CHILDHOOD LEAD EXPOSURE IN NEW JERSEY

ANNUAL REPORT

STATE FISCAL YEAR 2017 (July 1, 2016– June 30, 2017)

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GLOSSARY OF TERMS AND ACRONYMS

BLL: Blood lead level.

Children: Refers to unduplicated individuals who are younger than 17 years of age, unless otherwise specified. In reference to data, each child is counted only once regardless of the number of tests that the child has had during the State Fiscal Year.

Confirmed BLL: A blood lead level obtained from a venous blood sample.

Department: Refers to the New Jersey Department of Health.

EBLL: Elevated blood lead level (10 μg/dL or greater).

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

Population Data: Census 2010 population data, unless otherwise specified.

SFY: State Fiscal Year 2017 includes the period of July 1, 2016 to June 30, 2017. Thus, for any State Fiscal Year identified, it begins July 1 of the preceding year and ends June 30 of the identified year.

μg/dL: Micrograms per deciliter of whole blood.

Unknown Address: The addresses that could not be geocoded for any reason.

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EXECUTIVE SUMMARY

N.J.A.C. §8:51A requires the protection of children less than 72 months of age from the toxic effects of lead exposure by requiring lead testing pursuant to N.J.S.A. §26:2-137.1 - 137.7. This Annual Report on Childhood Lead Exposure in New Jersey for State Fiscal Year (SFY) 2017 is submitted in compliance with N.J.S.A. §26:2-135, which requires the Commissioner of the Department of Health to issue an annual report to the Governor and the Legislature that includes a summary of blood lead testing and abatement program activities in the State during the preceding SFY.

The number of children tested for lead in SFY 2017 was 203,832, which represents a decrease of 5.1% over the 214,741 children tested during SFY 2016. The Superstorm Sandy recovery project was in full-force in FY 2016, resulting in increased access to blood lead screenings in the nine most-impacted counties. This resulted in an uptick in screening during FY 2016. Funding for the temporary Superstorm Sandy screening initiative ended prior to FY 2017, and in FY 2017 screening numbers returned to levels observed prior to the initiative. The SFY 2017 number of children tested also includes 92,075 children, or 42.9% of all children 6 to 26 months of age, the ages at which all children must be tested under N.J.A.C. §8:51A.

The Department witnessed an increase of traditional laboratories and point-of-care test users who electronically reported blood lead test results. A total of 99.8% of blood lead test results were reported electronically while the remainder were reported via facsimile or regular mail.

While 202,811 (99.5%) children tested during SFY 2017 had blood lead levels (BLLs) below 10 $\mu g/dL$, 1,029 (0.50%) children had a test result at or above this threshold (10 $\mu g/dL$) and required public health action (case management and environmental investigation) by local health departments.

The City of Newark continues to be a geographic focus in New Jersey's efforts to eliminate elevated blood levels. It exceeds every other large municipality in the number of children less than 72 months of age with elevated blood lead levels (EBLLs). In SFY 2017, the City of Newark comprised 13% of the total number of children less than 72 months of age with EBLLs in the State. Further, it had the highest number of new cases (incidence) of EBLLs in children reported during SFY 2017.

The SFY 2017 annual report will be the last to display figures and tables for blood lead screening results at or above 10 μ g/dL. On September 18, 2017, two and half months after the close of SFY 2017, the Department amended N.J.A.C. §8:51 to require public health intervention by local health departments for blood lead screening results of 5 μ g/dL or greater. The SFY 2018 annual report will reflect these changes and display figures and tables for blood lead screening results at or above 5 μ g/dL.

Throughout this report, population data obtained from the US Census 2010 is used as the denominator, unless otherwise indicated.

Previous SFY annual reports can be found online at www.nj.gov/health/childhoodlead.

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CHAPTER ONE

TESTING CHILDREN FOR ELEVATED BLOOD LEAD LEVELS

In New Jersey, per N.J.A.C. §8:51A, all children are required to be tested at both 12 and 24 months of age. Children three (3) years of age or older must be tested at least once before their sixth birthday (if they had not been screened at age one (1) and two (2) years). Approximately 66% of children in New Jersey had at least one blood lead test by the age of 26 months and approximately 76% had at least one blood lead test prior to reaching three (3) years of age, along with 90% having at least one blood lead test prior to reaching six (6) years of age.

This chapter describes and depicts the testing statistics and trends based on the reports of blood lead tests received by the Department from clinical laboratories. Analyses to create the figures and tables are based on individual children, counting only one test per child.

The figures and tables highlighting children six (6) to 26 months of age closely represent the testing rates. However, the data displayed throughout these figures and tables also include children who were tested during SFY 2017 as their second test at two (2) years of age, while they may have been tested at one (1) year of age during SFY 2016.

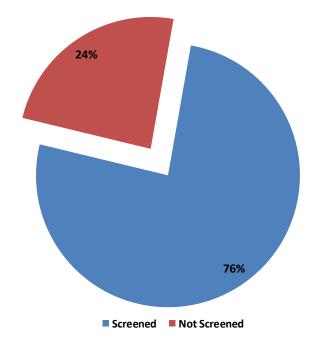
The Department uses the range six (6) to 26 months of age to also include data on tests that are performed earlier than 12 months or later than 24 months of age.

Figures 1a and 1b represent the percentages of children who had a lead test performed prior to turning three (3) and six (6) years of age, respectively, during SFY 2017. One child is counted once, regardless of the number of tests the child has received.

Figure 2 displays the trend in the percentage of children (1- and 2-years of age) tested by SFY.

Figure 1a

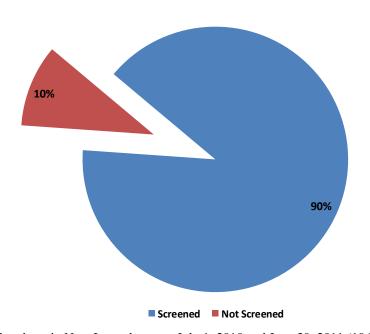
Percentage of Children* Who Turned Three (3) Years of Age During SFY 2017 and Had at Least One Blood Lead Test in their Lifetime



^{*}Number of children born in New Jersey between July 1, 2013 and June 30, 2014 (102,975); Source: Birth Registry data.

Figure 1b

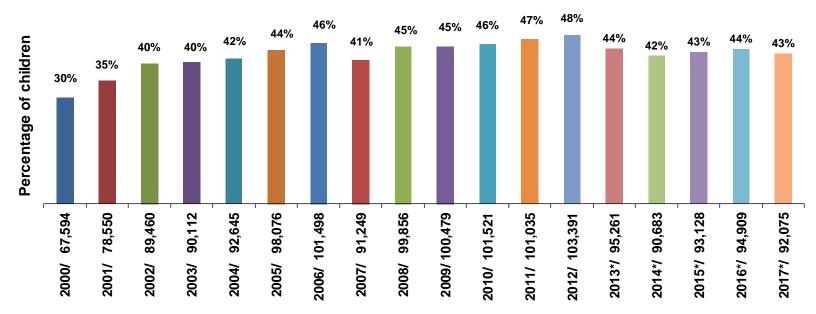
Percentage of Children* Who Turned Six (6) Years of Age During SFY 2017 and Had at Least One Blood Lead Test in their Lifetime



^{*}Number of children born in New Jersey between July 1, 2010 and June 30, 2011 (106,244); Source: Birth Registry data.

Figure 2

Trend in Percentage of Children (six (6) to 26*/29 months of age) Tested by SFY ($n=222,837^1$ and $n=214,727^2$)



Fiscal Year / Number of Children Tested

¹ The denominator for SFY 2000 through SFY 2010 uses the number of children who were one (1) and two (2) years of age, based on US Census 2000 data.

²The denominator for SFY 2011 to SFY 2017 uses the number of children who were one (1) and two (2) years of age, based on US Census 2010 data.

^{*} For SFY 2013, 2014, 2015, 2016 and 2017 the data are for the age group six (6) to 26 months, because the screening regulations (N.J.A.C. §8:51A) specify the qualifying screening age ranges of six (6) to 17 months for the age of one (1) year and 18 to 26 months for the age of two (2) years.

CHAPTER TWO

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

In this chapter, the figures and tables identify the statistics of testing performed for various ages and the prevalence of various blood lead levels in children in SFY 2017.

Tables 1 and 2 show the testing statistics by county and municipality, respectively, of residence for children six (6) to 26 months of age. The percentage screened, Table 2, ranges from 5.1% (Washington Twp., Gloucester County) to 83.5% (Lakewood, Ocean County), with a median screening rate of 37.1%. Figure 3 shows the prevalence of EBLLs among children six (6) to 26 months of age. The analyses behind the formulation of the tables are based on the number of children, reported during SFY 2017, which counts the highest BLL reported per child. The figures and tables in this chapter include children who were tested for a second time during SFY 2017 around 24 months of age as required by law.

Tables 3 and 4 display the testing statistics and the prevalence of various blood lead levels in children who were tested at less than 72 months of age during SFY 2017.

The Department maintains a database containing all blood lead tests reported on children. In order to exhibit the distribution of lead tests and the prevalence of EBLLs in children, Figures 4a, 4b, 5 and Table 5 focus on the entire population of children who were tested and reported during SFY 2017.

Figures 6a and 6b depict the trend in the number of children reported with an EBLL by SFY.

Table 6 depicts blood lead levels of children (<5 years of age) by academic year of entering kindergarten.

The children in age groups of less than 72 months of age and younger than 17 years of age may have had one or more blood lead tests performed during their lifetime, either as routine lead testing or as a follow-up to an elevated blood lead test. However, the analyses of data for the tables for these age groups were based on the number of individual children reported during SFY 2017, counting the highest BLL reported per child.

