

# CHILDHOOD LEAD POISONING IN NEW JERSEY

# **ANNUAL REPORT**

STATE FISCAL YEAR 2013 (July 1, 2012– June 30, 2013)

New Jersey Department of Health Public Health Services Branch Division of Family Health Services Maternal and Child Health Services Child and Adolescent Health Program P.O. Box 364 Trenton, NJ 08625-0364 (609) 292-5666 Child and Adolescent Health Program Childhood Lead Poisoning Prevention http://www.state.nj.us/health/fhs/newborn/lead.shtml

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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 fiscal year.

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.

**Local Boards of Health:** The board of health of any municipality or the boards, bodies or officers in such municipality lawfully exercising any of the powers of a local board of health under the laws governing such municipality.

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

**SFY:** State Fiscal Year for the period of July 1, 2012 to June 30, 2013. 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.

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#### **EXECUTIVE SUMMARY**

N.J.A.C. §8:51A requires the protection of children younger than six (6) years 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 Poisoning in New Jersey for State Fiscal Year (SFY) 2013 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 the lead poisoning testing and abatement program activities in the State during the preceding SFY.

The number of children tested for lead in SFY 2013 was 212,002, which represents a decrease of 4% over the 220,787 children tested during SFY 2012. The SFY 2013 number of children tested also includes 92,572 children, or 43%, who are between six (6) and 26 months of age, the ages at which all children must be tested under N.J.A.C. §8:51A.

While 211,076 (99.6%) children tested during SFY 2013 had blood lead levels (BLLs) below 10  $\mu$ g/dL, 926 (0.44%) children had a test result above this threshold (10  $\mu$ g/dL) who required public health action (case management and environmental investigation) by the local boards of health.

There were 5,675 children reported with BLLs from 5  $\mu$ g/dL to 9  $\mu$ g/dL. The level 5  $\mu$ g/dL is a reference level used by the Centers for Disease Control and Prevention (CDC) that indicates a need for emphasis on primary prevention activities to begin at that level. It is not an action level in terms of case management and environmental investigation by local boards of health. Given the potential that, if unaddressed by preventive action, BLLs for children between 5  $\mu$ g/dL to 9  $\mu$ g/dL could increase to 10  $\mu$ g/dL and above, primary care providers and parents should take appropriate action -- education and retesting -- for children in this reference level. There were 2,420 children aged six (6) to 26 months in this BLL level reported during SFY 2013.

The City of Newark continues to be a geographic central focus in New Jersey's efforts to eliminate childhood lead poisoning. It far exceeds every other large municipality in the number of children younger than six (6) years of age with elevated blood lead levels (EBLLs). In SFY 2013, the City of Newark comprised 17% of the total number of children (younger than six (6) years of age) with EBLL in the State. Further, it had the highest number of new cases (incidence) of childhood lead poisoning reported during SFY 2013.

Throughout this report, population data are obtained from the US Census 2010, to be used as the denominator. However, Superstorm Sandy might have "disrupted" the actual population numbers that were originally published by the United States Census Bureau by means of displacement of families from the nine counties that were most affected by the storm. Some families may even have moved outside of New Jersey. This would mean that the screening rates calculated for those counties, and possibly other New Jersey counties, may not be as accurate as they would have been, provided there was no change in the population.

### **CHAPTER ONE**

## TESTING CHILDREN FOR LEAD POISONING

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. Any child older than three (3) years of age 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 75% had at least one blood lead test prior to reaching three (3) years of age, along with 99% 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.

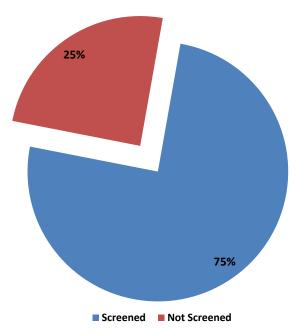
The figures and tables highlighting children between six (6) and 26 months of age closely represent the testing rates. However, the data displayed throughout these figures and tables also include children who were tested during SFY 2013 as their second test at two (2) years of age, while they may have been tested at one (1) year of age during SFY 2012.

The Department uses the range of six (6) to 26 months of age to capture data on tests that are performed either earlier than 12 months of age or later than 24 months of age, as not all children are tested exactly at one (1) and two (2) years 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 2013.

#### Figure 1a

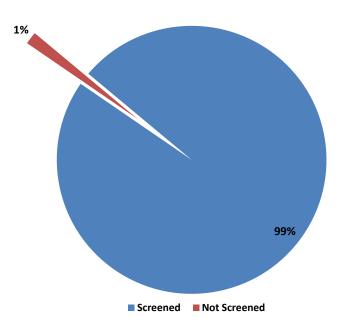
#### Percentage of Children\* Who Turned Three (3) Years of Age during SFY 2013 and Had at Least One Blood Lead Test in their Lifetime



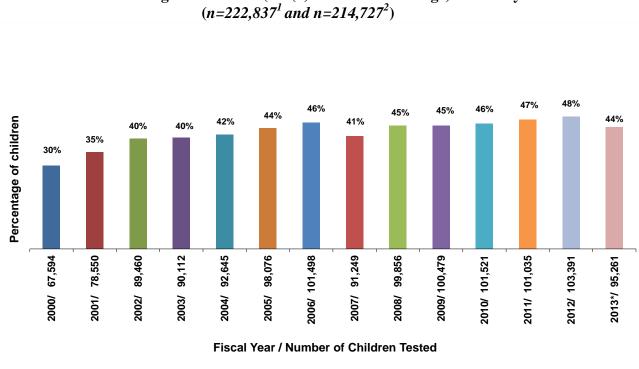
<sup>\*</sup>Number of children born in New Jersey between July 1, 2009 and June 30, 2010 (107,521); Source: Birth Registry data

Figure 1b

#### Percentage of Children\* Who Turned Six (6) Years of Age during SFY 2013 and Had at Least One Blood Lead Test in their Lifetime



\* Number of children born in New Jersey between July 1, 2006 and June 30, 2007 (114,522); Source: Birth Registry data



Trend in Percentage of Children (six (6) to 29 months of age) Tested by SFY

<sup>*I*</sup> 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.

<sup>2</sup>The denominator for SFY 2011 to SFY 2013 uses the number of children who were one (1) and two (2) years of age, based on US Census 2010 data.

