

CHILDHOOD LEAD POISONING IN NEW JERSEY

ANNUAL REPORT

**FISCAL YEAR 2007
(July 1, 2006 – June 30, 2007)**

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WHY IS LEAD POISONING IN CHILDREN A PRIORITY FOR NEW JERSEY?

Lead is a heavy metal that has been widely used in industrial processes and consumer products. When absorbed into the human body, lead affects the blood, kidneys and nervous system. Lead's effects on the nervous system are particularly serious and can cause learning disabilities, hyperactivity, decreased hearing, mental retardation and possible death. Lead is particularly hazardous to children between six months and six years of age because their neurological system and organs are still developing. Children who have suffered from the adverse effects of lead exposure for an extended period of time are frequently in need of special health and educational services in order to assist them to develop to their potential as productive members of society.

The primary method for lead to enter the body is the ingestion of lead containing substances. Lead was removed from gasoline in the United States in the early 1980's. This action is credited with reducing the level of lead in the air, and thereby the amount of lead inhaled by children. However, significant amounts of lead remain in the environment where it poses a threat to children. Some common lead containing substances that are ingested or inhaled by children include:

- lead-based paint;
- dust and soil;
- tap water;
- food stored in lead soldered cans or improperly glazed pottery; and
- traditional folk remedies and cosmetics containing lead.

All children in New Jersey are at risk because lead-based paint and other lead-containing substances are present throughout the environment. Some children, however, are at particularly high risk due to exposure to high dose sources of lead in their immediate environment. These potential high dose sources include:

- leaded paint that is peeling, chipping or otherwise in a deteriorated condition;
- lead-contaminated dust created during removal or disturbance of leaded paint in the process of home renovation; and
- lead-contaminated dust brought into the home by adults who work in an occupation that involves lead or materials containing lead, or who engage in a hobby where lead is used.

Recently, there has been much attention focused by the media on the increasing number of foreign imports coming into the United States being tainted with dangerous levels of lead. This has been alarming especially when these imports consist of toys and other products used primarily by children. However, in New Jersey, today, the primary lead hazard to children comes from lead-based paint. In recognition of the danger that lead-based paint presents to children, such paint was regulated for residential use in New Jersey in 1971, and banned nationwide in 1978. This ban has effectively reduced the risk of lead exposure for children who live in houses built after 1978, but any house built before 1978 may still contain leaded paint. The highest risk for children is found in houses built before 1950, when paints contained a very high percentage of lead. There are nearly one million housing units in New Jersey, 30% of the housing in the state, which were built before 1950. Every county in the State has more than 9,000 housing units built before 1950.

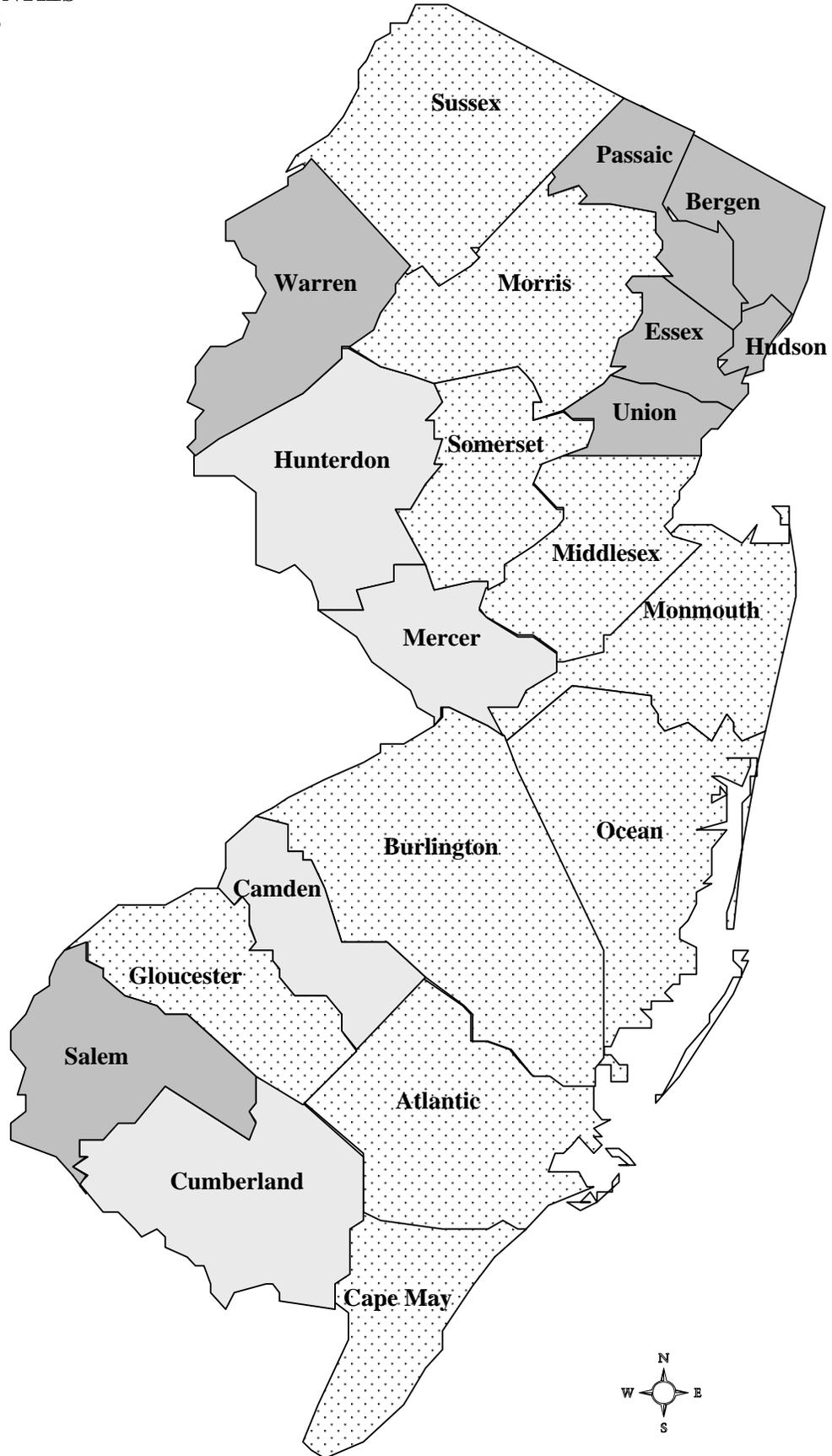
(Table 1 and Map 1)

Table 1
HOUSING BUILT BEFORE 1950 IN NEW JERSEY

County	Total Housing Units	# of Units Built Pre-1950	% of Units Built Pre-1950
Atlantic	114,090	24,868	21.8%
Bergen	339,820	126,125	37.1%
Burlington	161,311	26,363	16.3%
Camden	199,679	57,949	29.0%
Cape May	91,047	20,248	22.2%
Cumberland	52,863	16,316	30.9%
Essex	301,011	142,297	47.3%
Gloucester	95,054	19,029	20.0%
Hudson	240,618	125,180	52.0%
Hunterdon	45,032	11,720	26.0%
Mercer	133,280	44,117	33.1%
Middlesex	273,637	52,430	19.2%
Monmouth	240,884	56,969	23.6%
Morris	174,379	40,039	23.0%
Ocean	248,711	24,076	9.7%
Passaic	170,048	70,979	41.7%
Salem	26,158	9,623	36.8%
Somerset	112,023	21,286	19.0%
Sussex	56,528	12,221	21.6%
Union	192,945	82,231	42.6%
Warren	41,157	14,786	35.9%
Statewide	3,310,275	998,852	30.2%
<i>Source: 2000 U.S. Census of Housing and Population</i>			

Map 1

**PERCENT PRE-1950 HOUSING UNITS
NEW JERSEY COUNTIES
2000 U.S. CENSUS**



EXECUTIVE SUMMARY

N.J.A.C. 8:51A requires the protection of children under six years of age from the toxic effects of lead exposure by requiring lead screening pursuant to N.J.S.A. 26:2-137.2 et seq. (P.L. 1995, c 328). This Annual Report on Childhood Lead Poisoning in New Jersey for Fiscal Year (FY) 2007 is submitted in compliance with N.J.S.A. 26:2-135, which requires the Commissioner of Health and Senior Services 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 fiscal year.