Table 1

SFY 2017: Number of Children (six (6) to 26 months of age) by BLL and County of Residence

| Country | Total | % | BI (μg/ | | | | | BLL /dL) | | | Total Tested |
|-----------------|----------|----------|------------|-------|-------|-------|-------|-------------|---------------|------------|-----------------|
| County | Children | Screened | <5 | 5-9 | 10-14 | 15-19 | 20-44 | ≥45 | Total EBLL | % EBLL* | Tested |
| ATLANTIC | 6,521 | 35.0% | 2,218 | 56 | 4 | 3 | 1 | | 8 | 0.4% | 2,282 |
| BERGEN | 19,955 | 44.0% | 8,650 | 102 | 14 | 3 | 3 | | 20 | 0.2% | 8,772 |
| BURLINGTON | 10,166 | 30.3% | 3,030 | 46 | 3 | 3 | 2 | | 8 | 0.3% | 3,084 |
| CAMDEN | 13,215 | 32.8% | 4,265 | 60 | 7 | 1 | 3 | | 11 | 0.3% | 4,336 |
| CAPE MAY | 1,822 | 38.9% | 696 | 10 | 1 | | 1 | | 2 | 0.3% | 708 |
| CUMBERLAND | 4,368 | 36.1% | 1,505 | 54 | 11 | 4 | 1 | 1 | 17 | 1.1% | 1,576 |
| ESSEX | 21,569 | 49.5% | 10,162 | 409 | 67 | 15 | 13 | 2 | 97 | 0.9% | 10,668 |
| GLOUCESTER | 6,862 | 24.6% | 1,674 | 15 | | 1 | | | 1 | 0.1% | 1,690 |
| HUDSON | 17,288 | 51.1% | 8,566 | 203 | 39 | 15 | 15 | 1 | 70 | 0.8% | 8,839 |
| HUNTERDON | 2,316 | 47.1% | 1,080 | 7 | | 3 | 1 | | 4 | 0.4% | 1,091 |
| MERCER | 8,591 | 42.3% | 3,475 | 128 | 13 | 7 | 8 | | 28 | 0.8% | 3,631 |
| MIDDLESEX | 19,965 | 37.5% | 7,327 | 121 | 18 | 9 | 12 | 2 | 41 | 0.5% | 7,489 |
| MONMOUTH | 13,371 | 30.2% | 3,966 | 64 | 7 | 3 | 2 | 1 | 13 | 0.3% | 4,043 |
| MORRIS | 10,700 | 34.1% | 3,600 | 44 | 4 | 2 | 3 | | 9 | 0.2% | 3,653 |
| OCEAN | 15,532 | 52.0% | 8,005 | 56 | 7 | 2 | 2 | 1 | 12 | 0.1% | 8,073 |
| PASSAIC | 13,727 | 53.4% | 7,073 | 219 | 23 | 10 | 9 | 1 | 43 | 0.6% | 7,335 |
| SALEM | 1,549 | 35.9% | 518 | 34 | 3 | | 1 | | 4 | 0.7% | 556 |
| SOMERSET | 7,581 | 38.3% | 2,863 | 25 | 13 | 2 | 3 | | 18 | 0.6% | 2,906 |
| SUSSEX | 3,099 | 21.3% | 654 | 5 | | | | | 0 | 0.0% | 659 |
| UNION | 14,148 | 53.0% | 7,290 | 155 | 24 | 10 | 12 | 2 | 48 | 0.6% | 7,493 |
| WARREN | 2,382 | 33.3% | 772 | 19 | 1 | 2 | | | 3 | 0.4% | 794 |
| Unknown Address | N/A | N/A | 2,357 | 40 | | | | | 0 | 0.0% | 2,397 |
| Total | 214,727 | 42.9% | 89,746 | 1,872 | 259 | 95 | 92 | 11 | 457 | 0.5% | 92,075 |

^{*}Based on the number of children tested.

Table 2

SFY 2017: Number of Children (six (6) to 26 months of age) by BLL and Municipality* of Residence

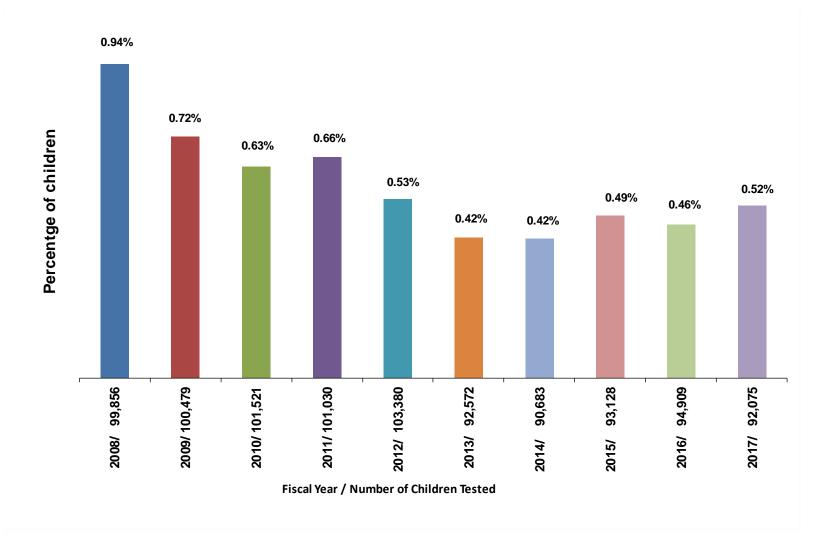
| | Total | % | BLL (ı | ug/dL) | | | EBLL | (µg/dL) |) | | Total |
|-------------------|----------|----------|--------|--------|-------|-------|-------|---------|---------------|-------------|--------|
| Municipality | Children | Screened | <5 | 5-9 | 10-14 | 15-19 | 20-44 | ≥ 45 | Total EBLL | % EBLL** | Tested |
| ATLANTIC CITY | 1,249 | 47.9% | 560 | 32 | 3 | 2 | 1 | | 6 | 1.0% | 598 |
| BAYONNE | 1,528 | 32.9% | 490 | 9 | 3 | | 1 | | 4 | 0.8% | 503 |
| BELLEVILLE | 869 | 48.8% | 416 | 8 | | | | | 0 | 0.0% | 424 |
| BERKELEY | 509 | 30.6% | 156 | | | | | | 0 | 0.0% | 156 |
| BLOOMFIELD | 1,224 | 48.9% | 591 | 7 | | | 1 | | 1 | 0.2% | 599 |
| BRICK | 1,531 | 24.6% | 376 | 1 | | | | | 0 | 0.0% | 377 |
| BRIDGEWATER | 978 | 41.2% | 398 | 2 | 2 | | 1 | | 3 | 0.7% | 403 |
| CAMDEN | 2,838 | 36.0% | 998 | 19 | 2 | | 2 | | 4 | 0.4% | 1,021 |
| CHERRY HILL | 1,449 | 33.3% | 475 | 5 | 2 | | | | 2 | 0.4% | 482 |
| CLIFTON | 2,123 | 50.3% | 1,045 | 19 | 3 | | | | 3 | 0.3% | 1,067 |
| EAST BRUNSWICK | 860 | 30.7% | 261 | 1 | 2 | | | | 2 | 0.8% | 264 |
| EAST ORANGE | 1,916 | 42.8% | 753 | 54 | 6 | 4 | 3 | | 13 | 1.6% | 820 |
| EDISON | 2,560 | 37.3% | 922 | 28 | 2 | | 1 | 1 | 4 | 0.4% | 954 |
| EGG HARBOR | 1,038 | 39.0% | 401 | 3 | 1 | | | | 1 | 0.2% | 405 |
| ELIZABETH | 3,943 | 55.5% | 2,094 | 75 | 11 | 3 | 5 | | 19 | 0.9% | 2,188 |
| EVESHAM | 1,016 | 25.2% | 254 | 2 | | | | | 0 | 0.0% | 256 |
| EWING | 600 | 35.8% | 210 | 4 | | 1 | | | 1 | 0.5% | 215 |
| FORT LEE | 725 | 34.3% | 248 | | | | 1 | | 1 | 0.4% | 249 |
| FRANKLIN | 1,759 | 37.5% | 647 | 6 | 6 | 1 | | | 7 | 1.1% | 660 |
| FREEHOLD | 652 | 48.3% | 309 | 5 | | | 1 | | 1 | 0.3% | 315 |
| GALLOWAY | 724 | 24.7% | 177 | 2 | | | | | 0 | 0.0% | 179 |
| GLOUCESTER | 1,520 | 22.1% | 332 | 4 | | | | | 0 | 0.0% | 336 |
| HACKENSACK | 1,118 | 56.9% | 624 | 11 | 1 | | | | 1 | 0.2% | 636 |
| HAMILTON | 1,814 | 20.1% | 355 | 9 | | | 1 | | 1 | 0.3% | 365 |
| HILLSBOROUGH | 866 | 37.0% | 318 | 1 | | 1 | | | 1 | 0.3% | 320 |
| HOBOKEN | 1,467 | 42.2% | 613 | 5 | 1 | | | | 1 | 0.2% | 619 |
| HOWELL | 1,125 | 18.7% | 209 | 1 | | | | | 0 | 0.0% | 210 |
| IRVINGTON | 1,692 | 55.3% | 877 | 51 | 4 | 2 | 1 | 1 | 8 | 0.9% | 936 |
| JACKSON | 1,100 | 28.0% | 305 | 3 | | | | | 0 | 0.0% | 308 |
| JERSEY CITY | 7,192 | 56.6% | 3,898 | 125 | 27 | 10 | 12 | 1 | 50 | 1.2% | 4,073 |
| KEARNY | 895 | 46.6% | 408 | 7 | 2 | | | | 2 | 0.5% | 417 |
| LAKEWOOD | 6,556 | 83.5% | 5,424 | 41 | 4 | 2 | 1 | | 7 | 0.1% | 5,472 |
| LINDEN | 911 | 47.0% | 425 | 3 | | | | | 0 | 0.0% | 428 |
| MANALAPAN | 778 | 20.4% | 158 | 1 | | | | | 0 | 0.0% | 159 |
| MANCHESTER | 448 | 14.3% | 62 | 1 | 1 | | | | 1 | 1.6% | 64 |