\*For FY 2013 the data are for age group six (6) to 26 months

#### **CHAPTER TWO**

## PROFILE OF BLOOD LEAD TESTS PERFORMED AND PREVALENCE OF CHILDHOOD LEAD POISONING

In this chapter, the figures and tables identify the statistics of testing performed for various ages and the prevalence of lead poisoning among children in SFY 2013.

Table one (1) and two (2) show the testing statistics by county and municipality, respectively, of residence for children six (6) to 26 months of age. The range of screening percentage on Table 2 is 2.7% to 73.7%, with the median screening rate of 38.0%. Figure 3 shows the prevalence of lead poisoning 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 2013, 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 2013 around two (2) years of age as required by law.

Tables 3 and 4 display the testing statistics and the prevalence of lead poisoning among the children who were tested at younger than six (6) years of age during SFY 2013.

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 lead poisoning among children, Figures 4a, 4b, 5 and Table 5 focus on the entire population of children who were tested and reported during SFY 2013.

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

The children in the age groups of younger than six (6) years 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 2013, counting the highest BLL reported per child.

Table 6 depicts Superstorm Sandy's impact on screening of children between the ages of six (6) and 26 months residing within the nine most affect affected counties.

County	Total	%			BLI	L (µg/dL)			
County	Children*	Tested	<5	5 - 9	10 - 14	15-19	20-44	≥45	Total
ATLANTIC	6,521	41%	2,537	91	9	4	3		2,644
BERGEN	19,955	39%	7,515	158	15	3	5		7,696
BURLINGTON	10,166	17%	1,682	42	3	1	1		1,729
CAMDEN	13,215	26%	3,319	70	7	3	2		3,401
CAPE MAY	1,822	25%	435	14	2	1	1		453
CUMBERLAND	4,368	40%	1,651	84	8	5	4		1,752
ESSEX	21,569	50%	10,197	548	53	17	19	1	10,835
GLOUCESTER	6,862	15%	995	17	3		1		1,016
HUDSON	17,288	52%	8,753	259	24	8	6		9,050
HUNTERDON	2,316	37%	838	16	5	1			860
MERCER	8,591	37%	3,045	124	16	5	3		3,193
MIDDLESEX	19,965	33%	6,535	129	16	3	3		6,686
MONMOUTH	13,371	32%	4,156	69	5	6	1		4,237
MORRIS	10,700	25%	2,641	31	9	1	4		2,686
OCEAN	15,532	45%	6,975	64	9	3	2		7,053
PASSAIC	13,727	51%	6,746	249	20	7	7		7,029
SALEM	1,549	34%	484	31	8	1			524
SOMERSET	7,581	27%	2,014	19	6	2	1		2,042
SUSSEX	3,099	26%	793	9	1				803
UNION	14,148	45%	6,247	158	18	7	5		6,435
WARREN	2,382	34%	791	22	2				815
Not Specified	N/A	N/A	11,417	216					11,633
Total	214,727	43%	89,766	2,420	239	78	68	1	92,572

SFY 2013: Number of Children (six (6) to 26 months of age) by BLL and County of Residence

\*US Census 2010 data

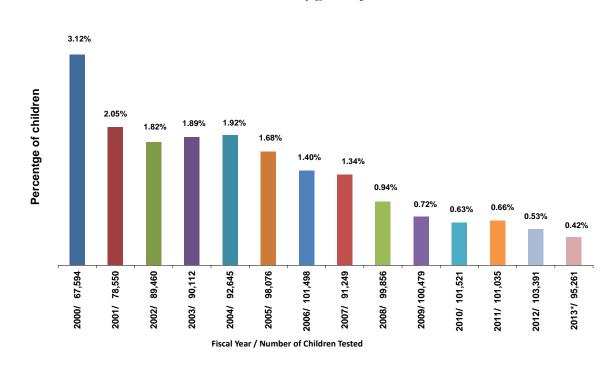
	Total	%			BLL (µį	g/dL)			
Municipality	Children**	Tested	<5	5 - 9	10 - 14	15-19	20-44	≥45	Total
ATLANTIC CITY	1,249	65.3%	750	56	5	2	2		815
BAYONNE	1,528	36.8%	545	18					563
BELLEVILLE	869	48.1%	401	14	1		2		418
BERKELEY	509	4.1%	20	1					21
BLOOMFIELD	1,224	43.7%	518	15	1	1			535
BRICK	1,531	28.7%	437	2					439
BRIDGEWATER	978	41.4%	402	2			1		405
CAMDEN	2,838	47.0%	1,297	33	3	1	1		1,335
CHERRY HILL	1,449	18.8%	269	3	1				273
CLIFTON	2,123	48.5%	1,003	22	2	1	2		1,030
EAST BRUNSWICK	860	29.5%	252	2					254
EAST ORANGE	1,916	43.1%	758	57	7	2	1		825
EDISON	2,560	38.9%	976	16	4		1		997
EGG HARBOR	1,038	43.8%	449	5			1		455
ELIZABETH	3,943	52.8%	2,010	61	6	1	2		2,080
EVESHAM	1,016	2.7%	27						27
EWING	600	33.5%	197	3	1				201
FORT LEE	725	36.3%	261	2					263
FRANKLIN	1,759	7.6%	128	1	4				133
FREEHOLD	652	58.4%	376	5					381
GALLOWAY	724	31.4%	226	1					227
GLOUCESTER	1,520	6.8%	99	4					103
HACKENSACK	1,118	55.9%	603	16	3	1	2		625
HAMILTON	1,814	27.2%	480	12	2				494
HILLSBOROUGH	866	44.2%	381	1		1			383
HOBOKEN	1,467	55.1%	796	12					808
HOWELL	1,125	20.4%	226	4					230
IRVINGTON	1,692	57.0%	881	68	7	3	4	1	964
JACKSON	1,100	27.8%	302	3	1				306
JERSEY CITY	7,192	56.5%	3,888	145	19	7	4		4,063
KEARNY TOWN	895	43.4%	377	11					388
LAKEWOOD	6,556	73.7%	4,775	44	7	3	2		4,831
LINDEN	911	47.1%	421	7	1				429
MANALAPAN	778	25.4%	198						198
MANCHESTER	448	14.5%	65						65

SFY 2013: Number of Children (six (6) to 26 months of age) by BLL and Municipality\* of Residence