As of FY 2006, the Department of Health and Senior Service (DHSS) has been in contract with Welligent, Inc., the vendor, for hosting and support of their web based data/surveillance tracking system, called LeadTrax. LeadTrax was implemented on the first day of FY 2007, when the entire data from the previous surveillance system used by DHSS (Childhood Lead Poisoning Surveillance System – CLPSS) was rolled-over to LeadTrax. Since then, LeadTrax has been the mainstay for DHSS' childhood lead poisoning surveillance and case management data. In addition to state level surveillance staff, designated users in the local health departments can access children's blood lead test data on LeadTrax by means of secure log-in on the Welligent website, and can also document/track case management data and environmental intervention activity data.

Screening rates for the FY 2007 Annual Report were prepared using the data reports derived from LeadTrax, unlike all previous annual reports where such information was derived from the old data system. LeadTrax has the capability and tools for data cleaning of the records. Records originally stored in the system as separate records, because of variation in the spelling and/or date of birth reported by the laboratories, are now matched and unduplicated. In preparing this report, the matched children's records were merged, prior to downloading the data reports for calculating screening rates. This resulted in a lower number of children's records (and therefore the screening rates as well) but provided a more accurate screening rate.

The number of children (<17 years old) tested for lead poisoning in FY 2007 was 186,041, a decrease of 7.2% over the 200,581 children tested during FY 2006. This number includes 91,249 children between six months and 29 months of age, the ages at which all children should be tested under State law. This number represents 41% of children 6 to 29 months who were supposed to be tested for lead in FY 2007.

While 183,204 (98.5%) children tested in New Jersey in FY 2007 had blood lead levels below the Centers for Disease Control and Prevention (CDC) threshold of 10 µg/dL, there were 2,837 (1.5%) children with a blood lead test result above this level. This included 482 children who had at least one test result of 20 µg/dL or greater (Figure 8). The distribution of results by blood lead level is shown in Figure 7.

The City of Newark is center stage in New Jersey's childhood lead poisoning elimination efforts. Newark surpasses by far any other large municipality in terms of the number of children (<6 years old) with elevated blood lead levels (EBL) (≥ 10 ug/dL). Newark city alone comprises 18% of the total number of children (<6 years old) with EBL in the entire State.

Chapter One

SCREENING CHILDREN FOR LEAD POISONING

In New Jersey, screening of children for blood lead is mandated at the age of one and two years. While the ideal is for all children to be tested at both one and two years of age, at a minimum all children should have at least one blood lead test done before their third birthday. Approximately 75% of the estimated numbers of children in New Jersey have had at least one blood lead test prior to reaching three years of age.

This chapter describes and depicts the screening statistics and trends based on the reports of blood lead tests received from the clinical laboratories.

Analysis to create the tables, graphs or charts is based on unduplicated children, counting only one test per child.

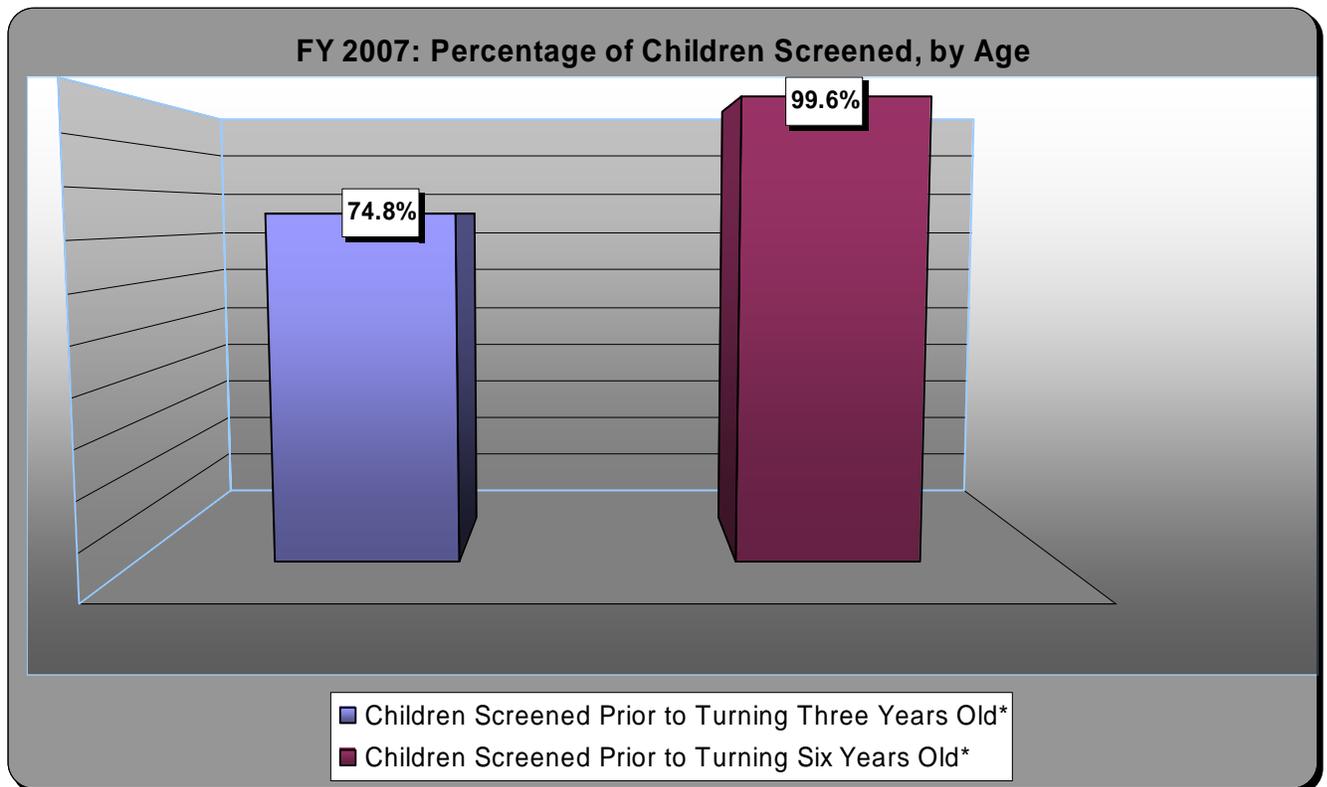
The tables and charts highlighting children between the age of 6 and 29 months closely represent the screening rates. However, the number on these tables and charts also include children that were screened during FY 2007 as their second screening test at two years of age, while they were already screened at the age of one year during FY 2006. The subsequent histograms have better resolution of the screening rates defined by age.

DHSS uses the age span of 6 to 29 months to capture data on tests that are performed either earlier than the age of 12 months or later than the age of 24 months, as not all children are tested exactly at the age of one and two years.