| M | Total | % | BI (μg/ | | | | | BLL g/dL) | | | Total |
|--------------------------------------|------------|----------|------------|-----|-------|-------|-------|--------------|---------------|-------------|--------|
| Municipality | Children** | Screened | <5 | 5-9 | 10-14 | 15-19 | 20-44 | ≥ 45 | Total EBLL | % EBLL** | Tested |
| MARLBORO | 767 | 20.9% | 159 | 1 | | | | | 0 | 0.0% | 160 |
| MIDDLETOWN | 1,444 | 21.4% | 307 | 2 | | | | | 0 | 0.0% | 309 |
| MONROE (Gloucester County) | 898 | 27.4% | 243 | 2 | | 1 | | | 1 | 0.4% | 246 |
| MONROE (Middlesex County) | 655 | 34.0% | 222 | 1 | | | | | 0 | 0.0% | 223 |
| MONTCLAIR | 869 | 35.4% | 298 | 6 | 3 | | 1 | | 4 | 1.3% | 308 |
| MOUNT LAUREL | 886 | 33.9% | 296 | 4 | | | | | 0 | 0.0% | 300 |
| NEW BRUNSWICK | 1,573 | 59.5% | 912 | 18 | 2 | 4 | | | 6 | 0.6% | 936 |
| NEWARK | 8,382 | 56.6% | 4,465 | 231 | 39 | 5 | 5 | 1 | 50 | 1.1% | 4,746 |
| NORTH BERGEN | 1,498 | 49.8% | 727 | 15 | 2 | 1 | 1 | | 4 | 0.5% | 746 |
| NORTH BRUNSWICK | 1,220 | 33.6% | 404 | 4 | 1 | | 1 | | 2 | 0.5% | 410 |
| OLD BRIDGE | 1,478 | 18.1% | 266 | 1 | | | | | 0 | 0.0% | 267 |
| PARSIPPANY- TROY HILLS | 1,207 | 27.4% | 319 | 9 | 2 | | 1 | | 3 | 0.9% | 331 |
| PASSAIC | 2,767 | 61.9% | 1,631 | 65 | 6 | 5 | 4 | 1 | 16 | 0.9% | 1,712 |
| PATERSON | 4,632 | 63.0% | 2,788 | 110 | 14 | 3 | 5 | | 22 | 0.8% | 2,920 |
| PENNSAUKEN | 845 | 32.4% | 270 | 4 | | | | | 0 | 0.0% | 274 |
| PERTH AMBOY | 1,584 | 49.3% | 758 | 18 | 1 | | 4 | | 5 | 0.6% | 781 |
| PISCATAWAY | 1,361 | 37.4% | 501 | 6 | | | 2 | | 2 | 0.4% | 509 |
| PLAINFIELD | 1,628 | 77.8% | 1,211 | 40 | 8 | 4 | 2 | 2 | 16 | 1.3% | 1,267 |
| SAYREVILLE | 1,137 | 32.0% | 359 | 5 | | | | | 0 | 0.0% | 364 |
| SOUTH BRUNSWICK | 935 | 18.8% | 173 | | 1 | 1 | 1 | | 3 | 1.7% | 176 |
| TEANECK | 1,075 | 30.1% | 318 | 6 | | | | | 0 | 0.0% | 324 |
| TOMS RIVER | 1,816 | 37.1% | 668 | 3 | | | 1 | 1 | 2 | 0.3% | 673 |
| TRENTON | 2,786 | 61.2% | 1,581 | 104 | 10 | 6 | 5 | | 21 | 1.2% | 1,706 |
| UNION CITY | 1,880 | 40.4% | 743 | 12 | 2 | 2 | 1 | | 5 | 0.7% | 760 |
| UNION | 1,250 | 63.7% | 783 | 11 | 1 | | 1 | | 2 | 0.3% | 796 |
| VINELAND | 1,729 | 35.0% | 593 | 11 | 2 | | | | 2 | 0.3% | 606 |
| WASHINGTON (Gloucester County) | 900 | 5.1% | 46 | | | | | | 0 | 0.0% | 46 |
| WAYNE | 995 | 44.2% | 438 | 1 | | 1 | | | 1 | 0.2% | 440 |
| WEST NEW YORK | 1,523 | 55.8% | 836 | 12 | 1 | 1 | | | 2 | 0.2% | 850 |
| WEST ORANGE | 1,263 | 38.0% | 469 | 6 | 1 | 3 | 1 | | 5 | 1.0% | 480 |
| WINSLOW | 1,122 | 29.9% | 331 | 4 | | | | | 0 | 0.0% | 335 |
| WOODBRIDGE | 2,495 | 37.2% | 901 | 18 | 3 | 2 | 2 | 1 | 8 | 0.9% | 927 |

^{*}Large Municipalities only.

** Based on the number of children tested.

Figure 3 Trend in Percentage of Children (six (6) to 26 months of age*) with BLL \geq 10 µg/dL by SFY



*Screening regulations (N.J.A.C. §8:51A) require that each child be screened for lead at the age of 12 months and again at 24 months of age. The regulations specify the qualifying screening age ranges of six (6) to 17 months for the age of one (1) year and 18 to 26 months for the age of two (2) years.

Table 3

SFY 2017: Number of Children (<6 years of age) by BLL and County of Residence

| County | Total | % | BL! (µg/d | | | | | EBLL (µg/dL) | | | |
|--------------------|----------|--------|--------------|-------|-------|-------|-------|-----------------|---------------|------------|-----------------|
| | Children | Tested | <5 | 5-9 | 10-14 | 15-19 | 20-44 | <u>≥</u> 45 | Total EBLL | % EBLL* | Total Tested |
| ATLANTIC | 19,909 | 20.6% | 3,978 | 102 | 6 | 4 | 3 | | 13 | 0.3% | 4,093 |
| BERGEN | 61,192 | 23.6% | 14,268 | 166 | 22 | 8 | 3 | 1 | 34 | 0.2% | 14,468 |
| BURLINGTON | 31,546 | 14.0% | 4,332 | 75 | 11 | 4 | 4 | | 19 | 0.4% | 4,426 |
| CAMDEN | 40,195 | 15.3% | 6,000 | 113 | 15 | 3 | 5 | | 23 | 0.4% | 6,136 |
| CAPE MAY | 5,423 | 19.4% | 1,035 | 14 | 1 | | 1 | | 2 | 0.2% | 1,051 |
| CUMBERLAND | 12,963 | 23.5% | 2,910 | 105 | 23 | 6 | 2 | 2 | 33 | 1.1% | 3,048 |
| ESSEX | 64,591 | 40.5% | 24,927 | 1,005 | 163 | 46 | 39 | 6 | 254 | 1.0% | 26,186 |
| GLOUCESTER | 21,059 | 11.9% | 2,464 | 30 | 5 | 2 | 2 | | 9 | 0.4% | 2,503 |
| HUDSON | 49,759 | 37.8% | 18,278 | 412 | 72 | 31 | 31 | 2 | 136 | 0.7% | 18,826 |
| HUNTERDON | 7,484 | 16.7% | 1,238 | 8 | 1 | 3 | 2 | | 6 | 0.5% | 1,252 |
| MERCER | 26,052 | 23.9% | 5,949 | 220 | 25 | 12 | 10 | 1 | 48 | 0.8% | 6,217 |
| MIDDLESEX | 60,249 | 23.8% | 14,015 | 239 | 40 | 13 | 21 | 2 | 76 | 0.5% | 14,330 |
| MONMOUTH | 42,404 | 15.3% | 6,379 | 109 | 10 | 4 | 4 | 1 | 19 | 0.3% | 6,507 |
| MORRIS | 33,493 | 16.3% | 5,368 | 65 | 7 | 3 | 5 | | 15 | 0.3% | 5,448 |
| OCEAN | 46,657 | 28.5% | 13,192 | 88 | 11 | 2 | 3 | 1 | 17 | 0.1% | 13,297 |
| PASSAIC | 41,179 | 37.2% | 14,795 | 448 | 51 | 16 | 19 | 1 | 87 | 0.6% | 15,330 |
| SALEM | 4,625 | 17.6% | 741 | 66 | 7 | 1 | 1 | | 9 | 1.1% | 816 |
| SOMERSET | 23,622 | 18.5% | 4,294 | 52 | 14 | 4 | 4 | | 22 | 0.5% | 4,368 |
| SUSSEX | 9,701 | 9.6% | 929 | 6 | 1 | | 0 | | 1 | 0.1% | 936 |
| UNION | 43,085 | 34.6% | 14,491 | 345 | 41 | 14 | 27 | 2 | 84 | 0.6% | 14,920 |
| WARREN | 7,434 | 13.9% | 1,002 | 29 | 2 | 3 | 1 | | 6 | 0.6% | 1,037 |
| Unknown Address | N/A | N/A | 4,019 | 86 | | | _ | | 0 | 0.0% | 4,105 |
| Total | 652,622 | 25.9% | 164,604 | 3,783 | 529 | 179 | 187 | 19 | 914 | 0.5% | 169,301 |

^{*}Based on the number of children tested.