	Total	%			BLL (µ	g/dL)			<b>T</b> ( )
Municipality	Children**	Tested	<5	5 - 9	10 - 14	15-19	20-44	≥45	Total
MARLBORO	767	17.2%	130	2					132
MIDDLETOWN	1,444	15.9%	228	1					229
MONROE (Gloucester County)	898	3.5%	31						31
MONROE (Middlesex County)	655	13.1%	85	1					86
MONTCLAIR	869	29.5%	250	5	1				256
MOUNT LAUREL	886	12.5%	110	1					111
NEW BRUNSWICK	1,573	64.7%	985	27	3	1	2		1,018
NEWARK	8,382	63.7%	4,973	321	26	9	8		5,337
NORTH BERGEN	1,498	46.2%	677	13	2				692
NORTH BRUNSWICK	1,220	33.9%	406	8					414
OLD BRIDGE	1,478	22.5%	329	2	1				332
PARSIPPANY- TROY HILLS	1,207	5.5%	62	4					66
PASSAIC	2,767	65.9%	1,735	75	9	4			1,823
PATERSON	4,632	59.2%	2,597	130	8	2	4		2,741
PENNSAUKEN	845	29.2%	239	7		1			247
PERTH AMBOY	1,584	50.6%	791	10	1				802
PISCATAWAY	1,361	38.0%	506	11					517
PLAINFIELD	1,628	68.4%	1,055	49	8	2			1,114
SAYREVILLE	1,137	22.3%	251	3					254
SOUTH BRUNSWICK	935	5.6%	51	1					52
TEANECK	1,075	31.6%	325	14	1				340
TOMS RIVER	1,816	40.3%	723	8					731
TRENTON	2,786	54.7%	1,403	102	12	4	3		1,524
UNION CITY	1,880	47.7%	870	23	1		2		896
UNION TWP	1,250	45.4%	560	7	1				568
VINELAND	1,729	42.0%	712	14	1				727
WASHINGTON (Gloucester County)	900	3.8%	34						34
WAYNE	995	41.9%	410	7					417
WEST NEW YORK	1,523	59.7%	895	13	1				909
WEST ORANGE	1,263	36.0%	439	11	4	1			455
WINSLOW	1,122	3.6%	40						40
WOODBRIDGE	2,495	17.2%	411	13	4	2			430
Total	112,173	43.6%	89,766	2,420	239	78	68	1	48,889

\*Large Municipalities only \*\*US Census 2010 data

Figure 3



Trend in Percentage of Children (ages six (6) to 29 months\*) with BLL  $\geq 10 \ \mu g/dL$  by SFY

\*For FY 2013 the data are for age group six (6) to 26 months, because the screening regulations (N.J.A.C. §8:51A) require that each child be screened for lead at the age of one (1) year and again at the age of two (2) years. 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.

# SFY 2013: Number of Children (<6 Years of Age) by BLL and County of Residence

	Total	%			Blood Le	ad Level (	µg/dL)		
County	Children*	Tested	<5	5-9	10-14	15-19	20-44	<u>&gt;</u> 45	Total
ATLANTIC	19,909	26%	4,960	236	19	7	5		5,227
BERGEN	61,192	22%	12,949	246	27	6	13		13,241
BURLINGTON	31,546	9%	2,737	64	6	3	3		2,813
CAMDEN	40,195	13%	5,257	123	16	8	9	1	5,414
CAPE MAY	5,423	14%	735	21	2	2	2	1	763
CUMBERLAND	12,963	26%	3,213	177	17	12	4		3,423
ESSEX	64,591	42%	25,307	1,310	145	43	37	5	26,847
GLOUCESTER	21,059	7%	1,456	32	7	2	2		1,499
HUDSON	49,759	39%	18,923	513	60	14	10	2	19,522
HUNTERDON	7,484	13%	977	21	8	1			1,007
MERCER	26,052	23%	5,798	232	25	8	9	1	6,073
MIDDLESEX	60,249	21%	12,489	258	31	7	8		12,793
MONMOUTH	42,404	17%	6,835	163	10	7	2		7,017
MORRIS	33,493	13%	4,154	53	12	3	8		4,230
OCEAN	46,657	25%	11,418	127	16	4	5		11,570
PASSAIC	41,179	37%	14,543	566	56	18	16		15,199
SALEM	4,625	18%	760	75	10	1	4		850
SOMERSET	23,622	13%	2,969	27	6	3	2		3,007
SUSSEX	9,701	12%	1,164	12	1				1,177
UNION	43,085	33%	13,649	412	38	10	8	1	14,118
WARREN	7,434	15%	1,048	34	3	2			1,087
Not Specified	N/A	N/A	19,249	394					19,643
Total	652,622	27%	170,590	5,096	515	161	147	11	176,520

\*US Census 2010 data

	Total	%	Blood Lead Level (µg/dL)							
Municipality	Children**	Tested	<5	5-9	10-14	15-19	20-44	<u>&gt;</u> 45	Total	
ATLANTIC CITY	3,677	50%	1,665	140	10	4	4		1,823	
BAYONNE	4,576	29%	1,311	31	3	1			1,346	
BELLEVILLE TWP	2,601	36%	915	19	2	1	2		939	
BERKELEY TWP	1,565	3%	42	1					43	
BLOOMFIELD TWP	3,575	32%	1,131	26	2	2			1,161	
BRICK TWP	4,558	16%	712	6		1			719	
BRIDGEWATER TWP	3,052	18%	559	2			1		562	
CAMDEN	8,525	26%	2,166	61	8	1	7		2,243	
CHERRY HILL TWP	4,588	9%	413	5	1	1			420	
CLIFTON	6,187	32%	1,945	40	2	1	2		1,990	
EAST BRUNSWICK TWP	2,725	18%	493	4					497	
EAST ORANGE	5,534	38%	1,926	143	17	5	4	2	2,097	
EDISON TWP	7,774	24%	1,815	32	5		2		1,854	
EGG HARBOR TWP	3,341	23%	741	14			1		756	
ELIZABETH	11,792	45%	5,145	167	10	2	4		5,328	
EVESHAM TWP	3,117	1%	36						36	
EWING TWP	1,797	21%	358	10	2				370	
FORT LEE BORO	2,171	23%	492	4					496	
FRANKLIN TWP	5,182	5%	237	3	4				244	
FREEHOLD TWP	2,156	29%	618	13					631	
GALLOWAY TWP	2,240	17%	382	3	1	1			387	
GLOUCESTER TWP	4,647	3%	152	5					157	
HACKENSACK	3,223	42%	1,299	31	6	1	5		1,342	
HAMILTON TWP	5,480	16%	861	20	3		2		886	
HILLSBOROUGH TWP	2,736	19%	511	1		1			513	
HOBOKEN	3,779	30%	1,123	14	1				1,138	
HOWELL TWP	3,591	10%	367	6					373	
IRVINGTON TWP	4,993	54%	2,454	199	31	8	11	1	2,704	
JACKSON TWP	3,649	14%	506	5	1				512	
JERSEY CITY	20,393	42%	8,265	311	43	10	6	2	8,637	
KEARNY	2,681	34%	893	17	2		1		913	
LAKEWOOD TWP	18,872	41%	7,669	81	12	3	4		7,769	
LINDEN	2,726	34%	900	13	4				917	
MANALAPAN TWP	2,541	12%	295						295	