The charts represent the percentages of children that had a lead test done prior to turning three years and prior to turning six years old (Figure 1)

The following chart (Figure 1) represents percentage of the children that had a lead test done prior to turning three years old, and prior to turning six years old, respectively:

Figure 1

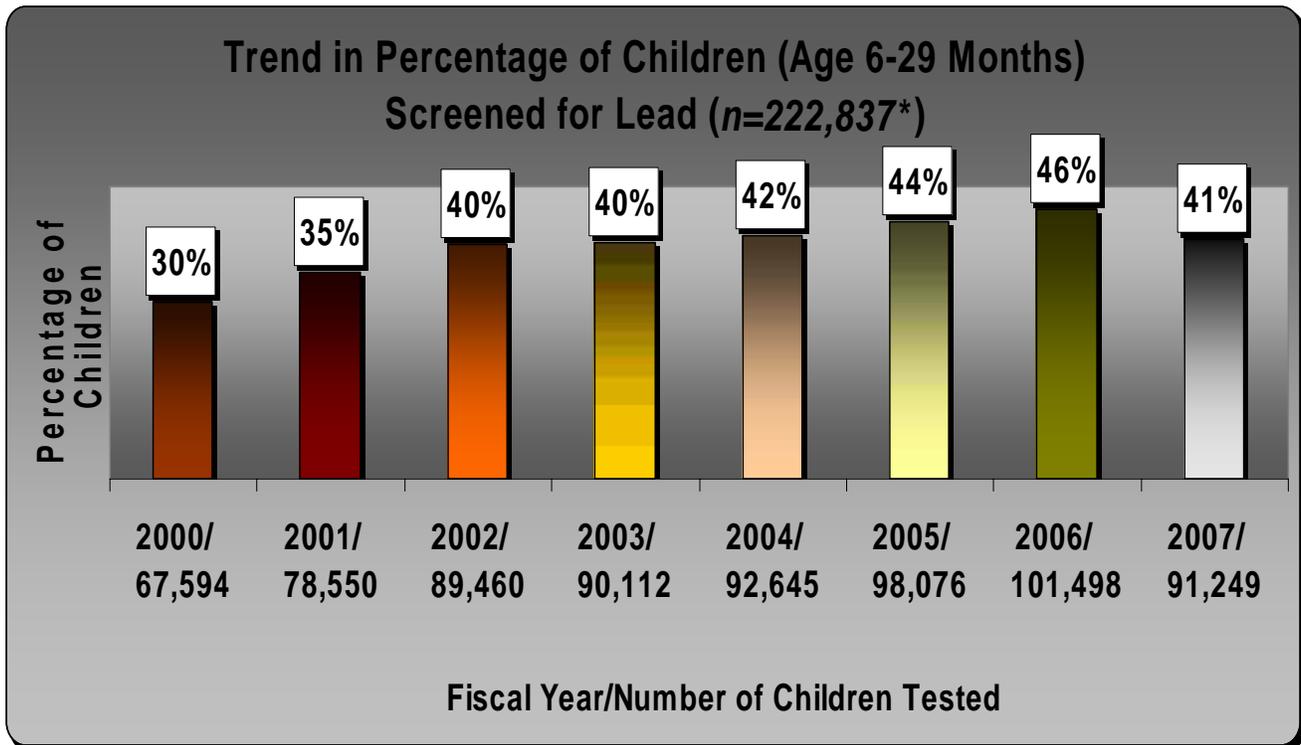


* = $\frac{\text{Number of children with at least one blood lead test prior to third birthday (86,883)} \times 100\%}{\text{Number of all children born** in NJ between July 1, 2003 and June 30, 2004 (116,187)}}$

* = $\frac{\text{Number of children with at least one blood lead test prior to sixth birthday (115,490)} \times 100\%}{\text{Number of all children born** in NJ between July 1, 2000 and June 30, 2001 (115,970)}}$

**Source: Birth Registry data

Figure 2



This bar chart displays the trend in the percentage/number of children screened between the ages of 6 and 29 months, by fiscal year.

**Denominator = Number of one and two year old children in New Jersey - Estimated based on US Census 2000 Data*

Explanation for the overall decline in the screening rates in FY2007:

Screening rates for the FY 2007 Annual Report was prepared using the data reports derived from LeadTrax, the surveillance and data system implemented by the DHSS as of July 2006.

In preparing this report, the matched (duplicate) children records were merged (un-duplicated) prior to downloading the data reports for calculating screening rates. This resulted in a lower number of children's records (and therefore the screening rates as well) than prior years, but provided a more accurate screening rate.

Previously, because the spellings and dates of birth of children reported by the laboratories are not always accurate or consistent, it caused the data system to store non-matching records as separate children. This resulted in a false high number of children in the data system. Screening rate calculation for these records would give a false higher number if not un-duplicated prior to downloading data report.

However, unlike the old data system, LeadTrax has the capability and tools for data cleaning (un-duplicating) of the records that belong to the same child but were originally stored in the system as separate records because of variation in the spelling and/or date of birth reported by the laboratories.

The following table compares the number of children (6 to 29 months old) tested during FY 2006 and FY 2007:

Table 2
CHANGES IN CHILDREN 6 TO 29 MONTHS OLD SCREENED
FY 2006-2007

	FY 2006	FY 2007	Change** 2006-07	Percent Change 2006-07
Number Children in New Jersey* = 222,837				
Number of Children Tested	101,498	91,249	-10,249	-10.1%
Percent Children Tested	46%	41%	-5%	-10.9%

*Estimated, based on the number of one- and two-year-old children in the US Census 2000

This table denotes the change in number and percentage of children tested
between the previous State Fiscal Year (SFY 2006) and SFY 2007

***For details of decline in the screening rates in FY 2007 as compared to FY 2006, please see the paragraph, "Explanation for the overall decline in the screening rates in FY 2007" on the previous page.*

The following two histograms depict screening profiles by the cohort of children born in FY 2006.

Each histogram shows the number of children born* during the fiscal year, and the number of children by age at their first blood lead test.

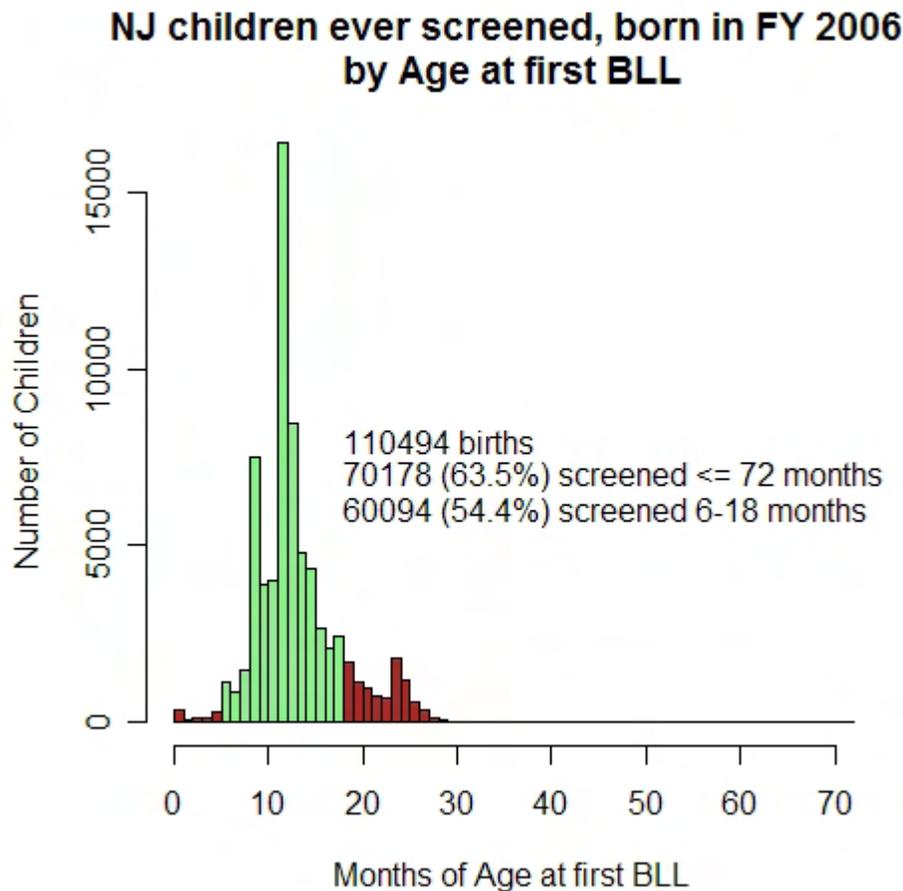
*Source: Birth registry data

Legend:

