table are based on case updates entered in CDRSS as of August 15, 2023. If a local health department completed an investigation or abatement but did not update data in CDRSS, it will not be counted as completed in this report.

Table 11

SFY 2023: Environmental Case Activity by Local Health Department

Local Health Department	Cases Referred*	Investigation Required**	Investigation Completed***	% Investigation Completed	Abatement Required	Abatement Completed ****
Atlantic City Department of Health & Human Services	6	5	0	0.0	0	0
Atlantic County Division of Public Health	6	6	6	100.0	1	1
Bayonne Health Department	10	10	10	100.0	3	2
Bergen County Department of Health Services	12	12	11	91.7	4	7
Bernards Township Health Department	2	2	2	100.0	2	0
Bloomfield Department of Health & Human Services	7	7	6	85.7	6	9
Burlington County Health Department	21	20	17	85.0	6	1
Camden County Department of Health & Human Services	30	26	19	73.1	14	17
Cape May County Health Department	2	2	2	100.0	2	0
City of Elizabeth, Department of Health & Human Services	23	21	4	19.0	4	3
City of Orange Township	16	16	14	87.5	8	8
City of Passaic Division of Health	34	34	20	58.8	19	18
City of Paterson, Division of Health	54	51	48	94.1	36	39
City of Plainfield Health Department	41	38	22	57.9	16	19
City of Trenton, Department of Health & Human Services	50	44	22	50.0	18	13
City of Vineland	4	2	2	100.0	1	1
Clifton Health Department	7	7	5	71.4	5	3
Cumberland County Department of Health	38	33	32	97.0	21	18
East Hanover Health Department	5	4	2	50.0	1	0
East Orange Department of Health	25	25	25	100.0	12	17
East Windsor Health Department	2	2	0	0.0	0	0
Edison Department of Health & Human Services	14	13	1	7.7	0	0
Englewood Health Department	2	2	2	100.0	1	2
Ewing Health Department	4	4	4	100.0	2	2
Fair Lawn Health Department	2	2	2	100.0	2	1
Freehold Health Department	2	2	2	100.0	2	3
Gloucester County Department of Health & Senior Services	7	7	4	57.1	3	3
Guttenberg Health Department	1	1	0	0.0	0	0
Hackensack Department of Health	4	4	4	100.0	2	2
Hamilton Township Division of Health	13	10	5	50.0	3	6
Harrison Health Department	5	5	5	100.0	2	0
Hillside Health Department	5	5	3	60.0	3	2
Hoboken Health Department	1	1	1	100.0	0	0
Hunterdon County Department of Health	3	3	1	33.3	0	3
Irvington Health Department	41	39	9	23.1	9	2
Jersey City Department of Health & Human Services	74	73	33	45.2	18	16

Local Health Department	Cases Referred*	Investigation Required**	Investigation Completed***	% Investigation Completed	Abatement Required	Abatement Completed ****
Kearny Department of Health	6	5	5	100.0	2	2
Lawrence Township Health Department	2	2	2	100.0	0	0
Linden Board of Health	7	6	0	0.0	0	0
Long Branch Department of Health	5	5	5	100.0	3	3
Maplewood Health Department	2	2	2	100.0	1	2
Mid-Bergen Regional Health Commission	15	13	13	100.0	9	10
Middle-Brook Regional Health Commission	3	2	2	100.0	0	0
Middlesex County Office of Health Services	45	42	23	54.8	1	0
Monmouth County Board of Health	8	8	6	75.0	5	6
Montclair Health Department	9	7	5	71.4	4	5
Montgomery Township Health Department	1	1	0	0.0	0	0
Morristown Division of Health	3	3	3	100.0	1	2
Mount Olive Township Health Department	4	2	2	100.0	1	0
N.W. Bergen Regional Health Commission	2	2	2	100.0	0	0
Newark Department of Health & Community Wellness	114	112	60	53.6	40	27
Ocean County Health Department	14	9	6	66.7	4	0
Palisades Park Health Department	4	4	4	100.0	1	1
Paramus Health Department	1	1	1	100.0	1	0
Passaic County Department of Health	6	6	3	50.0	3	1
Princeton Health Department	1	1	0	0.0	0	0
Rahway Health Department	5	4	3	75.0	2	2
Randolph Township Health Department	2	2	2	100.0	0	0
Salem County Department of Health	9	8	8	100.0	8	5
Secaucus Health Department	2	2	2	100.0	0	0
Somerset County Department of Health	13	10	7	70.0	4	1
South Brunswick Health Department	5	5	3	60.0	0	0
Sussex County Department of Health and Human Services, Division of Health	2	2	2	100.0	0	1
Teaneck Department of Health & Human Services	2	2	2	100.0	2	1