\*Large municipalities only; \*\*US Census 2010 data

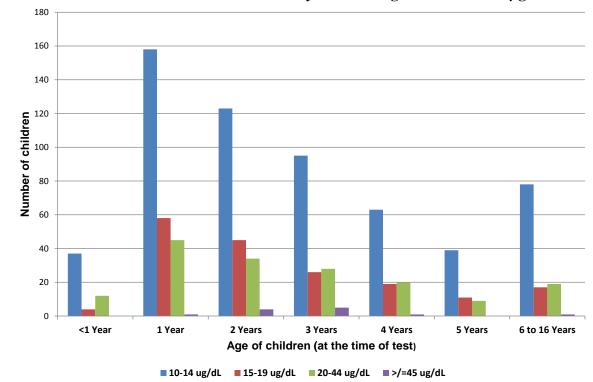
M	nicipality Total % Blood Lead Level (µg/dL)								
Municipality	Children**	Tested	<5	5-9	10-14	15-19	20–44	<u>&gt;</u> 45	Total
MANCHESTER TWP	1,372	9%	116	1					117
MARLBORO TWP	2,606	8%	212	2					214
MIDDLETOWN TWP	4,615	7%	319	5					324
MONROE TWP (Gloucester County)	2,794	2%	52	1					53
MONROE TWP (Middlesex County)	2,082	6%	125	1					126
MONTCLAIR TWP	2,701	20%	533	10	3	1			547
MOUNT LAUREL TWP	2,705	5%	144	1					145
NEW BRUNSWICK	4,753	41%	1,875	58	7	4	3		1,947
NEWARK	24,831	59%	13,727	776	65	22	15	2	14,607
NORTH BERGEN TWP	4,473	35%	1,539	19	3		1		1,562
NORTH BRUNSWICK TWP	3,502	21%	713	11	1				725
OLD BRIDGE TWP	4,548	12%	552	3	1				556
PARSIPPANY TROY HILLS TWP	3,671	3%	111	5	1				117
PASSAIC	8,226	55%	4,373	151	16	7	1		4,548
PATERSON	13,987	46%	6,021	330	35	9	11		6,406
PENNSAUKEN TWP	2,696	15%	387	10		1		1	399
PERTH AMBOY	4,756	42%	1,959	35	3		2		1,999
PISCATAWAY TWP	3,903	23%	867	18		1			886
PLAINFIELD	4,961	58%	2,711	130	17	4			2,862
SAYREVILLE BORO	3,338	15%	489	7					496
SOUTH BRUNSWICK TWP	3,130	4%	110	2	2				114
TEANECK TWP	3,142	19%	562	21	2		2		587
TOMS RIVER	5,617	23%	1,271	18	1		1		1,291
TRENTON	7,998	43%	3,253	190	19	7	7	1	3,477
UNION	5,742	37%	2,088	43	3		2		2,136
UNION TWP	3,701	31%	1,115	19	1				1,135
VINELAND	5,058	26%	1,302	23	2				1,327
WASHINGTON TWP	2,968	2%	45						45
WAYNE TWP	3,105	20%	598	9					607
WEST NEW YORK	4,258	52%	2,155	35	2	2			2,194
WEST ORANGE TWP	3,635	25%	898	17	7	1	1		924
WINSLOW TWP	3,336	3%	83	1					84
WOODBRIDGE TWP	7,326	12%	859	22	6	2			889
Not geocoded**	N/A		19,248	394					19,642
Total	335,580	31%	99,561	3,401	367	104	102	9	103,544

\*Large municipalities only; \*\*US Census 2010 data

County			BL	L (µg/dL)			
County	<5	5-9	10-14	15-19	20-44	≥45	Total
ATLANTIC	5,682	269	23	7	5		5,986
BERGEN	15,204	271	34	6	13		15,528
BURLINGTON	3,047	69	6	3	3		3,128
CAMDEN	5,847	147	17	8	10	1	6,030
CAPE MAY	803	24	2	2	2	1	834
CUMBERLAND	3,599	190	19	13	4		3,825
ESSEX	31,468	1,480	162	47	39	5	33,201
GLOUCESTER	1,590	34	7	3	2		1,636
HUDSON	24,215	571	66	14	10	2	24,878
HUNTERDON	1,046	24	9	1			1,080
MERCER	7,193	249	30	9	11	1	7,493
MIDDLESEX	15,843	294	33	8	9		16,187
MONMOUTH	8,077	190	13	7	2		8,289
MORRIS	4,657	58	13	4	9		4,741
OCEAN	12,803	141	16	4	5		12,969
PASSAIC	17,670	609	64	21	18		18,382
SALEM	823	79	10	1	4		917
SOMERSET	3,494	30	6	3	2		3,535
SUSSEX	1,300	12	1				1,313
UNION	17,309	450	45	13	10	2	17,829
WARREN	1,151	36	4	2			1,193
Not Specified	22,580	448					23,028
Total	205,401	5,675	580	176	158	12	212,002

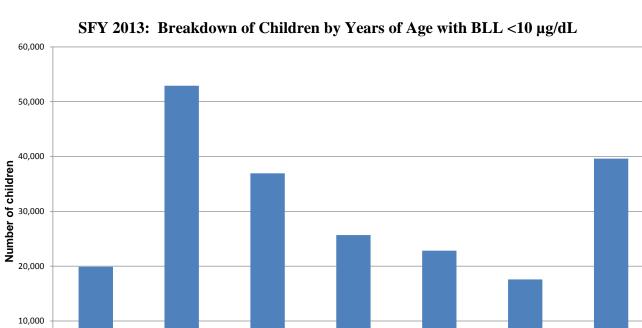
SFY 2013: Number of Children (<17 years of age) by BLL and County of Residence

#### Figure 4a



SFY 2013: Breakdown of Children by Years of Age with BLL ≥10 µg/dL





3 Years

Age of children (at the time of test)