BLL = Blood Lead Level test

- = BLL between 6 and 18 months of age
- = BLL either before 6 months or after 18 months of age

Figure 3a



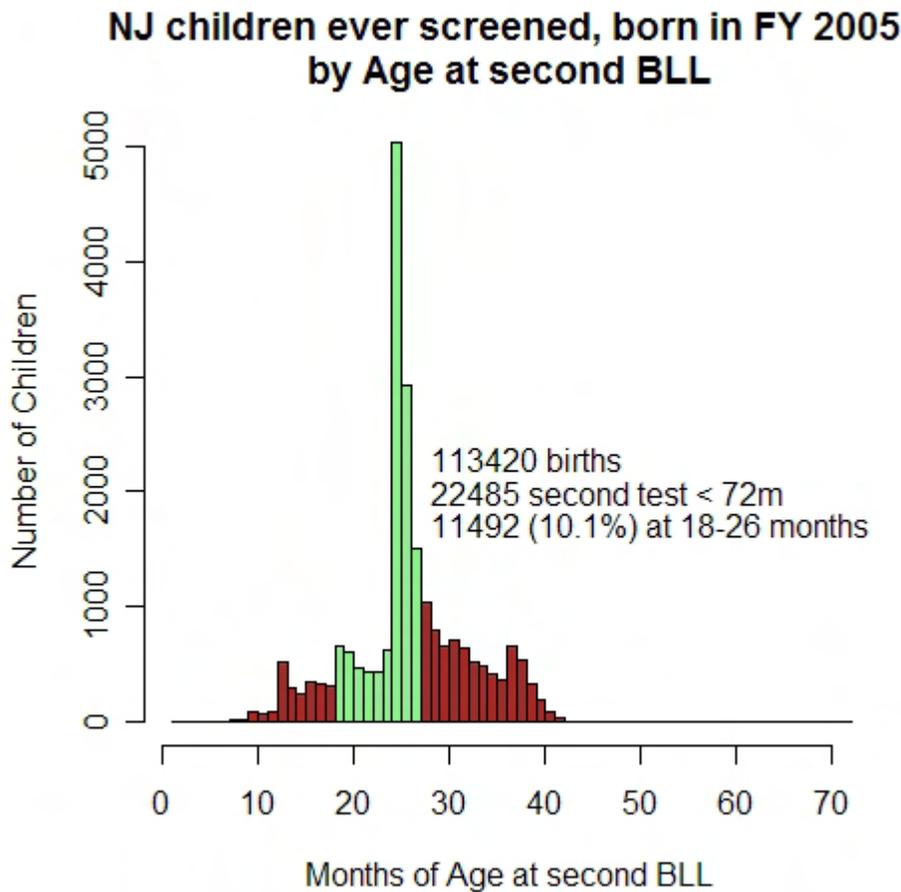
In the following histogram the age range of 18-26 months is used as an appropriate age for the second BLL test. This includes any child who had a first test, whether or not the first test was in the range of 6-17 months.

Legend:

BLL = Blood Lead Level test

- = BLL between 18 and 26 months of age
- = BLL either before 18 months or after 26 months of age

Figure 3b



Although the appropriately timed second test rate is low compared to the rate for the first test, there is some evidence of improvement:

<u>Fiscal Year</u>	<u>Percentage of children getting second test at the mandated age range</u>
FY 2000	6.1 %
FY 2001	7.0 %
FY 2002	7.6 %
FY 2003	8.1 %
FY 2004	8.9 %
FY 2005*	10.1 %

**The reason for reporting the second test data for FY 2005 is that the second test is required at the age of two, and the children that were born in FY 2005 would be two years old in FY 2007. The same data for the children born in FY 2006 and FY 2007 cannot be reported until after two years from their year of birth, i.e., in the Annual Reports for FY 2008 and FY 2009, respectively. For this reason, there will always be a reporting lag of two years for the second test.*

Chapter Two

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

In this chapter the tables and charts exhibit the statistics of testing performed for various ages and the prevalence of lead poisoning during FY2007 among all children less than 17 years of age.

Tables 3 and 4 and Figure 5 show the testing statistics and the prevalence of childhood lead poisoning among the children between the ages of 6 and 29 months in New Jersey by county of residence. The analyses behind the formulation of the tables are based on the number of unduplicated children, among the children reported during FY2007, counting only one test (highest* blood lead level reported during FY2007) per child. However, these tables and charts may also include some children that were screened during FY2007 as their *second* screening test at around two years of age, as these children were already screened at the age of one year during FY2006.

Tables 5, 6 and 7 display the testing statistics and the prevalence of lead poisoning among the children that were tested at the age of <6 years old during FY2007.

DHSS maintains a database containing all blood lead tests reported on the children <17 years of age. In order to exhibit the full picture of distribution of lead tests and the prevalence of lead poisoning among all children, Table 8 and Figures 6, 7 and 8 focus on the entire population of the children that were tested for blood lead levels at the age of <17 years old and reported during FY2007.

The children in the age groups of <6 years and <17 years old may have had one or more blood lead tests taken during their life time, either as a lead screening test 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 unduplicated children, among the children reported during FY2007, counting only one test per child (highest* blood lead level reported during FY2007).

**Current limitation: Laboratories do not always report complete sample information to specify the sample type (Venous or Capillary). Due to this limitation, some of the highest lead level results used may have been without a sample type.*

Table 3

**CHILDREN 6 TO 29 MONTHS OF AGE WITH LEAD TEST RESULTS
REPORTED IN FY2007 BY COUNTY OF RESIDENCE**

County	Total Children*	Percent Tested	Blood Lead Level (ug/dL)					Total
			<10	10-14	15-19	20-44	45+	
Atlantic	6,403	40.9%	2,586	21	7	6		2,620
Bergen	21,968	36.3%	7,900	37	21	11	2	7,971
Burlington	10,728	22.8%	2,435	8	2	1		2,446
Camden	13,663	35.4%	4,780	41	7	5	1	4,834
Cape May	2,103	25.7%	532	5	2	2		541
Cumberland	3,639	48.4%	1,678	41	20	20	1	1,760
Essex	22,734	48.4%	10,671	200	80	54	1	11,006
Gloucester	6,666	28.2%	1,861	13	2	4		1,880
Hudson	15,205	40.7%	6,104	44	16	21	2	6,187
Hunterdon	3,121	43.4%	1,350	1	4			1,355
Mercer	8,810	36.9%	3,188	42	10	10	3	3,253
Middlesex	19,683	41.1%	8,034	31	18	13		8,096
Monmouth	16,744	31.3%	5,179	35	14	6	2	5,236
Morris	12,987	36.8%	4,757	20	1	4		4,782
Ocean	12,765	30.6%	3,866	18	9	9		3,902
Passaic	14,232	49.3%	6,861	94	35	25		7,015
Salem	1,540	27.5%	415	3		5		423
Somerset	8,843	26.6%	2,329	14	3	5	1	2,352
Sussex	3,876	22.4%	864	2		2		868
Union	14,402	45.1%	6,381	72	23	17	1	6,494
Warren	2,725	42.4%	1,147	4	3	2		1,156
Zip unknown	N/A	N/A	7,069	3				7,072
Total	222,837	40.9%	89,987	749	277	222	14	91,249