Table 4
SFY 2017: Number of Children (<6 years of age) by BLL and Municipality* of Residence

| Municipality | Total | % | BLL (µg/dI | | | | | | EBLL (µg/dL) | | |
|-------------------|----------|--------|---------------|-----|-------|-------|-------|-------------|---------------|-------------|-----------------|
| Withherpanty | Children | Tested | <5 | 5-9 | 10-14 | 15-19 | 20-44 | <u>≥</u> 45 | Total EBLL | % EBLL** | Total Tested |
| ATLANTIC CITY | 3,677 | 31.5% | 1,084 | 65 | 5 | 3 | 2 | | 10 | 0.9% | 1159 |
| BAYONNE | 4,576 | 28.2% | 1,266 | 19 | 4 | | 2 | | 6 | 0.5% | 1291 |
| BELLEVILLE | 2,601 | 36.8% | 936 | 18 | 2 | | 1 | | 3 | 0.3% | 957 |
| BERKELEY | 1,565 | 15.4% | 239 | 2 | | | | | 0 | 0.0% | 241 |
| BLOOMFIELD | 3,575 | 33.6% | 1,180 | 16 | 1 | | 4 | | 5 | 0.4% | 1201 |
| BRICK | 4,558 | 13.8% | 626 | 3 | | | 1 | | 1 | 0.2% | 630 |
| BRIDGEWATER | 3,052 | 18.2% | 550 | 3 | 2 | | 1 | | 3 | 0.5% | 556 |
| CAMDEN | 8,525 | 20.0% | 1,644 | 50 | 6 | 1 | 2 | | 9 | 0.5% | 1703 |
| CHERRY HILL | 4,588 | 13.6% | 615 | 6 | 2 | | | | 2 | 0.3% | 623 |
| CLIFTON | 6,187 | 32.2% | 1,958 | 28 | 4 | | 1 | | 5 | 0.3% | 1991 |
| EAST BRUNSWICK | 2,725 | 17.7% | 479 | 2 | 2 | | | | 2 | 0.4% | 483 |
| EAST ORANGE | 5,534 | 39.1% | 2,013 | 120 | 17 | 7 | 6 | 1 | 31 | 1.4% | 2164 |
| EDISON | 7,774 | 24.4% | 1,833 | 45 | 7 | 1 | 6 | 1 | 15 | 0.8% | 1893 |
| EGG HARBOR | 3,341 | 19.1% | 632 | 5 | 1 | | | | 1 | 0.2% | 638 |
| ELIZABETH | 11,792 | 42.7% | 4,853 | 159 | 14 | 4 | 9 | | 27 | 0.5% | 5039 |
| EVESHAM | 3,117 | 10.5% | 326 | 2 | | | | | 0 | 0.0% | 328 |
| EWING | 1,797 | 19.5% | 343 | 6 | | 1 | | | 1 | 0.3% | 350 |
| FORT LEE | 2,171 | 20.7% | 449 | | | | 1 | | 1 | 0.2% | 450 |
| FRANKLIN | 5,182 | 19.8% | 1,007 | 14 | 6 | 1 | | | 7 | 0.7% | 1028 |
| FREEHOLD | 2,156 | 22.9% | 483 | 8 | 1 | | 1 | | 2 | 0.4% | 493 |
| GALLOWAY | 2,240 | 13.7% | 304 | 3 | | | | | 0 | 0.0% | 307 |
| GLOUCESTER | 4,647 | 9.3% | 423 | 9 | | | | | 0 | 0.0% | 432 |
| HACKENSACK | 3,223 | 39.5% | 1,247 | 22 | 2 | 2 | | | 4 | 0.3% | 1273 |
| HAMILTON | 5,480 | 11.6% | 616 | 14 | | 1 | 2 | 1 | 4 | 0.6% | 634 |
| HILLSBOROUGH | 2,736 | 15.9% | 434 | 1 | | 1 | | | 1 | 0.2% | 436 |
| HOBOKEN | 3,779 | 22.9% | 858 | 6 | 1 | | 1 | | 2 | 0.2% | 866 |
| HOWELL | 3,591 | 9.7% | 348 | 2 | | | | | 0 | 0.0% | 350 |
| IRVINGTON | 4,993 | 53.5% | 2,468 | 149 | 35 | 7 | 10 | 2 | 54 | 2.0% | 2671 |
| JACKSON | 3,649 | 14.7% | 533 | 3 | 1 | | | | 1 | 0.2% | 537 |
| JERSEY CITY | 20,393 | 43.1% | 8,423 | 263 | 52 | 23 | 21 | 2 | 98 | 1.1% | 8784 |
| KEARNY | 2,681 | 34.6% | 915 | 11 | 2 | | | | 2 | 0.2% | 928 |
| LAKEWOOD | 18,872 | 46.6% | 8,728 | 65 | 6 | 2 | 1 | | 9 | 0.1% | 8802 |
| LINDEN | 2,726 | 34.7% | 931 | 11 | 2 | | 1 | | 3 | 0.3% | 945 |
| MANALAPAN | 2,541 | 9.8% | 247 | 1 | | | | | 0 | 0.0% | 248 |

| Manioinalita | Total | % | BLI (µg/d | | | | | EBL (μg/d | | | |
|----------------------------------|----------|--------|--------------|-----|-------|-------|-------|--------------|---------------|------------|-----------------|
| Municipality | Children | Tested | <5 | 5-9 | 10-14 | 15-19 | 20–44 | <u>≥</u> 45 | Total EBLL | % EBLL* | Total Tested |
| MANCHESTER | 1,372 | 8.1% | 108 | 2 | 1 | | | | 1 | 0.9% | 111 |
| MARLBORO | 2,606 | 10.9% | 284 | 1 | | | | | 0 | 0.0% | 285 |
| MIDDLETOWN | 4,615 | 9.4% | 430 | 2 | | | | | 0 | 0.0% | 432 |
| MONROE (Gloucester County) | 2,794 | 13.1% | 362 | 2 | | 1 | | | 1 | 0.3% | 365 |
| MONROE (Middlesex County) | 2,082 | 16.0% | 329 | 4 | | | | | 0 | 0.0% | 333 |
| MONTCLAIR | 2,701 | 21.2% | 550 | 15 | 4 | 1 | 2 | | 7 | 1.2% | 572 |
| MOUNT LAUREL | 2,705 | 13.7% | 365 | 4 | 1 | | | | 1 | 0.3% | 370 |
| NEW BRUNSWICK | 4,753 | 34.6% | 1,601 | 31 | 6 | 5 | 1 | | 12 | 0.7% | 1,644 |
| NEWARK | 24,831 | 54.5% | 12,827 | 590 | 81 | 23 | 12 | 3 | 119 | 0.9% | 13,536 |
| NORTH BERGEN | 4,473 | 33.8% | 1,486 | 22 | 2 | 1 | 1 | | 4 | 0.3% | 1,512 |
| NORTH BRUNSWICK | 3,502 | 21.1% | 731 | 6 | 1 | | 1 | | 2 | 0.3% | 739 |
| OLD BRIDGE | 4,548 | 10.9% | 491 | 4 | | | | | 0 | 0.0% | 495 |
| PARSIPPANY- TROY HILLS | 3,671 | 13.7% | 484 | 13 | 5 | | 1 | | 6 | 1.2% | 503 |
| PASSAIC | 8,226 | 51.2% | 4,065 | 118 | 16 | 7 | 5 | 1 | 29 | 0.7% | 4,212 |
| PATERSON | 13,987 | 47.6% | 6,339 | 268 | 30 | 7 | 13 | | 50 | 0.8% | 6,657 |
| PENNSAUKEN | 2,696 | 16.1% | 425 | 8 | | | | | 0 | 0.0% | 433 |
| PERTH AMBOY | 4,756 | 43.3% | 2,008 | 37 | 7 | | 6 | | 13 | 0.6% | 2,058 |
| PISCATAWAY | 3,903 | 23.8% | 911 | 12 | 1 | 1 | 2 | | 4 | 0.4% | 927 |
| PLAINFIELD | 4,961 | 62.3% | 2,963 | 96 | 16 | 7 | 8 | 2 | 33 | 1.1% | 3,092 |
| SAYREVILLE | 3,338 | 21.7% | 713 | 11 | | | | | 0 | 0.0% | 724 |
| SOUTH BRUNSWICK | 3,130 | 10.4% | 315 | 7 | 2 | 1 | 1 | | 4 | 1.2% | 326 |
| TEANECK | 3,142 | 17.1% | 528 | 8 | | | | | 0 | 0.0% | 536 |
| TOMS RIVER | 5,617 | 23.4% | 1,306 | 5 | 1 | | 1 | 1 | 3 | 0.2% | 1,314 |
| TRENTON | 7,998 | 43.5% | 3,259 | 184 | 22 | 10 | 6 | | 38 | 1.1% | 3,481 |
| UNION CITY | 5,742 | 31.3% | 1,753 | 32 | 5 | 4 | 5 | | 14 | 0.8% | 1,799 |
| UNION | 3,701 | 41.8% | 1,516 | 26 | 4 | | 2 | | 6 | 0.4% | 1,548 |
| VINELAND | 5,058 | 22.1% | 1,094 | 21 | 3 | 1 | 1 | | 5 | 0.4% | 1,120 |
| WASHINGTON | 2,968 | 2.2% | 65 | | | | | | 0 | 0.0% | 65 |
| WAYNE | 3,105 | 19.9% | 614 | 3 | | 1 | | | 1 | 0.2% | 618 |
| WEST NEW YORK | 4,258 | 45.9% | 1,923 | 27 | 3 | 1 | 1 | | 5 | 0.3% | 1,955 |
| WEST ORANGE | 3,635 | 25.4% | 899 | 18 | 3 | 4 | 1 | | 8 | 0.9% | 925 |
| WINSLOW | 3,336 | 14.4% | 472 | 6 | 2 | 1 | | | 3 | 0.6% | 481 |
| WOODBRIDGE | 7,326 | 24.2% | 1,727 | 37 | 4 | 2 | 2 | 1 | 9 | 0.5% | 1,773 |

^{*} Large Municipalities only.
** Based on the number of children tested.