4 Years

5 Years

6 to 16 Years

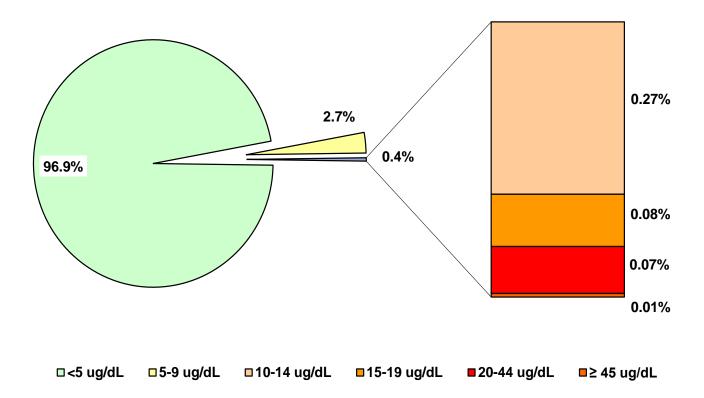
2 Years

0

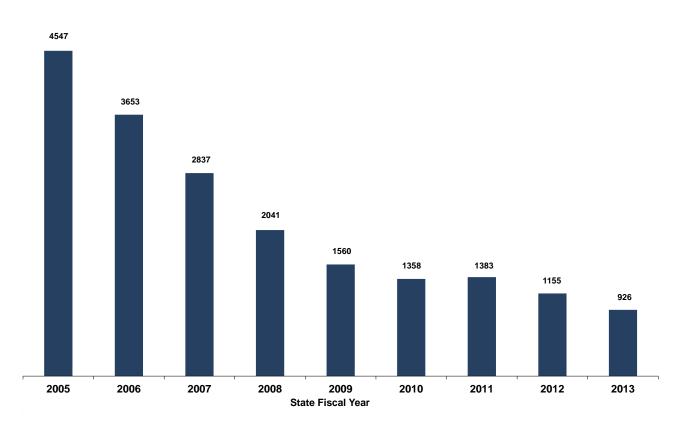
<1 Year

1 Year

SFY 2013: Percentage of Children (<17 years of age) by BLL (n=212,002)

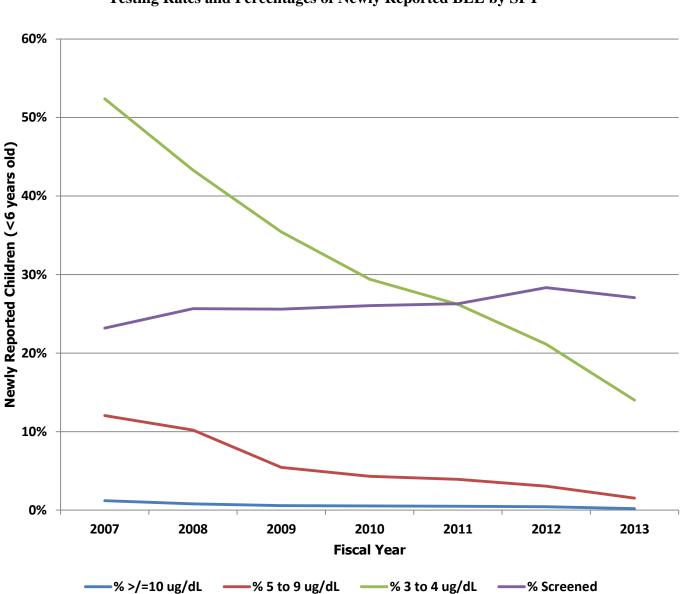


# Figure 6a



# Number of Children (<17 years of age) with BLL $\geq 10 \ \mu g/dL$ by SFY





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

While the testing rate is generally increasing, the percentage of EBLL is consistently declining. The percentage of newly reported children with BLL 5  $\mu$ g/dL to 9  $\mu$ g/dL is also declining.

#### Change in the Number of Children Screened\* in Superstorm Sandy Most Affected Counties\*\* as Compared to the Preceding Fiscal Year<sup>@</sup>

County	2011	2012	2013
Atlantic	+339	+149	+3
Bergen	+370	+174	-78
Cape May	+38	+12	-69
Essex	-499	-120	-9
Hudson	+229	+500	-173
Middlesex	+106	+219	-189
Monmouth	-129	+87	-250
Ocean	+224	+1,098	-181
Union	-340	-61	-136
Total change in the number of children screened within Sandy affected counties	+338	+2058	-1082
Statewide overall increase/decrease in the number of children screened	-2,790	+3,282	-4273

• For the first time in the last three SFYs, there was a decline in screening within the Superstorm Sandy affected counties. Prior to the storm, these counties had been contributing towards the increase in statewide screening (FY 2012) or have not contributed towards decrease in statewide screening (FY 2011).

\*children six (6) to 26 months of age screened between October 29 and June 30, inclusive – the months in the State Fiscal Year 2013 during which the State was most affected by Superstorm Sandy. <sup>®</sup>Counting records with geocoded addresses only \*\*As per Federal Emergency Management Administration (FEMA)

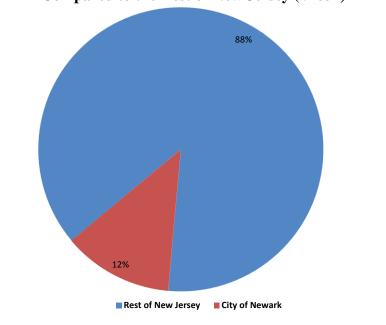
#### **CHAPTER THREE**

#### SPOTLIGHT ON THE CITY OF NEWARK

The City of Newark has the greatest known burden of lead-poisoned children compared to any other local board of health in the State. This large municipality comprised 12% of the State's children younger than six (6) years of age with an EBLL during SFY 2013. Additionally, in SFY 2013 it comprised 17% of the total number of children younger than six (6) years of age with an EBLL in all large municipalities.

Of all children\* (<6 years of age) residing in the city of Newark, 0.42% were reported with an EBLL during SFY 2014. By contrast, in two comparable large municipalities (by population\*) this percentage was 0.30% (Jersey City) and 0.39% (Paterson).