*Estimated number of one and two year old children in New Jersey - based on US Census 2000

Table 4

**CHILDREN 6 TO 29 MONTHS OF AGE
WITH BLOOD LEAD TEST RESULTS REPORTED IN FY 2007
BY MUNICIPALITY OF RESIDENCE
(FOR MUNICIPALITIES WITH POPULATIONS > 35,000)**

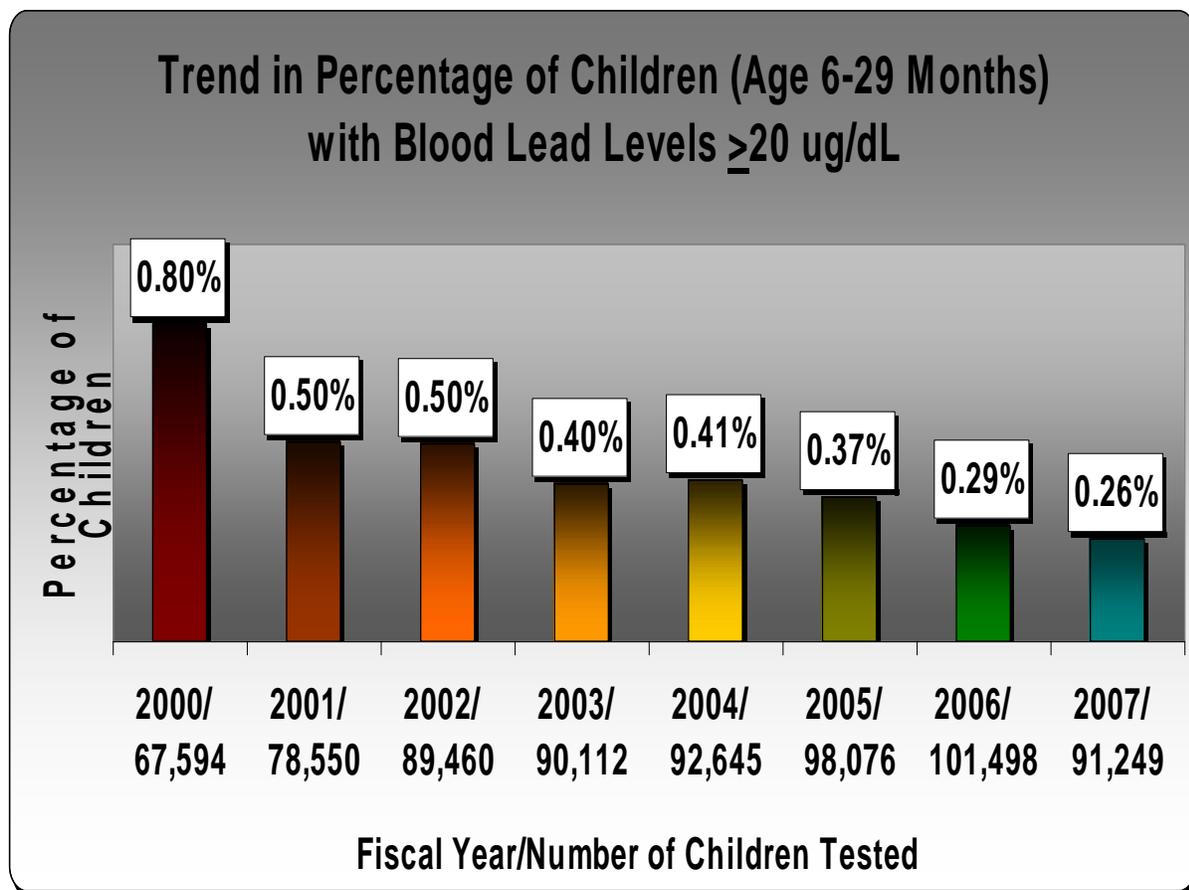
Municipality	Number of Children*	Percentage of Children Tested	Number of children by their Blood Lead Level					Total
			<10 ug/dL	10-14 ug/dL	15-19 ug/dL	20-44 ug/dL	≥45 ug/dL	
ATLANTIC CITY	1,186	52.3%	601	13	2	4		620
BAYONNE CITY	1,376	37.0%	501	6		2		509
BELLEVILLE TWP	836	59.2%	490	2	3			495
BERKELEY TWP	433	35.8%	154	1				155
BLOOMFIELD TWP	1,102	50.6%	553	5				558
BRICK TWP	1,847	19.9%	367	1				368
BRIDGEWATER TWP	1,300	16.9%	220					220
CAMDEN CITY	2,845	57.8%	1,615	23	4	3		1,645
CHERRY HILL TWP	1,591	28.9%	460					460
CLIFTON CITY	1,766	53.4%	933	7	1	2		943
DOVER TWP	1,915	19.1%	363	1	1			365
EAST BRUNSWICK TWP	1,065	30.4%	324					324
EAST ORANGE CITY	2,132	42.8%	871	27	9	6		913
EDISON TWP	2,481	40.2%	993	1	3			997
ELIZABETH CITY	3,700	52.6%	1,900	26	11	8		1,945
EVESHAM TWP	1,227	23.1%	283					283
EWING TWP	666	32.4%	215	1				216
FORT LEE BORO	766	34.9%	265	1	1			267
FRANKLIN TWP	1,488	66.5%	986	2		1		989
GLOUCESTER TWP	1,763	21.9%	384	2				386
HACKENSACK CITY	1,010	59.2%	591	3	2	2		598
HAMILTON TWP	1,981	42.9%	843	3	1	3		850
HILLSBOROUGH TWP	1,140	9.9%	113					113
HOBOKEN CITY	491	81.5%	399		1			400
IRVINGTON TWP	1,963	56.5%	1,067	27	11	5		1,110
JACKSON TWP	1,420	19.1%	271					271
JERSEY CITY	6,558	39.4%	2,531	28	13	13	1	2,586
KEARNY TOWN	918	43.6%	397	1		2		400
LAKEWOOD TWP	2,961	57.4%	1,672	13	8	8		1,701
LINDEN CITY	877	42.2%	368	2				370
MANCHESTER TWP	371	35.6%	132					132

Municipality	Number of Children*	Percentage of Children Tested	Number of children by their Blood Lead Level					Total
			<10 ug/dL	10-14 ug/dL	15-19 ug/dL	20-44 ug/dL	≥45 ug/dL	
MIDDLETOWN TWP	1,777	28.1%	495	2		1	1	499
MONTCLAIR TWP	1,048	34.4%	352	4		4		360
MOUNT LAUREL TWP	993	22.3%	220	1				221
NEW BRUNSWICK CITY	1,308	80.9%	1,033	11	8	6		1,058
NEWARK CITY	8,217	58.5%	4,639	102	39	29		4,809
NORTH BERGEN TWP	1,435	41.0%	587	1				588
NORTH BRUNSWICK TWP	1,009	39.5%	396	2		1		399
OLD BRIDGE TWP	1,700	30.1%	511					511
PARSIPPANY-TROY HILLS TWP	1,202	39.9%	476	3		1		480
PASSAIC CITY	2,607	71.5%	1,813	31	10	11		1,865
PATERSON CITY	4,973	47.9%	2,297	51	23	10		2,381
PENNSAUKEN TWP	873	40.8%	349	4	2	1		356
PERTH AMBOY CITY	1,474	56.6%	825	5	2	3		835
PISCATAWAY TWP	1,381	34.3%	472	1				473
PLAINFIELD CITY	1,492	63.2%	906	24	6	6	1	943
SAYREVILLE BORO	1,079	39.7%	424	2		2		428
SOUTH BRUNSWICK TWP	1,223	32.2%	393	1				394
TEANECK TWP	1,048	34.5%	359		2	1		362
TRENTON CITY	2,602	50.5%	1,258	36	10	7	3	1,314
UNION CITY	1,955	39.8%	766	7	2	3	1	779
UNION TWP	1,176	41.5%	484	3	1			488
VINELAND TWP	1,375	44.9%	607	4	5	2		618
WASHINGTON TWP	1,086	81.9%	887	2				889
WAYNE TWP	1,284	34.2%	438	1				439
WEST NEW YORK TOWN	1,174	39.0%	456	1		1		458
WEST ORANGE TWP	1,191	46.0%	530	7	8	3		548
WOODBRIIDGE TWP	2,495	37.3%	926	2	3			931
Unknown ZIP	N/A	N/A	7,095	3				7,098
Total	102,930	50.9%	51,488	508	192	151	7	52,346