Figure 4a

SFY 2017: Breakdown of Children by Years of Age with BLLs ≥10 µg/dL

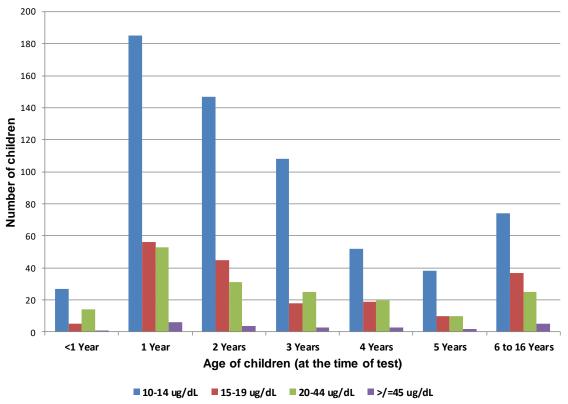


Figure 4b

SFY 2017: Breakdown of Children by Years of Age with BLL <10 µg/dL

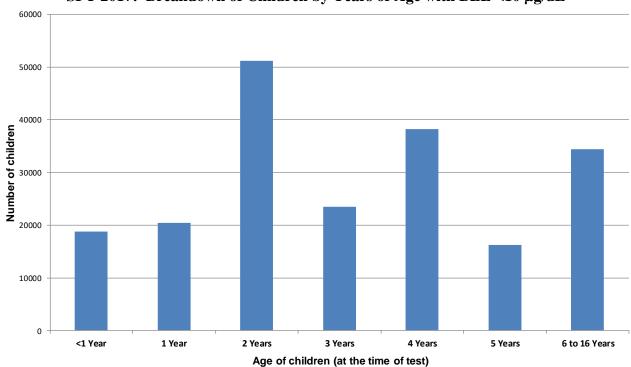


Figure 5

SFY 2017: Percentage of Children by BLL

(n=203,832)

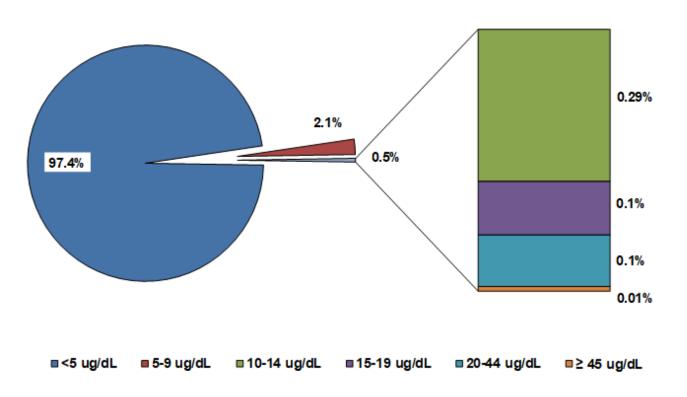


Table 5

SFY 2017: Number of Children by BLL and County of Residence

| G | BL | | | | | BLL g/dL) | | | Total |
|--------------------|---------|-------|-------|-------|-------|--------------|---------------|------------|---------|
| County | <5 | 5-9 | 10-14 | 15-19 | 20-44 | ≥45 | Total EBLL | % EBLL* | Tested |
| ATLANTIC | 4,368 | 112 | 6 | 5 | 3 | | 14 | 0.3% | 4,494 |
| BERGEN | 16,577 | 182 | 26 | 9 | 3 | 1 | 39 | 0.2% | 16,798 |
| BURLINGTON | 4,771 | 80 | 12 | 4 | 4 | | 20 | 0.4% | 4,871 |
| CAMDEN | 6,704 | 123 | 16 | 5 | 5 | | 26 | 0.4% | 6,853 |
| CAPE MAY | 1,124 | 16 | 1 | 1 | 1 | | 3 | 0.3% | 1,143 |
| CUMBERLAND | 3,527 | 118 | 25 | 6 | 2 | 2 | 35 | 1.0% | 3,680 |
| ESSEX | 32,249 | 1,172 | 181 | 58 | 42 | 7 | 288 | 0.9% | 33,709 |
| GLOUCESTER | 2,644 | 32 | 5 | 2 | 2 | | 9 | 0.3% | 2,685 |
| HUDSON | 22,968 | 472 | 83 | 32 | 37 | 2 | 154 | 0.7% | 23,594 |
| HUNTERDON | 1,316 | 9 | 1 | 3 | 2 | | 6 | 0.5% | 1,331 |
| MERCER | 7,555 | 240 | 27 | 15 | 10 | 1 | 53 | 0.7% | 7,848 |
| MIDDLESEX | 17,631 | 277 | 47 | 17 | 22 | 2 | 88 | 0.5% | 17,996 |
| MONMOUTH | 7,716 | 130 | 11 | 4 | 4 | 1 | 20 | 0.3% | 7,866 |
| MORRIS | 6,072 | 72 | 7 | 4 | 5 | | 16 | 0.3% | 6,160 |
| OCEAN | 14,576 | 99 | 13 | 2 | 3 | 1 | 19 | 0.1% | 14,694 |
| PASSAIC | 18,102 | 503 | 60 | 20 | 21 | 1 | 102 | 0.5% | 18,707 |
| SALEM | 777 | 68 | 8 | 1 | 1 | | 10 | 1.2% | 855 |
| SOMERSET | 5,034 | 61 | 18 | 5 | 4 | | 27 | 0.5% | 5,122 |
| SUSSEX | 1,088 | 6 | 2 | | 0 | | 2 | 0.2% | 1,096 |
| UNION | 17,872 | 376 | 47 | 14 | 28 | 2 | 91 | 0.5% | 18,339 |
| WARREN | 1,072 | 31 | 2 | 3 | 1 | | 6 | 0.5% | 1,109 |
| Unknown Address | 4,792 | 90 | | | | | 0 | 0.0% | 4,882 |
| Total | 198,535 | 4,269 | 598 | 210 | 200 | 20 | 1,028 | 0.5% | 203,832 |

^{*}Based on the number of children tested.

For the EBLLs reported with addresses that cannot be verified, the program staff and local health department staff make all attempts to follow up with the ordering providers and the reporting laboratories to obtain the correct addresses. However, the selection criteria logic used for the purpose of statistical information published here picks the highest confirmed test result (or the lowest unconfirmed test result when there is no confirmed test result) among all tests reported for each child, while other test results for the same child may have been reported with correct address(es).

Figure 6a $\label{eq:local_problem} Number of \ Children \ with \ BLLs \ge 10 \ \mu g/dL \ by \ SFY$

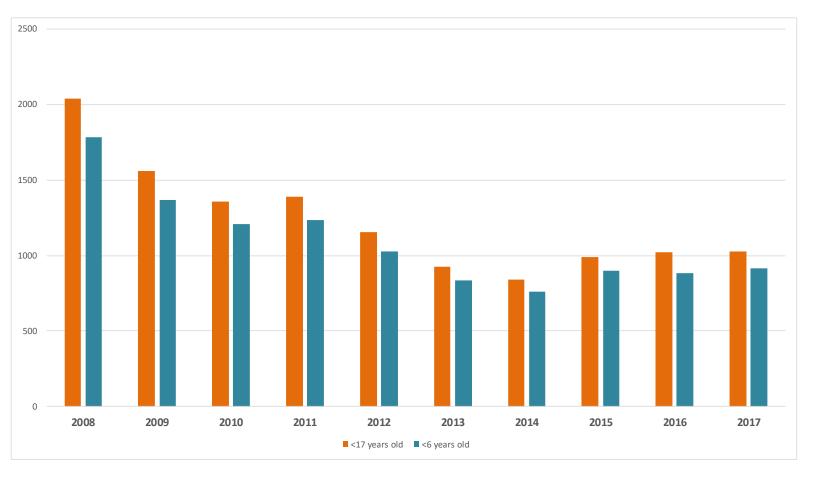
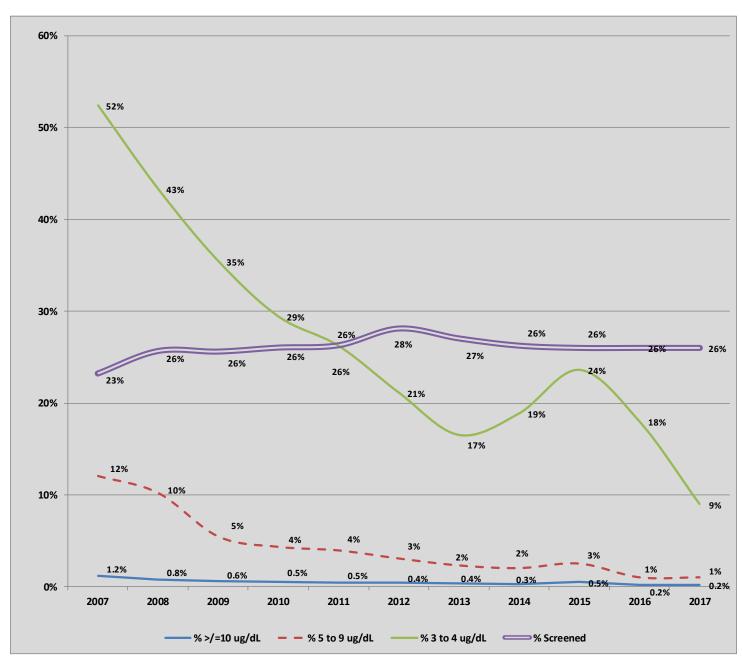


Figure 6b

Trends for Children <6 Years of Age:
Testing Rates and Percentages of Newly Reported BLLs by SFY



Over the past decade, while the screening percentage (purple double line) is generally remaining steady, the percentage of children with any blood lead level (blue, red dotted and green lines) is generally declining.

Table 6

Children 5 Years of Age and their EBLLs by Academic Year of Entering Kindergarten

| Academic | | | | BLL (µg/dL) | | | |
|-------------------------------------|----------|----------|----------|---|-------|--|----------------------------------|
| Year of Entering Kindergarten | 10 to 14 | 15 to 19 | 20 to 44 | ≥45 Total # of Children with BLLs ≥10 μg/dL | | % of Children with BLLs ≥ 10 µg/dL | Total # of Children Tested |
| 2003-'04 | 1,454 | 423 | 415 | 40 | 2,332 | 2.41% | 96,683 |
| 2004-'05 | 1,375 | 435 | 363 | 22 | 2,195 | 2.17% | 101,091 |
| 2005-'06 | 1,301 | 468 | 357 | 34 | 2,160 | 2.03% | 106,286 |
| 2006-'07 | 1,328 | 460 | 368 | 20 | 2,176 | 2.07% | 105,294 |
| 2007-'08 | 1,209 | 417 | 308 | 27 | 1,961 | 1.80% | 108,955 |
| 2008-'09 | 1,044 | 332 | 281 | 16 | 1,673 | 1.52% | 109,913 |
| 2009-'10 | 824 | 266 | 254 | 15 | 1,359 | 1.24% | 109,604 |
| 2010-'11 | 670 | 232 | 208 | 14 | 1,124 | 1.02% | 110,420 |
| 2011-'12 | 541 | 187 | 167 | 24 | 919 | 0.83% | 111,126 |
| 2012-'13 | 434 | 173 | 184 | 18 | 809 | 0.75% | 107,183 |
| 2013-'14 | 419 | 139 | 170 | 15 | 743 | 0.72% | 103,434 |
| 2014-'15 | 342 | 119 | 131 | 10 | 602 | 0.63% | 95,864 |
| 2015-'16 | 319 | 116 | 127 | 10 | 572 | 0.62% | 91,651 |
| 2016-'17 | 318 | 120 | 109 | 12 | 559 | 0.62% | 90,762 |

The above table depicts blood lead levels of children (<5 years of age) by academic year of entering kindergarten. It shows the decline in the percentage of children entering kindergarten with EBLL, indicating the effect of timely screening, case management and primary prevention.