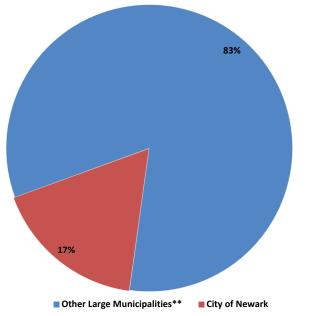
The City of Newark has worked to address the issue of childhood lead poisoning through several means and has been aggressive in obtaining grants from governmental and non-governmental sources In addition, the City of Newark established and locally administers the State's only Lead Safe Houses, which are lead-free, municipal-owned properties. The Lead Safe Houses are used to relocate residents who have a lead-poisoned child when the family has no other housing alternatives. This is a great achievement that other municipalities have expressed an interest in exploring. Further, the City of Newark provides a primary prevention-focused, community-based presence through the Newark Partnership for Lead Safe Children. This partnership provides lead poisoning prevention education and outreach opportunities to residents and property owners.



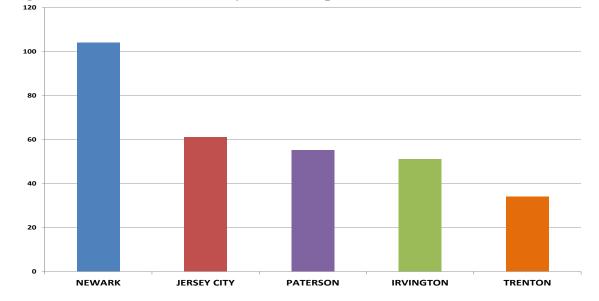
SFY 2013: Percentage of EBLL Cases in the City of Newark Compared to the Rest of New Jersey (*n=834*)



SFY 2013: Percentage of EBLL Cases in the City of Newark Compared to Other Large Municipalities in New Jersey (*n=603*)



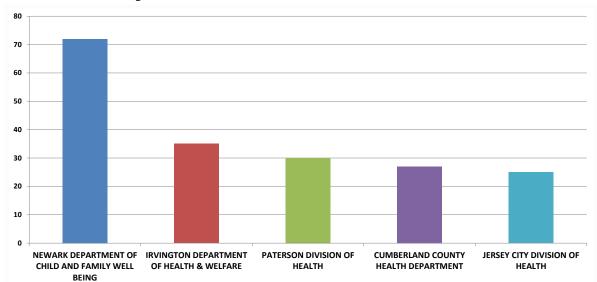
There is a disproportionate distribution of lead-poisoned children in the City of Newark compared to the rest of the State and other large municipalities. The data are based on the total number of individual children younger than six (6) years of age who have a confirmed EBLL. Of the 153 children identified in the City of Newark during SFY 2013, only the highest blood lead test per child is counted.



SFY 2013: Top Five Large Municipalities (population of >35,000) with Highest Number of Children (<6 years old) Reported with Elevated Blood Lead Levels

There is a disproportionate distribution of lead-poisoned children in the City of Newark compared to other large municipalities in New Jersey. The data are based on the total number of children who have a confirmed EBLL test. Of the children reported with an EBLL during SFY 2013, only the highest blood lead test per child is counted.

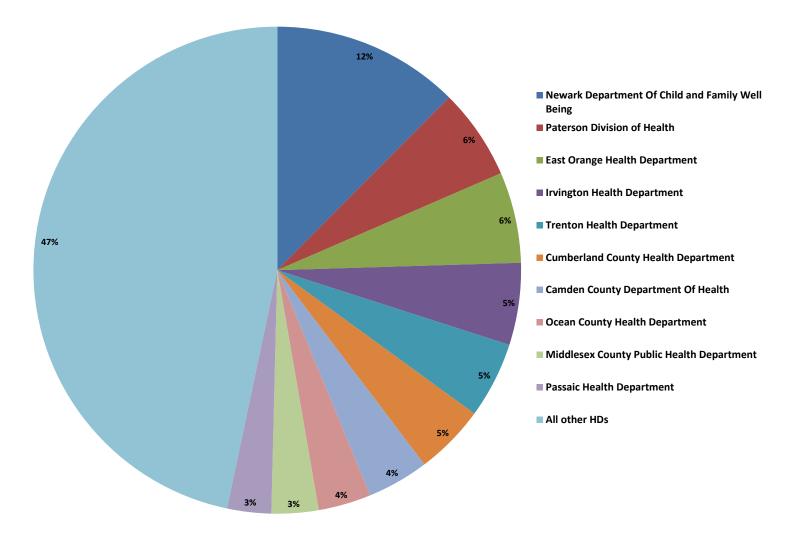
Figure 10



SFY 2013: Top Five Local Boards of Health with ≥20 New Environmental Cases

There is a disproportionate distribution of lead-poisoned children in the Newark Department of Child and Family Well-Being catchment area compared to other Local Boards of Health in New Jersey. The data are based on the total number of new environmental cases opened during SFY 2013. A new environmental case is opened based on child's EBLL. Once a case is opened, the Local Board of Health is required to conduct an environmental investigation as per N.J.A.C. §8:51-4.3.

#### SFY 2013: Top Ten Local Boards of Health Comprising the Highest Percentages\* of New EBLL Cases and Compared to All Other Local Boards of Health



There is a disproportionate distribution of lead-poisoned children within the jurisdiction of Newark Department of Child and Family Well-Being compared to other Local Boards of Health in New Jersey. The data are based on the percentage of new cases of EBLL reported during FY 2013.

\*Percent share of all new cases of lead poisoning during FY 2013 in the entire State.

#### **CHAPTER FOUR**

## ENVIRONMENTAL INVESTIGATIONS BY LOCAL BOARDS OF HEALTH

New Jersey law (N.J.S.A. § 24:14A-6) requires Local Boards of Health to investigate all reported cases of childhood lead poisoning (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 lead-poisoned child are specified in N.J.A.C. § 8:51. The Local Board of Health must conduct an inspection of the child's primary residence and any secondary address, such as a child care center, the home of a relative or babysitter, or wherever the child spends at least 10 hours per week. If the child moves, 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 inspector, with the public health nurse, speaks to the child's parent/guardian and completes a questionnaire to help determine any other potential sources of exposure to lead.

In addition, the Local Board of Health arranges for a home visit by a public health nurse to educate the parents/guardians about lead poisoning and the steps that they can take to protect their child from further exposure. The public health nurse also provides ongoing case management services to assist the family, including but not limited to, receiving follow-up testing, medical treatment, and social services that may be necessary to address the effects of their child's exposure to lead.

The data listed in Tables 7, 8, and 9 in this chapter reflect the results of environmental investigations as reported to the Department by Local Boards of Health. The data are accurate to the extent that the Local Boards of Health make complete and timely reports to the Department through the electronic childhood lead poisoning information database. It is possible that additional inspections and/or abatements may have been completed, but not reported by Local Boards of Health.