*Estimated, based on number of 1 and 2 year old children in US Census 2000

This table exhibits the number of children tested between the age of 6 and 29 and their blood lead levels, by municipality.

Figure 5



This bar chart displays the trend in percentage of children (tested between 6 to 29 months of age) reported with blood lead levels of $20 \mu\text{g/dL}$ or above. Denominator=number of children tested between the ages of 6 and 29 months, during the fiscal year.

Table 5

Number of children under 6 years old, by county of their residence and their blood lead levels, reported during FY2007								
County	Number of Children by their Blood Lead Level							
	Number of Children*	% Tested	<10 ug/dL	10-14 ug/dL	15-19 ug/dL	20-44 ug/dL	45-69 ug/dL	Total
ATLANTIC	20,219	23%	4,480	50	15	13	1	4,559
BERGEN	66,984	18%	12,236	58	25	16	2	12,337
BURLINGTON	32,944	10%	3,393	15	5	5		3,418
CAMDEN	41,771	18%	7,568	87	15	12	2	7,684
CAPE MAY	6,477	14%	870	9	3	2		884
CUMBERLAND	11,200	29%	3,125	85	40	30	1	3,281
ESSEX	69,596	34%	22,575	494	172	114	7	23,362
GLOUCESTER	20,323	13%	2,591	16	5	4		2,616
HUDSON	46,455	26%	12,120	101	30	32	4	12,287
HUNTERDON	9,904	15%	1,515	4	6	1		1,526
MERCER	26,865	21%	5,510	94	19	18	3	5,644
MIDDLESEX	56,447	24%	13,245	61	26	17		13,349
MONMOUTH	51,242	16%	7,996	66	21	13	3	8,099
MORRIS	39,748	17%	6,685	30	2	7		6,724
OCEAN	38,870	16%	6,243	36	15	15		6,309
PASSAIC	43,600	31%	13,337	182	65	53	1	13,638
SALEM	4,760	13%	614	12	2	8		636
SOMERSET	26,764	13%	3,419	21	6	7	1	3,454
SUSSEX	11,982	10%	1,224	3		1		1,228
UNION	43,943	27%	11,631	115	39	26	2	11,813
WARREN	8,515	18%	1,540	7	4	3		1,554
ZIP Unknown	N/A	N/A	12,929	8	1			12,938
Total	678,609	23%	154,846	1,554	516	397	27	157,340

**Estimated, based on the US Census 2000 data*

The above table displays distribution of testing and prevalence of lead poisoning among children <6 years old, by their county of residence.

Table 6

**CHILDREN LESS THAN 6 YEARS OF AGE
WITH BLOOD LEAD TEST RESULTS REPORTED IN FY 2007
BY MUNICIPALITY OF RESIDENCE
(FOR MUNICIPALITIES WITH POPULATIONS > 35,000)**

Municipality	Number of Children*	% Tested	Blood Lead Level (ug/dL)					Total
			<10	10-14	15-19	20-44	45+	
Atlantic City	3,694	34.7%	1,242	25	7	6	1	1,281
Bayonne City	4,293	23.6%	997	11	1	3		1,012
Belleville Twp	2,543	37.6%	945	5	4	2		956
Berkeley Twp	1,289	17.2%	220	1		1		222
Bloomfield Twp	3,359	28.3%	941	9	1	1		952
Brick Twp	5,731	9.8%	558	5				563
Bridgewater Twp	3,632	8.5%	307					307
Camden City	8,894	35.8%	3,106	59	9	8		3,182
Cherry Hill Twp	4,757	14.0%	664	3				667
Clifton City	5,727	29.0%	1,642	14	1	4		1,661
Dover Twp	1,524	35.8%	540	2	1	2		545
East Brunswick Twp	3,375	14.9%	502	2				504
East Orange City	6,628	32.0%	2,021	65	23	13	1	2,123
Edison Twp	7,526	21.5%	1,612	4	3			1,619
Elizabeth City	11,110	37.4%	4,081	41	15	12	1	4,150
Evesham Twp	3,718	9.5%	355					355
Ewing Twp	1,950	19.3%	375	2				377
Fort Lee Boro	2,265	18.3%	413	1	1			415
Franklin Twp	4,087	25.3%	1,026	5	2	2		1,035
Gloucester Twp	4,845	10.4%	503	2				505
Hackensack City	2,916	39.3%	1,133	7	4	2	1	1,147
Hamilton Twp	6,048	18.3%	1,101	3	1	3		1,108
Hillsborough Twp	3,589	4.0%	144					144
Hoboken City	1,444	38.0%	547		1			548
Howell Twp	4,294	10.9%	465	3				468
Irvington twp	5,957	43.0%	2,460	67	19	14	2	2,562
Jackson Twp	4,271	9.4%	401					401
Jersey City	20,081	27.0%	5,316	63	24	22	2	5,427
Kearny Town	2,779	28.4%	783	3		2		788
Lakewood Twp	6,810	45.2%	3,027	23	14	11		3,075
Linden City	2,872	25.1%	717	2		1		720
Manchester Twp	1,123	17.6%	198					198
Marlboro Twp	3,320	15.8%	526					526
Middletown Twp	5,525	12.5%	684	2		1	1	688
Montclair Twp	3,278	20.4%	659	5	2	4		670
Mount Laurel Twp	2,977	10.2%	303	1				304
New Brunswick City	3,985	43.6%	1,699	20	11	7		1,737
Newark City	25,608	44.4%	10,937	285	93	64	3	11,382

Municipality	Number of Children*	% Tested	Blood Lead Level (ug/dL)					Total
			<10	10-14	15-19	20-44	45+	
Old Bridge Twp	2,012	39.9%	801		1			802
Parsippany-Troy Hills Twp	3,662	19.1%	693	4	1	1		699
Passaic City	7,857	50.9%	3,912	51	19	14	1	3,997
Paterson City	15,148	35.9%	5,249	109	42	32		5,432
Pennsauken Twp	2,747	21.1%	568	7	3	2		580
Perth Amboy City	4,546	37.5%	1,689	9	3	5		1,706
Piscataway Twp	3,725	21.1%	785	1	1			787
Plainfield City	4,566	40.3%	1,780	39	14	8	1	1,842
Sayreville	3,264	20.3%	657	2		2		661
South Brunswick Twp	3,691	16.4%	603	1				604
Teaneck Twp	3,086	17.4%	533	1	2	2		538
Trenton City	7,850	35.1%	2,641	85	18	12	3	2,759
Union City	5,913	26.2%	1,531	10	2	3	1	1,547
Union Twp	3,671	23.8%	866	5	3	1		875
Vineland City	4,275	27.4%	1,146	13	11	2		1,172
Washington Twp	3,618	12.8%	462					462
Wayne Twp	3,973	14.8%	586	2	1			589
West New York Town	3,619	26.7%	958	5	1	1		965
West Orange Twp	3,560	26.7%	921	17	9	3		950
Woodbridge Twp	7,378	21.5%	1,576	5	4			1,585
Total	303,383	27.9%	82,782	1,112	372	274	18	84,558

**Estimated, based on the US Census 2000 data*

The above table displays distribution of testing and prevalence of lead poisoning among children <6 years old, by their municipality of residence.