CHAPTER THREE

SPOTLIGHT ON THE CITY OF NEWARK

The City of Newark has the greatest number of children with EBLLs compared to any other municipality in the State. This large municipality comprised 13% of the State's children less than 72 months of age with an EBLL during SFY 2017, while only 3.8% of the entire State's population of children in that age group reside in Newark. Additionally, in SFY 2017 it comprised 17% of the total number of children less than 72 months of age with an EBLL in all large municipalities.

Newark addresses the issue of elevated blood lead levels in children through several means and has been allotted and continues to seek grants from governmental and non-governmental sources. In the past decade, Newark established and locally administers the State's only Lead-Safe Houses, which are municipally-owned properties. The Lead-Safe Houses are used to relocate residents who have a child with an EBLL when the family has no other temporary lead-safe housing alternatives. This is a great accomplishment that other municipalities have expressed an interest in also achieving. Further, Newark provides a primary prevention focused, community-based presence through the Newark Partnership for Lead-Safe Children. This partnership provides outreach, education and professional development opportunities to parents, property owners, child care providers and health, social services and housing professionals.

Figure 7

SFY 2017: Percentage of Children with BLL \geq 10 µg/dL in the City of Newark Compared to the Rest of NJ (n=914)

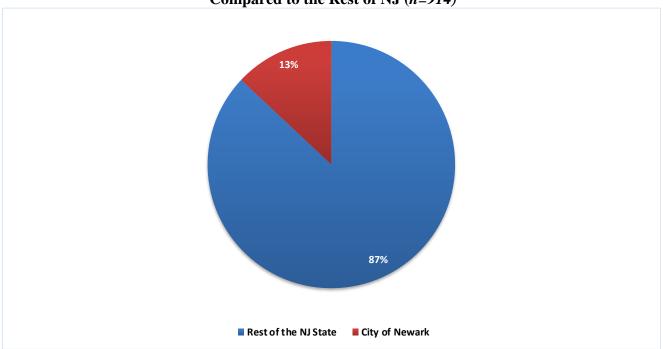
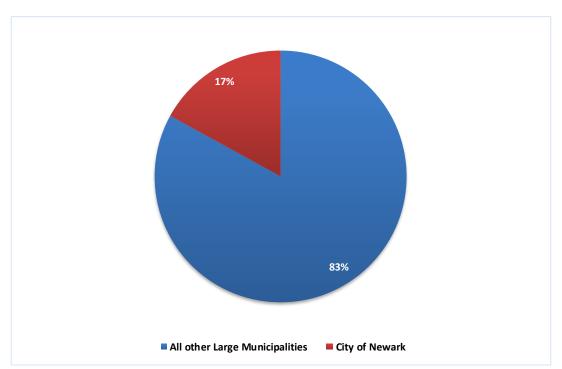


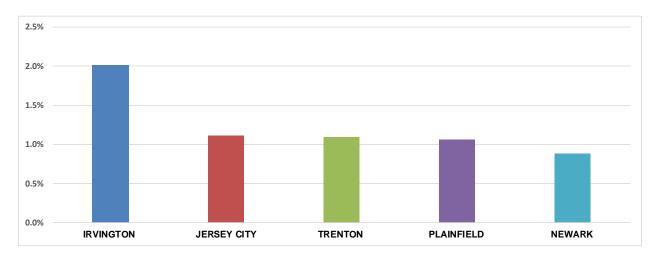
Figure 8

SFY 2017: Percentage of Children with BLL \geq 10 µg/dL in the City of Newark Compared to Other Large Municipalities in NJ (n=687)



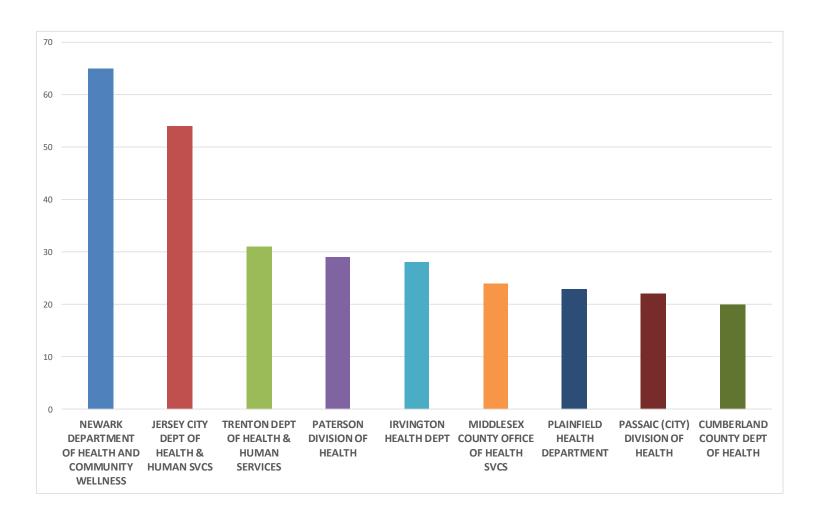
The data are based on the total number of individual children less than 72 months of age reported with a BLL of $\geq 10 \,\mu\text{g/dL}$. Of the 119 children identified in the City of Newark during SFY 2017, only the highest venous (or lowest capillary, when there is no test with a venous sample for the child) blood lead test result per child is counted.

Figure 9 SFY 2017: Top Five Large Municipalities (population of >35,000) with Highest Percentage of Children (<6 years of age) Reported with BLL \geq 10 µg/dL



The data are based on the percentage of children in large municipalities where the number of children tested for lead in SFY 2017 exceeds 40% of the total children.

Figure 10
SFY 2017: Local Health Departments with ≥20 New Environmental Cases



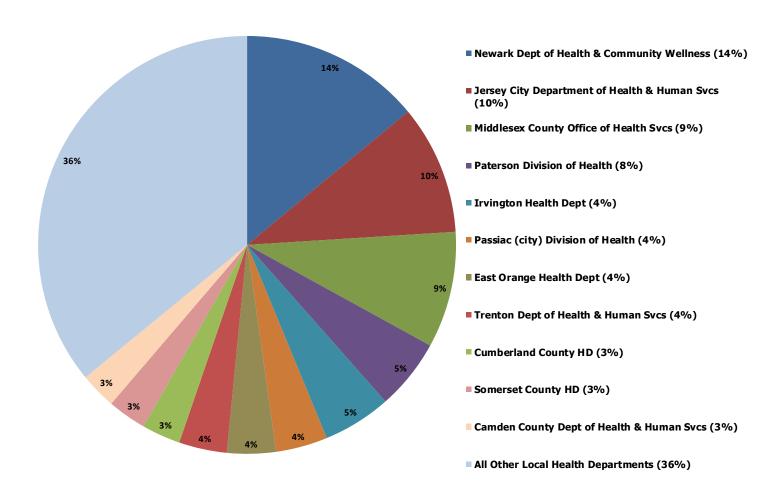
The data are based on the total number of new environmental cases opened during SFY 2017. A new environmental case is opened based on a child's BLL. Once a case is opened, the local health department is required to conduct an environmental investigation per N.J.A.C. §8:51-4.1.

SFY 2017: Top Ten Local Health Departments

Comprising the Highest Percentages* of New Children Reported with BLL >10 µg/dL

Compared to All Other Local Health Departments

Figure 11



The data are based on the percentage of BLLs ($\geq 10~\mu g/dL$) reported during SFY 2017. This figure does not rank local health departments by their total case load. The purpose is to highlight Newark proportion of newly identified children with elevated blood lead levels reported during a single fiscal year as compared to other local health departments.

*Percent share of all new cases (cases opened at single confirmed BLL of \geq 15 µg/dL or two consecutive confirmed BLLs between 10 µg/dL and 14 µg/dL one to four months apart, reported during SFY 2017 in the entire State).

CHAPTER FOUR

ENVIRONMENTAL INVESTIGATIONS BY LOCAL HEALTH DEPARTMENT

New Jersey law (N.J.S.A. § 24:14A-6) requires local health departments to investigate all reported cases of EBLLs (N.J.A.C. § 8:51) within their jurisdiction and to order the abatement of all lead hazards identified in the course of the investigation. The procedures for conducting environmental investigations in response to a child with an EBLL are specified in N.J.A.C. § 8:51. The local health department must conduct an inspection of the child's primary residence and any secondary addresses, such as a child care center, the home of a relative or other 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, with a public health nurse case manager, speaks to the child's parent/legal guardian and completes a questionnaire to help determine any other potential sources of exposure to lead including from water and consumer products.

In addition, the local health department arranges for a home visit by a public health nurse case manager to educate the child's parent/legal guardian about how to reduce EBLLs and the steps that he or she can take to protect the child from further exposure. The public health nurse case manager also provides ongoing assistance to the family, including but not limited to, follow-up testing, medical treatment, and social services that may be necessary to address the effects of the child's exposure to lead.

The data listed in Tables 7, 8, 9 and 10 reflect the frequency and results of environmental investigations as reported by local health departments. The data are accurate to the extent that local health departments make complete and timely reports through the electronic Childhood Lead Information Database (LeadTrax). It is possible that additional inspections and/or abatements may have been completed but not reported by the close of SFY 2017. In addition, 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. The length of time between the initial report of an EBLL and the completion of the abatement process can be affected by 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 to be performed by State-certified lead abatement contractors; and inability of property owners to obtain financial assistance to pay for the cost of the required abatement.