Local Health Department	Cases Referred*	Investigation Required**	Investigation Completed***	% Investigation Completed	Abatement Required	Abatement Completed ****
Town of Dover Health Department	3	3	2	66.7	1	2
Township of Morris Health Department	0	0	NA	NA	0	1
Township of North Bergen Health Department	8	8	8	100.0	2	3
Township of South Orange Health Department	1	1	1	100.0	0	0
Township of West Milford Department of Health	0	0	NA	NA	0	1
Union City Health Department	8	8	8	100.0	3	4
Union County Office of Health Management	0	0	NA	NA	0	1
Union Township Health Department	4	4	1	25.0	0	0
Village of Ridgewood Health Department	1	1	1	100.0	1	0
Warren County Health Department	4	4	4	100.0	4	8
Weehawken Health Department	2	2	2	100.0	1	2
West New York Health Department	5	5	5	100.0	2	2
West Orange Health Department	4	4	4	100.0	3	3
West Windsor Health Department	4	4	4	100.0	0	0
Westfield Regional Health Department	4	4	4	100.0	3	2
Woodbridge Township Health & Human Services	21	18	14	77.8	3	2

*An environmental case is referred to a local health department when a child with an EBLL, who resides at an address that does not have an existing environmental case open, is reported.

**An environmental investigation is required for all environmental cases referred unless the property was built after 1978 or the property has a lead-free certificate. Click here for N.J.A.C. 8:51-4.1.
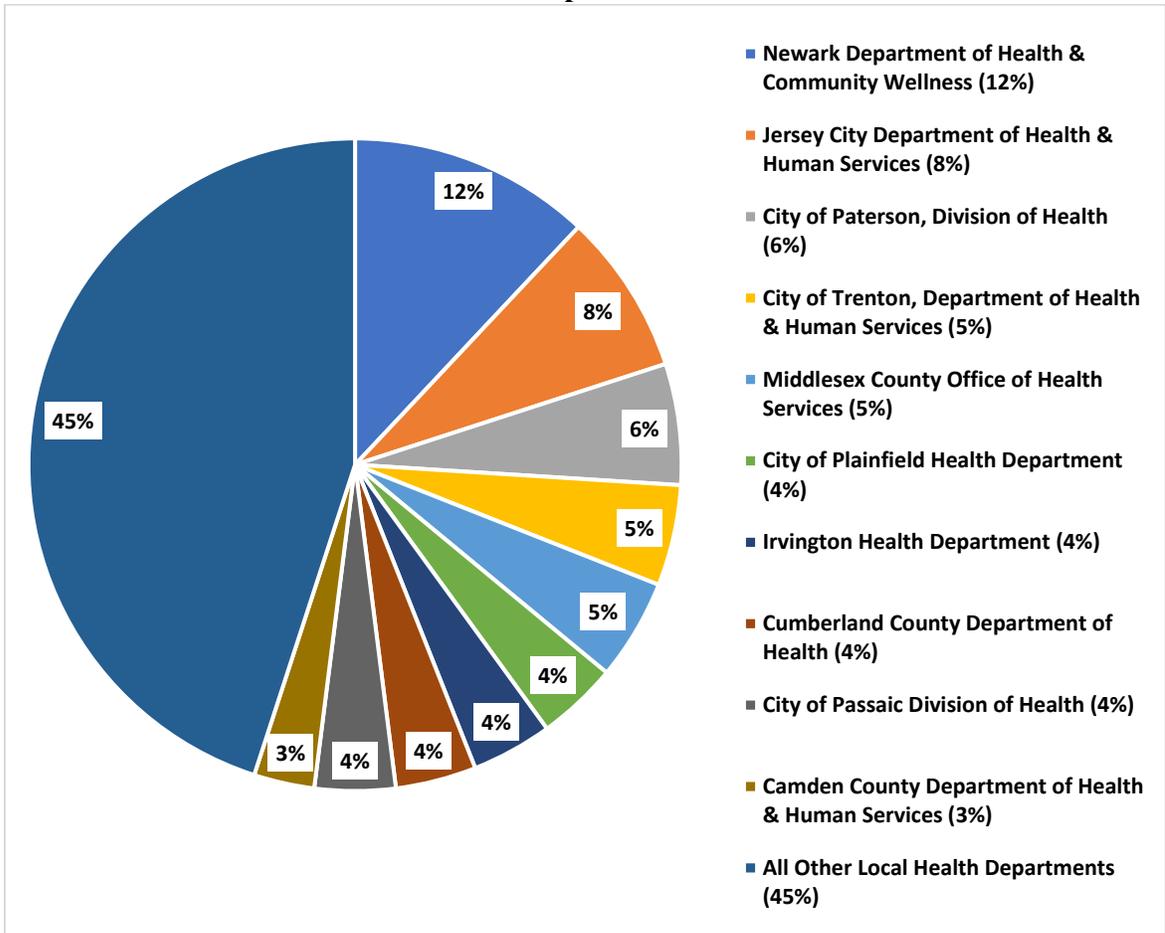
***An environmental investigation is completed when abatement is completed, and a child's blood lead level is below 5 ug/dL.