Cross tabulation of age of the children tested and their blood lead levels – a comparison of FY2006 and FY2007

Table 7

Breakdown of Age and Elevated Blood Lead Levels - FY2006 vs FY2007								
	Blood Lead Level/Fiscal Year							
	10-14 ug/dL		15-19 ug/dL		≥20 ug/dL		Total	
Age	FY2006	FY2007	FY2006	FY2007	FY2006	FY2007	FY2006	FY2007
<1 Year	96	57	28	23	20	16	144	96
1 Year	590	459	175	169	159	141	924	769
2 Years	528	420	161	138	136	121	825	679
3 Years	413	290	131	110	87	79	631	479
4 Years	252	194	74	39	55	45	381	278
5 years	147	127	51	35	42	30	240	192
Total	2,026	1,547	620	514	499	432	3,145	2,493

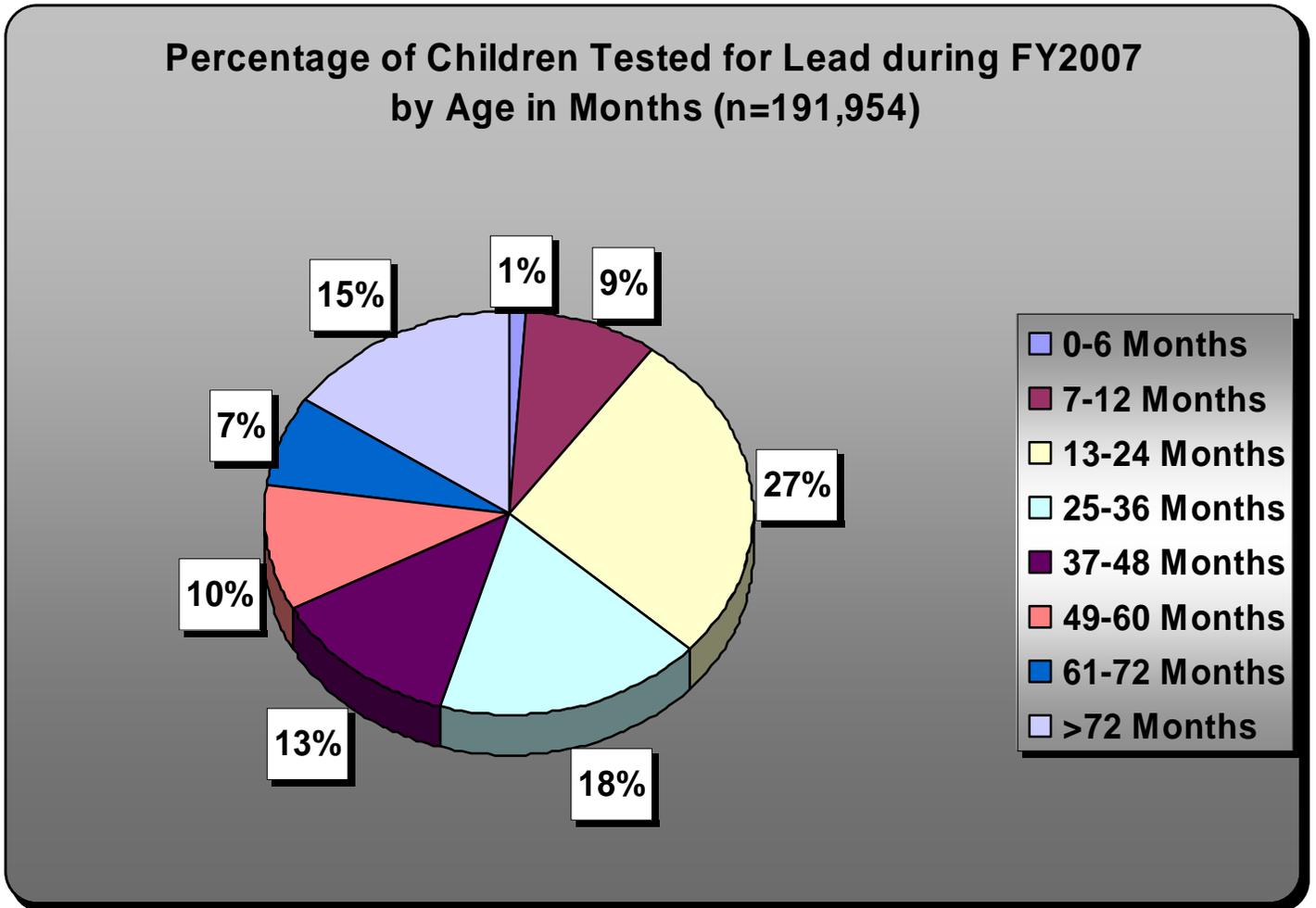
This table provides cross tabulation of children’s age versus their highest blood lead level category, as reported during FY2007. Each child is counted only once, using their highest blood lead level reported during FY2007.

Table 8

Number of all children <17 years of age screened and blood lead levels, reported during FY2007, by county of residence						
County	Blood Lead Levels (ug/dL)					Total
	<10	10-14	15-19	20-44	45+	
BURLINGTON	3,740	15	5	6		3,766
CAMDEN	8,574	94	16	13	2	8,699
CAPE MAY	996	11	4	2		1,013
CUMBERLAND	3,736	100	50	34	1	3,921
ESSEX	27,637	592	196	138	7	28,569
GLOUCESTER	2,902	18	5	4		2,929
HUDSON	15,496	115	36	40	4	15,691
HUNTERDON	1,581	4	6	2		1,593
MERCER	6,516	103	18	19	3	6,659
MIDDLESEX	15,898	69	29	18		16,014
MONMOUTH	9,206	68	22	18	3	9,317
MORRIS	7,364	30	3	7		7,404
OCEAN	7,252	38	18	15		7,323
PASSAIC	15,637	209	76	57	2	15,981
SALEM	704	13	3	9		729
SOMERSET	3,964	27	9	7	1	4,008
SUSSEX	1,360	3	1	2		1,366
UNION	14,260	125	46	30	2	14,463
WARREN	1,673	8	4	3		1,688
ZIP Unknown	15,810	4				15,815
Total	183,204	1,765	590	453	29	186,041

This table displays distribution of tests by county, for all children <17 years old that were tested during FY2007 and their highest blood lead level reported during FY2007.