Table 7
SFY 2017: Environmental Case Activity Status by County

| County Name | Cases Referred | Investigation Required | Investigation Completed | % Investigation Completed | Abatement Required | Abatement Completed | % Abatement Completed |
|-------------|-------------------|---------------------------|----------------------------|---------------------------|-----------------------|------------------------|-----------------------|
| ATLANTIC | 11 | 5 | 5 | 100% | 1 | 0 | 0% |
| BERGEN | 19 | 9 | 9 | 100% | 2 | 1 | 50% |
| BURLINGTON | 13 | 10 | 10 | 100% | 5 | 3 | 60% |
| CAMDEN | 17 | 8 | 8 | 100% | 0 | 0 | N/A |
| CAPE MAY | 2 | 1 | 1 | 100% | 0 | 0 | N/A |
| CUMBERLAND | 25 | 18 | 18 | 100% | 11 | 9 | 82% |
| ESSEX | 139 | 93 | 67 | 72% | 58 | 15 | 26% |
| GLOUCESTER | 5 | 1 | 1 | 100% | 1 | 0 | 0% |
| HUDSON | 78 | 58 | 57 | 98% | 13 | 12 | 92% |
| HUNTERDON | 4 | 2 | 1 | 50% | 0 | 0 | N/A |
| MERCER | 42 | 26 | 25 | 96% | 18 | 8 | 44% |
| MIDDLESEX | 49 | 25 | 20 | 80% | 4 | 3 | 75% |
| MONMOUTH | 18 | 9 | 9 | 100% | 9 | 4 | 44% |
| MORRIS | 16 | 9 | 9 | 100% | 3 | 1 | 33% |
| OCEAN | 9 | 0 | 0 | N/A | 0 | 0 | N/A |
| PASSAIC | 54 | 38 | 38 | 100% | 29 | 17 | 59% |
| SALEM | 11 | 5 | 5 | 100% | 3 | 1 | 33% |
| SOMERSET | 16 | 6 | 4 | 67% | 2 | 1 | 50% |
| UNION | 55 | 32 | 32 | 100% | 29 | 16 | 55% |
| WARREN | 5 | 4 | 4 | 100% | 4 | 0 | 0% |
| Total | 588 | 359 | 323 | 90% | 192 | 91 | 47% |

A new environmental case is generated and referred to the appropriate local health department when a child with an EBLL is reported who resides at an address that does not have an existing environmental case open.

Reasons for investigation not required include property built after 1978 or property has lead-free certificate.

Table 8

SFY 2017: Local Health Departments with ≥20 New Environmental Cases

| Local Health Department | Cases Referred | Investigation Required | Investigation Completed | % Investigation Completed | Abatement Required | Abatement Completed | % Abatement Completed |
|--|-------------------|---------------------------|----------------------------|---------------------------|-----------------------|------------------------|-----------------------|
| Newark Department of Health and Community Wellness | 65 | 35 | 10 | 29% | 8 | 0 | 0% |
| Jersey City Department of Health & Human Services | 54 | 39 | 38 | 97% | 6 | 6 | 100% |
| Trenton Department of Health & Human Services | 31 | 19 | 19 | 100% | 15 | 5 | 33% |
| Paterson Division of Health | 29 | 22 | 22 | 100% | 15 | 6 | 40% |
| Irvington Health Department | 28 | 21 | 21 | 100% | 12 | 2 | 17% |
| Middlesex County Office of Health Svcs | 24 | 15 | 15 | 100% | 4 | 3 | 75% |
| Plainfield Health Dept | 23 | 16 | 16 | 100% | 16 | 8 | 50% |
| Passaic (city) Division of health | 22 | 14 | 14 | 100% | 12 | 10 | 83% |
| Cumberland County Health Dept | 20 | 18 | 18 | 100% | 10 | 18 | 80% |

See Table 10 for complete data on the status of all EBLL cases referred to local health departments during SFY 2017.

A new environmental case is generated and referred to the appropriate local health department when a child with an EBLL is reported who resides at an address that does not have an existing environmental case open.

Reasons for investigation not required include property built after 1978 or property has lead-free certificate.

Table 9

Current Abatement Status of Cases by SFY: 1997-2017

| SFY | Environmental Cases Opened | Investigation Required | Investigation Completed | % Investigation Completed | Investigation Pending | Abatements Completed | Abatements Pending | % Abatements Completed |
|------|----------------------------------|---------------------------|----------------------------|---------------------------------|--------------------------|-------------------------|-----------------------|------------------------|
| 1997 | 2168 | 1499 | 1468 | 98% | 31 | 767 | 12 | 98% |
| 1998 | 2014 | 1455 | 1405 | 97% | 50 | 725 | 13 | 98% |
| 1999 | 1517 | 1044 | 952 | 91% | 92 | 558 | 29 | 95% |
| 2000 | 1144 | 815 | 705 | 87% | 110 | 484 | 29 | 94% |
| 2001 | 932 | 648 | 562 | 87% | 86 | 374 | 12 | 97% |
| 2002 | 867 | 601 | 546 | 91% | 55 | 363 | 7 | 98% |
| 2003 | 796 | 527 | 495 | 94% | 32 | 288 | 21 | 93% |
| 2004 | 748 | 526 | 471 | 90% | 55 | 289 | 20 | 94% |
| 2005 | 718 | 542 | 481 | 89% | 61 | 277 | 24 | 92% |
| 2006 | 688 | 494 | 494 | 100% | 0 | 229 | 40 | 85% |
| 2007 | 1008 | 728 | 728 | 100% | 0 | 356 | 18 | 95% |
| 2008 | 750 | 581 | 581 | 100% | 0 | 260 | 18 | 94% |
| 2009 | 583 | 500 | 500 | 100% | 0 | 337 | 35 | 91% |
| 2010 | 450 | 411 | 411 | 100% | 0 | 245 | 70 | 78% |
| 2011 | 573 | 554 | 554 | 100% | 0 | 273 | 95 | 74% |
| 2012 | 874 | 435 | 406 | 93% | 29 | 186 | 84 | 69% |
| 2013 | 502 | 354 | 353 | 99% | 1 | 174 | 58 | 75% |
| 2014 | 424 | 381 | 348 | 91% | 33 | 117 | 54 | 68% |
| 2015 | 483 | 303 | 301 | 99% | 2 | 138 | 35 | 80% |
| 2016 | 568 | 338 | 289 | 86% | 49 | 71 | 114 | 38% |
| 2017 | 589 | 359 | 323 | 90% | 36 | 91 | 99 | 47% |

A new environmental case is generated and referred to the appropriate local health department when a child with an EBLL is reported who resides at an address that does not have an existing environmental case open.

Reasons for investigation not required include property built after 1978 or property has lead-free certificate.

Table 10
SFY 2017: Environmental Case Activity by Local Health Department

| Local Health Department | Cases Referred | Investigation Required | Investigation Completed | Abatement Required | Abatement Completed |
|---|-------------------|---------------------------|----------------------------|-----------------------|------------------------|
| ATLANTIC CITY HEALTH DEPT | 5 | 1 | 1 | 1 | 0 |
| ATLANTIC COUNTY HEALTH DEPT | 6 | 4 | 3 | 0 | 0 |
| BAYONNE DEPT OF HEALTH | 4 | 3 | 3 | 1 | 1 |
| BERGEN COUNTY DEPT OF HEALTH SVCS | 5 | 2 | 2 | 0 | 0 |
| BERNARDS TWP HEALTH DEPT | 1 | 0 | 0 | 0 | 0 |
| BLOOMFIELD DEPT OF HEALTH | 2 | 0 | 0 | 0 | 0 |
| BRIDGEWATER TWP DEPT OF HEALTH | 3 | 0 | 0 | 0 | 0 |
| BURLINGTON COUNTY HEALTH DEPT | 13 | 10 | 10 | 3 | 3 |
| CAMDEN COUNTY DEPT OF HEALTH | 17 | 8 | 8 | 0 | 0 |
| CAPE MAY COUNTY HEALTH DEPT | 2 | 1 | 1 | 0 | 0 |
| CLIFTON HEALTH DEPT | 2 | 2 | 2 | 2 | 1 |
| CUMBERLAND COUNTY HEALTH DEPT | 20 | 18 | 18 | 10 | 8 |
| DOVER HEALTH DEPT | 2 | 2 | 2 | 1 | 0 |
| EAST HANOVER HEALTH DEPT | 1 | 0 | 0 | 0 | 0 |
| EAST ORANGE HEALTH DEPT | 19 | 15 | 15 | 9 | 4 |
| EDISON DEPT OF HEALTH & HUMAN RESOURCES | 9 | 7 | 2 | 0 | 0 |
| ELIZABETH DEPT OF HEALTH & HUMAN SVCS | 17 | 8 | 8 | 8 | 7 |
| ENGLEWOOD HEALTH DEPT | 2 | 0 | 0 | 0 | 0 |
| EWING TWP HEALTH DEPT | 2 | 0 | 0 | 0 | 0 |
| FORT LEE DEPT OF HEALTH | 1 | 0 | 0 | 0 | 0 |
| FRANKLIN TWP HEALTH DEPT | 3 | 1 | 1 | 0 | 0 |
| FREEHOLD AREA HEALTH DEPT | 3 | 1 | 1 | 1 | 0 |
| GLOUCESTER COUNTY DEPT OF HEALTH | 5 | 1 | 1 | 1 | 0 |
| HACKENSACK HEALTH DEPT | 4 | 2 | 2 | 1 | 1 |
| HAMILTON TWP DIVISION OF HEALTH | 6 | 5 | 5 | 2 | 2 |
| HARRISON BOARD OF HEALTH | 1 | 1 | 1 | 0 | 0 |
| HILLSBOROUGH TWP HEALTH DEPT | 2 | 0 | 0 | 0 | 0 |
| HOBOKEN HEALTH DEPT | 4 | 1 | 1 | 0 | 0 |
| HOPEWELL TWP HEALTH DEPT | 1 | 0 | 0 | 0 | 0 |
| HUNTERDON COUNTY DEPT OF HEALTH | 4 | 2 | 1 | 0 | 0 |
| IRVINGTON DEPT OF HEALTH & WELFARE | 28 | 21 | 21 | 12 | 2 |