Table 10 shows the environmental case activity within SFY 2013 by each Local Board of Health.

County Name	Cases Referred	Investigation Required	Investigation Completed	% Investigation Completed	Abatement Required	Abatement Completed	% Abatement Completed
ATLANTIC	12	10	10	10 100% 6		5	83%
BERGEN	29	17	16	94%	8	4	50%
BURLINGTON	14	12	12	100%	7	4	57%
CAMDEN	16	8	7	88%	4	1	25%
CAPE MAY	7	5	5	100%	3	1	33%
CUMBERLAND	28	24	24	100%	13	11	85%
ESSEX	147	115	81	70%	45	26	58%
GLOUCESTER	12	9	9	100%	6	3	50%
HUDSON	37	23	23	100%	6	1	17%
HUNTERDON	2	2	2	100%	2	2	100%
MERCER	26	23	23	100%	17	11	65%
MIDDLESEX	21	7	7	100%	2	0	0%
MONMOUTH	11	4	4	100%	2	2	100%
MORRIS	15	7	5	71%	5	2	40%
OCEAN	19	16	16	100%	9	9	100%
PASSAIC	48	40	39	98%	35	24	69%
SALEM	6	5	5	100%	5	2	40%
SOMERSET	8	1	1	100%	1	1	100%
SUSSEX	1	1	1	100%	0	0	N/A
UNION	35	14	14	100%	10	5	50%
WARREN	4	4	4	100%	2	2	100%
Total	498	347	309	89%	188	116	62%

#### SFY 2013: Environmental Case Activity Status by County

Table 7 above displays the profile of environmental case activity within SFY 2013 for each county, based on the number of EBLL reports (referrals) for new environmental cases sent to the appropriate Local Board of Health.

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

Local Board of Health	Cases Referred	Investigation Required	Investigation Completed	% Investigation Completed	Abatement Required	Abatement Completed	% Abatement Completed
Newark Dept of Child and Family Well Being	72	54	23	43%	11	0	0%
Irvington Dept of Health and Welfare	35	27	26	96%	20	8	40%
Paterson Division of Health	30	28	27	96%	24	14	58%
Cumberland County Health Dept	27	23	23	100%	19	11	58%
Jersey City Division of Health	25	14	14	100%	9	1	11%
Trenton Dept of Health and Human Svcs	21	19	19	100%	14	9	64%

SFY 2013: Local Boards of Health with ≥20 New Environmental Cases

See Table 10 for complete data on the status of all EBLL cases referred to Local Boards of Health during SFY 2013.

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

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	615	84%	113	350	62	85%
2008	750	581	487	84%	94	256	20	93%
2009	583	500	500	100%	0	330	23	93%
2010	450	411	411	100%	0	220	66	76%
2011	573	573	546	100%	0	260	70	79%
2012	874	421	390	92%	31	163	72	69%
2013	502	354	318	90%	36	129	59	69%

#### **Current Environmental Case Investigation Status by SFY 1997-2013**

\*Based on the information entered into the Childhood Lead Poisoning Information Database as of September 30, 2013 by Local Boards of Health.

Table 9 illustrates how 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 a number of factors. These factors include:

- difficulty identifying and communicating with absentee property owners;
- lengthy enforcement actions and court proceedings against recalcitrant property owners;

• delays in contracting with and 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.

Local Board of Health	Cases Referred	Investigation Required	Investigation Completed	Abatement Required	Abatement Completed
ATLANTIC CITY HEALTH DEPARTMENT	4	4	4	4	2
ATLANTIC COUNTY HEALTH DEPARTMENT	8	6	6	4	3
BAYONNE DEPARTMENT OF HEALTH	3	3	3	1	0
BERGEN COUNTY DEPARTMENT OF HEALTH SERVICES	4	2	2	1	1
BERGENFIELD HEALTH DEPARTMENT	1	0	0	0	0
BLOOMFIELD DEPARTMENT OF HEALTH	3	2	1	1	1
BRIDGEWATER TOWNSHIP DEPARTMENT OF HEALTH	3	1	1	1	1
BURLINGTON COUNTY HEALTH DEPARTMENT	14	13	13	7	4
CAMDEN COUNTY DEPARTMENT OF HEALTH	16	8	7	5	1
CAPE MAY COUNTY HEALTH DEPARTMENT	7	5	5	1	1
CLIFTON HEALTH DEPARTMENT	4	3	3	2	2
CUMBERLAND COUNTY HEALTH DEPARTMENT	27	23	23	19	11
DOVER HEALTH DEPARTMENT	2	1	1	1	1
EAST ORANGE HEALTH DEPARTMENT	16	15	15	11	8
EDISON DEPARTMENT OF HEALTH & HUMAN RESOURCES	3	0	0	0	0
ELIZABETH DEPARTMENT OF HEALTH & HUMAN SERVICES	9	7	7	3	3
ELMWOOD PARK DEPARTMENT OF HEALTH	2	1	1	0	0
ENGLEWOOD HEALTH DEPARTMENT	2	0	0	0	0
EWING TOWNSHIP HEALTH DEPARTMENT	1	1	1	1	1
FAIR LAWN HEALTH DEPARTMENT	2	1	0	0	0
FRANKLIN TOWNSHIP HEALTH DEPARTMENT	3	0	0	0	0
FREEHOLD AREA HEALTH DEPARTMENT	1	1	1	0	0
GLOUCESTER COUNTY DEPARTMENT OF HEALTH	12	9	9	6	3
HACKENSACK HEALTH DEPARTMENT	10	8	8	3	2
HAMILTON TOWNSHIP DIVISION OF HEALTH	2	1	1	0	0
HARRISON BOARD OF HEALTH	1	1	1	0	0
HUNTERDON COUNTY DEPARTMENT OF HEALTH	2	2	2	2	2
IRVINGTON DEPARTMENT OF HEALTH & WELFARE	35	27	26	20	8
JERSEY CITY DIVISION OF HEALTH	25	14	14	9	1
KEARNY DEPARTMENT OF HEALTH	1	0	0	0	0
LINCOLN PARK HEALTH DEPARTMENT	1	0	0	0	0
LINDEN BOARD OF HEALTH	2	0	0	0	0
LONG BRANCH DEPARTMENT OF HEALTH	1	0	0	0	0
MADISON BORO BOARD OF HEALTH	3	1	0	0	0

\*Local Boards of Health that had at least one environmental case opened during SFY 2013