****Abatement Completed is cumulative to include abatements from previous years.

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Figure 7

SFY 2023: Top 10 Local Health Departments with the Highest Percentage of New Environmental Case Referrals* Compared to All Other Local Health Departments

Legend:
- Newark Department of Health & Community Wellness (12%)
- Jersey City Department of Health & Human Services (8%)
- City of Paterson, Division of Health (6%)
- City of Trenton, Department of Health & Human Services (5%)
- Middlesex County Office of Health Services (5%)
- City of Plainfield Health Department (4%)
- Irvington Health Department (4%)
- Cumberland County Department of Health (4%)
- City of Passaic Division of Health (4%)
- Camden County Department of Health & Human Services (3%)
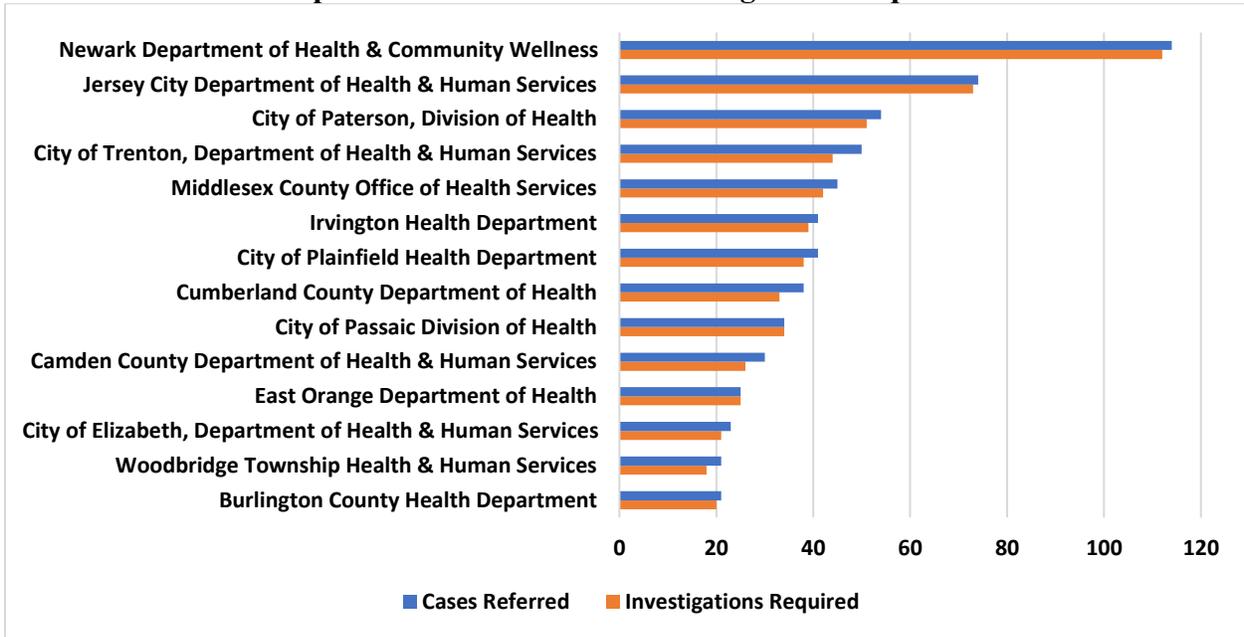- All Other Local Health Departments (45%)

*An environmental case is referred to a local health department when a child with an EBLL, who resides at an address that does not have an existing environmental case open, is reported.

Data for this table are based on case updates entered in CDRSS as of August 15, 2023. If a local health department completed an investigation or abatement but did not update data in CDRSS, it will not be counted as completed in this report.

Figure 8

Local Health Departments with ≥ 20 New Environmental Case Referrals* in SFY 2023 Compared to Environmental Investigations Required**

*An environmental case is referred to a local health department when a child with an EBLL, who resides at an address that does not have an existing environmental case open, is reported.

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Data for this table are based on case updates entered in CDRSS as of August 15, 2023. If a local health department completed an investigation or abatement but did not update data in CDRSS, it will not be counted as completed in this report.