| Local Health Department | Cases Referred | Investigation Required | Investigation Completed | Abatement Required | Abatement Completed |
|--|-------------------|---------------------------|----------------------------|-----------------------|------------------------|
| JERSEY CITY DIVISION OF HEALTH | 54 | 39 | 38 | 6 | 6 |
| LINDEN BOARD OF HEALTH | 3 | 0 | 0 | 0 | 0 |
| LONG BRANCH DEPT OF HEALTH | 1 | 1 | 1 | 1 | 1 |
| MADISON BORO BOARD OF HEALTH | 1 | 0 | 0 | 0 | 0 |
| MAPLEWOOD HEALTH DEPT | 2 | 2 | 2 | 1 | 1 |
| MID-BERGEN REGIONAL HEALTH COMMISSION | 2 | 1 | 1 | 0 | 0 |
| MIDDLE-BROOK REGIONAL HEALTH COMMISSION | 3 | 2 | 0 | 0 | 0 |
| MIDDLESEX COUNTY PUBLIC HEALTH DEPT | 24 | 15 | 15 | 4 | 3 |
| MONMOUTH COUNTY HEALTH DEPT | 11 | 7 | 7 | 3 | 3 |
| MONMOUTH COUNTY REGIONAL HEALTH COMMISSION | 3 | 0 | 0 | 0 | 0 |
| MONTCLAIR HEALTH DEPT | 6 | 5 | 5 | 4 | 4 |
| MONTGMERY TWP HEALTH DEPT | 1 | 1 | 1 | 0 | 0 |
| MORRISTOWN DIVISION OF HEALTH | 2 | 1 | 1 | 0 | 0 |
| N.W. BERGEN REGIONAL HEALTH COMMISSION | 1 | 1 | 1 | 0 | 0 |
| NEWARK DEPT OF HEALTH & COMMUNITY WELLNESS | 65 | 35 | 10 | 8 | 0 |
| NORTH BERGEN HEALTH DEPT | 13 | 12 | 12 | 5 | 4 |
| OCEAN COUNTY HEALTH DEPT | 9 | 0 | 0 | 0 | 0 |
| PARAMUS BOARD OF HEALTH | 2 | 2 | 2 | 0 | 0 |
| PARSIPPANY HEALTH DEPT | 3 | 2 | 2 | 0 | 0 |
| PASSAIC (CITY) DIVISION OF HEALTH | 22 | 14 | 14 | 12 | 10 |
| PATERSON DIVISION OF HEALTH | 29 | 22 | 22 | 15 | 6 |
| PEQUANNOCK TWP BOARD OF HEALTH | 2 | 1 | 1 | 0 | 0 |
| PISCATAWAY TWP HEALTH DEPT | 4 | 3 | 3 | 0 | 0 |
| PLAINFIELD HEALTH DEPT | 23 | 16 | 16 | 16 | 8 |
| RAHWAY HEALTH DEPT | 5 | 4 | 3 | 2 | 0 |
| RANDOLPH TWP BOARD OF HEALTH | 1 | 1 | 1 | 0 | 0 |
| RIDGEFIELD HEALTH DEPT | 1 | 1 | 1 | 1 | 0 |
| ROSELLE HEALTH DEPT | 1 | 0 | 0 | 0 | 0 |
| ROXBURY TWP BOARD OF HEALTH | 2 | 1 | 1 | 1 | 0 |
| SALEM COUNTY DEPT OF HEALTH | 11 | 5 | 5 | 3 | 1 |
| SOMERSET COUNTY HEALTH DEPT | 3 | 2 | 2 | 2 | 1 |
| SOMERVILLE HEALTH DEPARTMENT | 1 | 0 | 0 | 0 | 0 |
| SOUTH BRUNSWICK HEALTH DEPT | 3 | 0 | 0 | 0 | 0 |
| SOUTH ORANGE HEALTH DEPT | 1 | 1 | 1 | 1 | 0 |
| TWP OF CRANFORD DEPT OF HEALTH | 1 | 0 | 0 | 0 | 0 |
| TWP OF HANOVER HEALTH DEPT | 2 | 1 | 1 | 1 | 1 |

| Local Health Department | Cases Referred | Investigation Required | Investigation Completed | Abatement Required | Abatement Completed |
|--|-------------------|---------------------------|----------------------------|-----------------------|------------------------|
| TWP OF UNION DEPT OF HEALTH | 3 | 3 | 3 | 0 | 0 |
| TRENTON DEPT OF HEALTH & HUMAN SVCS | 31 | 19 | 19 | 15 | 5 |
| VINELAND DEPT OF HEALTH | 5 | 0 | 2 | 1 | 1 |
| WARREN COUNTY HEALTH DEPT | 5 | 4 | 0 | 4 | 0 |
| WEST CALDWELL HEALTH DEPT | 1 | 1 | 1 | 0 | 0 |
| WEST MILFORD TWP HEALTH DEPT | 1 | 0 | 0 | 0 | 0 |
| WEST NEW YORK HEALTH DEPT | 2 | 2 | 2 | 1 | 1 |
| WEST ORANGE HEALTH DEPT | 15 | 13 | 12 | 11 | 3 |
| WEST WINDSOR TWP HEALTH DEPT | 2 | 2 | 1 | 1 | 1 |
| WESTFIELD REGIONAL HEALTH DEPT | 2 | 1 | 1 | 1 | 1 |
| WESTWOOD HEALTH DEPT | 1 | 0 | 0 | 0 | 0 |
| WOODBRIDGE TWP DEPT OF HEALTH & HUMAN SVCS | 8 | 0 | 0 | 0 | 0 |

A new environmental case is generated and referred to the appropriate local health department when a child with an EBLL is reported who resides at an address that does not have an existing environmental case open.

Reasons for investigation not required include property built after 1978 or property has lead-free certificate.

CHAPTER FIVE

HEALTHY NEW JERSEY 2020 OBJECTIVE ADDRESSING ELEVATED BLOOD LEAD LEVELS IN NEW JERSEY'S CHILDREN

Healthy People 2020:

In October 2011, the U.S. Department of Health and Human Services released *Healthy People 2020* (HP2020) that established health objectives for the Nation for the next 10 years. The information below describes health objectives relative to childhood lead. Additional information about HP2020, can be found online at www.healthypeople.gov.

Environmental Health 8 (EH-8) Reduce blood lead levels in children.

• **Revised* Objective EH-8.1** Reduce blood lead levels in children aged 1–5 years.

Baseline: $5.8 \mu g/dL$ —Concentration level of lead in blood samples at which 97.5% of the population aged 1-5 years is below the measured level in 2005–08.

Target: 5.2 µg/dL of lead.

Target-Setting Method: 10 percent improvement. Current Metric: 4.3 µg/dL of lead (2009-2012).

Data Sources: National Health and Nutrition Examination Survey (NHANES), Centers for Disease Control and Prevention (CDC)/National Center for Health Statistics (NCHS).

*Revision History: At launch, this objective was informational only. In 2014, the measure was changed from "elevated blood lead levels \geq 10 micrograms/dL in children aged 1 to 5 years" to the "concentration of blood lead among children aged 1 to 5 years in the 97.5 percentile." As a result, the original baseline was revised from 0.9 percent to 5.8 µg/dl. The target-setting method was changed from "not applicable" to "10 percent improvement" and a target of 5.2 µg/dl was established.

• **Revised* Objective EH-8.2:** Reduce the mean BLLs in children.

Baseline: 1.8 µg/dL—This was the average BLL in children aged 1-5 years in 2003–04.

Target: 1.6 µg/dL average BLL.

Target-Setting Method: 10 percent improvement. Current Metric: 1.0 µg/dL average BLL (2011-2012).

Data Sources: NHANES, CDC/NHCS.

*Revision History: In 2014, the original baseline was revised from 1.5 (2005-2008) to 1.8 (2003-2004) to align with other NHANES biomonitoring objectives. The target was adjusted from 1.4 to 1.6 to reflect the revised baseline using the original target-setting method. Periodicity was revised to biennial.

Healthy New Jersey 2020:

Healthy New Jersey 2020 (HNJ2020) is the state's health improvement plan that establishes the health promotion and disease prevention agenda for New Jersey for the next 10 years. The information below describes health objectives relative to childhood lead. Additional information about HNJ2020 can be found online www.state.nj.us/health/chs/hnj2020.

Maternal Child Health (MCH) Objectives

• **Revised* Objective MCH-11**: Reduce blood lead levels in children aged 1-5 years to 4.5 μg/dL.

Baseline: 8.0 µg/dL—This was the average BLL in children aged 1-5 years in 2005-08.

Target: $4.5 \mu g/dL$ (U.S. target is $5.2 \mu g/dL$).

Target-Setting Method: 10 percent improvement.

Definition of Metric: Concentration of blood lead in children aged 1 to 5 years in the 97.5

percentile.

SFY2017: 5.0 µg/dL.

Data Source: New Jersey Childhood Lead Information Database (LeadTrax).

*Revision History: The original HNJ2020 objective was to reduce the proportion of children aged 1-5 years who have a blood lead level \geq 10 µg/dL to 0.9%. The target was achieved early and maintained, so the objective was replaced.

• Revised* Objective MCH-12: Reduce the mean blood lead levels in children aged 1-5 years to an average blood lead level of $\leq 1.5 \,\mu\text{g/dL}$.

Baseline: 3.2 μg/dL—This was the average BLL in children aged 1-5 years in 2005–08.

Target: 1.5 µg/dL average BLL (U.S. target is 1.6 µg/dL average BLL).

Target-Setting Method: 10 percent improvement.

Definition of Metric: Mean (average) BLL in children aged 1 to 5 years.

SFY2017: 1.5 µg/dL average BLL.

Data Source: LeadTrax.

*Revision History: The original HNJ2020 objective was to reduce the mean BLLs in children aged 1-5 years to an average of $\leq 2.9 \,\mu\text{g/dL}$.