Local Board of Health	Cases Referred	Investigation Required	Investigation Completed	Abatement Required	Abatement Completed
MAPLEWOOD HEALTH DEPARTMENT	1	1	1	1	0
MID-BERGEN REGIONAL HEALTH COMMISSION	4	3	3	2	1
MIDDLESEX COUNTY PUBLIC HEALTH DEPARTMENT	10	6	6	2	0
MONMOUTH COUNTY HEALTH DEPARTMENT	6	2	2	2	1
MONMOUTH COUNTY REGIONAL HEALTH COMMISSION	3	1	1	1	1
MONTCLAIR HEALTH DEPARTMENT	3	1	1	1	1
MORRISTOWN DIVISION OF HEALTH	4	4	3	3	1
NEWARK DEPARTMENT OF CHILD AND FAMILY WELL BEING	72	54	23	11	0
NORTH BERGEN HEALTH DEPARTMENT	3	2	2	2	0
OCEAN COUNTY HEALTH DEPARTMENT	19	16	16	9	9
PASSAIC CITY HEALTH DEPARTMENT	13	9	9	9	8
PATERSON DIVISION OF HEALTH	30	28	27	24	14
PLAINFIELD HEALTH DEPARTMENT	10	6	6	4	1
PRINCETON REGIONAL HEALTH COMMISSION	1	1	1	0	1
RAHWAY HEALTH DEPARTMENT	6	0	0	0	0
RANDOLPH TOWNSHIP BOARD OF HEALTH	1	0	0	0	0
ROCKAWAY TOWNSHIP HEALTH DEPARTMENT	3	1	1	1	0
ROSELLE HEALTH DEPARTMENT	4	0	0	0	0
SALEM COUNTY DEPARTMENT OF HEALTH	6	5	5	5	2
SOMERSET COUNTY HEALTH DEPARTMENT	2	0	0	0	0
SOUTH BRUNSWICK HEALTH DEPARTMENT	2	0	0	0	0
SOUTH ORANGE HEALTH DEPARTMENT	1	1	1	1	0
SUSSEX COUNTY DEPT HEALTH, PUB SAFE & SR SERVICES	1	1	1	0	0
TEANECK DEPARTMENT OF HEALTH & HUMAN SERVICES	3	3	2	1	0
TOWNSHIP OF CRANFORD DEPARTMENT OF HEALTH	2	1	1	1	1
TOWNSHIP OF UNION DEPARTMENT OF HEALTH	1	0	0	0	0
TRENTON DEPT OF HEALTH & HUMAN SERVICES	21	19	19	14	9
VINELAND DEPARTMENT OF HEALTH	1	1	1	0	0
WARREN COUNTY HEALTH DEPARTMENT	4	4	4	2	2
WASHINGTON TWP LOCAL HEATLH AGENCY (BERGEN COUNTY)	1	0	0	0	0
WEST MILFORD TOWNSHIP HEALTH DEPARTMENT	1	0	0	0	0
WEST NEW YORK HEALTH DEPARTMENT	4	3	3	0	0
WEST ORANGE HEALTH DEPARTMENT	16	14	13	11	8
WEST WINDSOR TOWNSHIP HEALTH DEPARTMENT	1	1	1	0	0
WESTFIELD REGIONAL HEALTH DEPARTMENT	1	1	1	1	0
WESTWOOD HEALTH DEPARTMENT	1	0	0	0	0
WOODBRIDGE TOWNSHIP DEPT OF HEALTH & HUMAN SVCS	6	1	1	1	0

\*Local Boards of Health that had at least one environmental case opened during SFY 2013

# **CHAPTER FIVE**

# ADDRESSING CHILDHOOD LEAD POISONING IN NEW JERSEY

#### Healthy People 2020:

In October 2011, the U.S. Department of Health and Human Services released *Healthy People 2020* that established health objectives for the Nation for the next 10 years.

Objective: Eliminate EBLLs in children.

Baseline: 0.9 percent of children in the United States had EBLLs in 2005-2008 Target: Not Applicable (Target-Setting Method: This measure is being tracked for informational purposes. If warranted, a target will be set during the decade.) Data Source: National Health and Nutrition Examination Survey (NHANES), CDC, NCHS

Objective: Reduce the mean BLLs in children. Baseline: 1.5  $\mu$ g/dL Children one (1) to five (5) years of age in the United States had an average BLL of 1.5  $\mu$ g/dL in 2005–2008 Target: 1.4  $\mu$ g/dL Average BLL in children one (1) to five (5) years of age (10 percent improvement) Data Source: National Health and Nutrition Examination Survey (NHANES), CDC, NCHS

The New Jersey Department of Health's goal is to reduce, and ultimately eliminate, childhood lead poisoning as a public health priority in New Jersey, which supports these national objectives.

#### Healthy New Jersey 2020 Objectives:

- Reduce the proportion of children aged one (1) to five (5) years who have an initial BLL  $\geq 10 \mu g/dL$  (Baseline: 1.3%; Target: 0.9%)
- Reduce mean blood lead levels in children aged one (1) to five (5) years to an average blood lead level of  $\leq 2.9 \ \mu g/dL$  (Baseline: 3.2  $\mu g/dL$ )

#### FY 2013 Accomplishments

#### A. Increasing Testing Rates

LeadCare II Pilot Project: The pilot project used the LeadCare II analyzer, a point-of-care device that delivers a BLL result, by capillary blood draw, in three (3) minutes. This point-of-care device allows users to educate families about specific BLL and immediately care for and track children that present with an EBLL. As of June 30, 2013 there were 1,079 children (<17 years of age) tested through this project. Among those tested, 663 children were never tested before in their lifetime. (Pilot study end date: December 2013.) The participating Local Boards of Health are the counties of Camden, Cumberland, Monmouth, Middlesex, Salem, and the cities of Hackensack, Jersey City, Morristown, and Passaic.

## B. <u>Surveillance</u>

<u>Electronic Laboratory Reporting (ELR)</u>: The Department witnessed an increase of traditional laboratories and point-of-care test users who electronically reported blood lead test results. Currently, 99.4% of BLL are reported electronically while the remainders are reported via facsimile or regular mail. This is an increase from 92% ELR rate in SFY 2004.

<u>Healthy New Jersey 2020 Target</u>: The proportion of children aged one (1) to five (5) years who have an initial blood lead level  $\geq 10 \mu g/dL$  is 0.5%. Mean blood lead level in children aged one (1) to five (5) years is 2.4  $\mu g/dL$ .