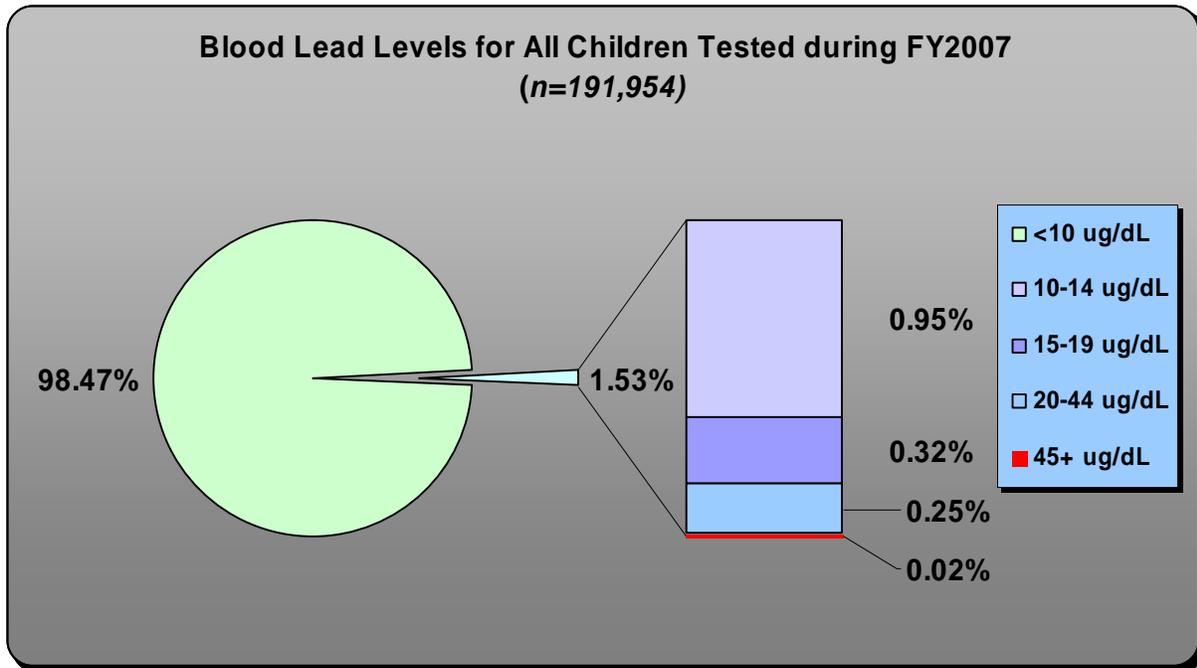
Figure 6



Breakdown of age at the time of test, for the children tested for blood lead levels during FY2007.

This chart is based on all children (<17 years old, unduplicated) that were reported with their blood lead test results during FY2007, counting only one test per child. Total number of children tested = 191,954.

Figure 7



Percentage of children by blood lead levels for FY2007

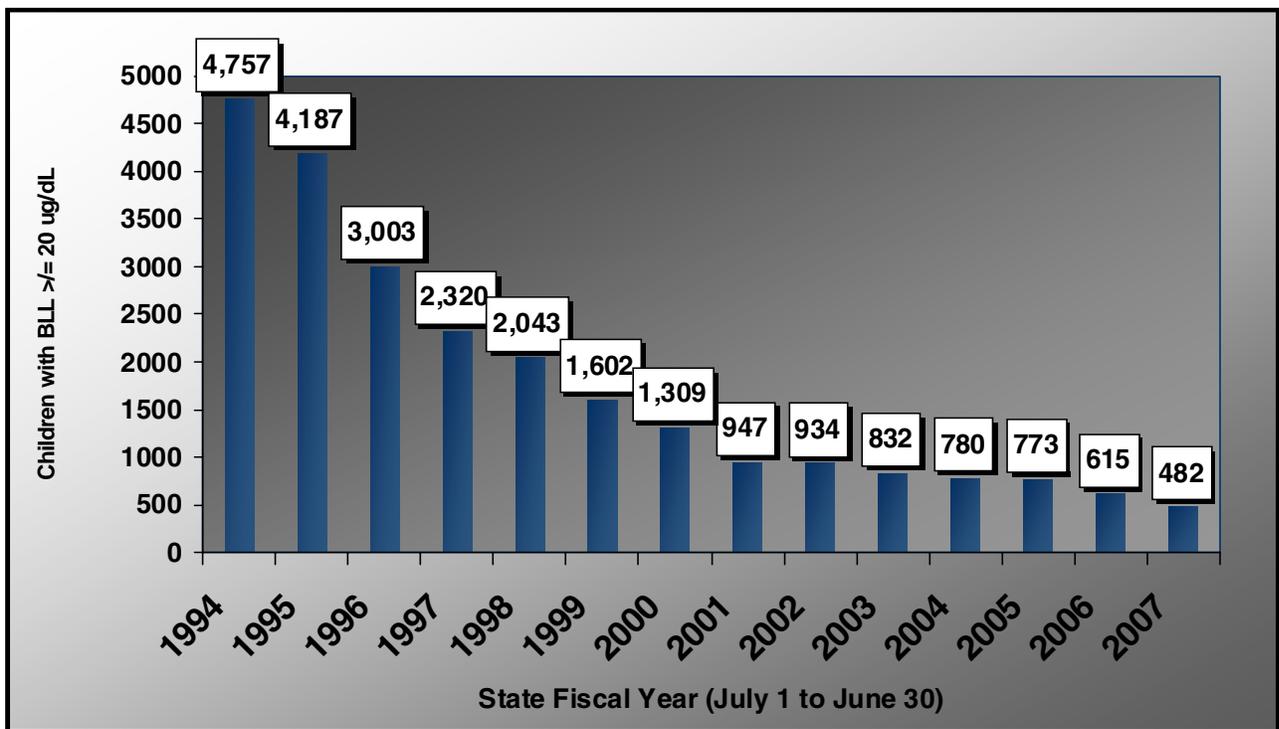
This pie chart describes the breakdown of blood lead levels of all children (unduplicated) reported during FY2007 (number of children reported = 186,041), counting one test (highest lead level reported) per child.

Trend in number of children (<17 years old) with EBL:

Figure 8

**CHILDREN WITH BLOOD LEAD ≥ 20 $\mu\text{g/dL}$
BY STATE FISCAL YEAR (SFY)**

This chart demonstrates the change in number of children (<17 years old) reported with EBL (≥ 20 $\mu\text{g/dL}$) by State Fiscal Year



Chapter Three

Geographical Information (GIS) Maps of Screening and Childhood Lead Poisoning Data

Introduction:

GIS mapping of the screening data and lead poisoning data was done for the high risk jurisdictions to depict screening and lead poisoning by municipality and by census tract. The maps are being shared with the appropriate personnel at the local health departments covering the high risk areas that were mapped. The maps will assist the local health departments in targeting various activities related to elimination of childhood lead poisoning.

Data:

A pool of children's records (age of children at the time of test = 6 to 29 months, where date of sample = between January 1, 2005 and December 31, 2007, inclusive) was created from the entire childhood lead poisoning data registry in LeadTrax. Analysis on this data was performed to select only the highest lead result per child, thereby selecting each child only once (un-duplicated data).

From the un-duplicated data set, geo-coding for the addresses associated with all children was performed. The data containing geo-coded addresses and blood lead level information was used to create GIS maps for each high risk jurisdiction selected.

There were two sets of GIS maps created for the jurisdictions:

- a. By municipality (only for the jurisdictions with more than one municipality)
- b. By census tract (for all jurisdictions)

For each of the above set three types of maps were created:

1. Screening rate map
2. EBL (≥ 10 ug/dL) map
3. EBL (≥ 20 ug/dL) map

For the screening rate maps, numbers of children tested by municipality and by census tract were used as the numerators, and population data from US Census 2000 (by municipality and by census tract) were used as the denominator. For the EBL maps, numbers of children with EBL by municipality and by census tract were used as the numerator, and the numbers of children tested by municipality and by census tract were used as the denominators, respectively.

Increments used for GIS Maps:

A. Increments for the EBL maps (for 10 ug/dL and above):

- a. 0 to 1.24% (below State Average for FY2007) (light green shade)
- b. 1.25 to 2.00 % (Between the State Average for FY2007 and the CDC's threshold for public health hazard) (pale yellow shade)
- c. 2.01% and above (Above the CDC threshold for public health hazard) (light red shade)

B. Increments for the EBL maps (for 20 ug/dL and above):

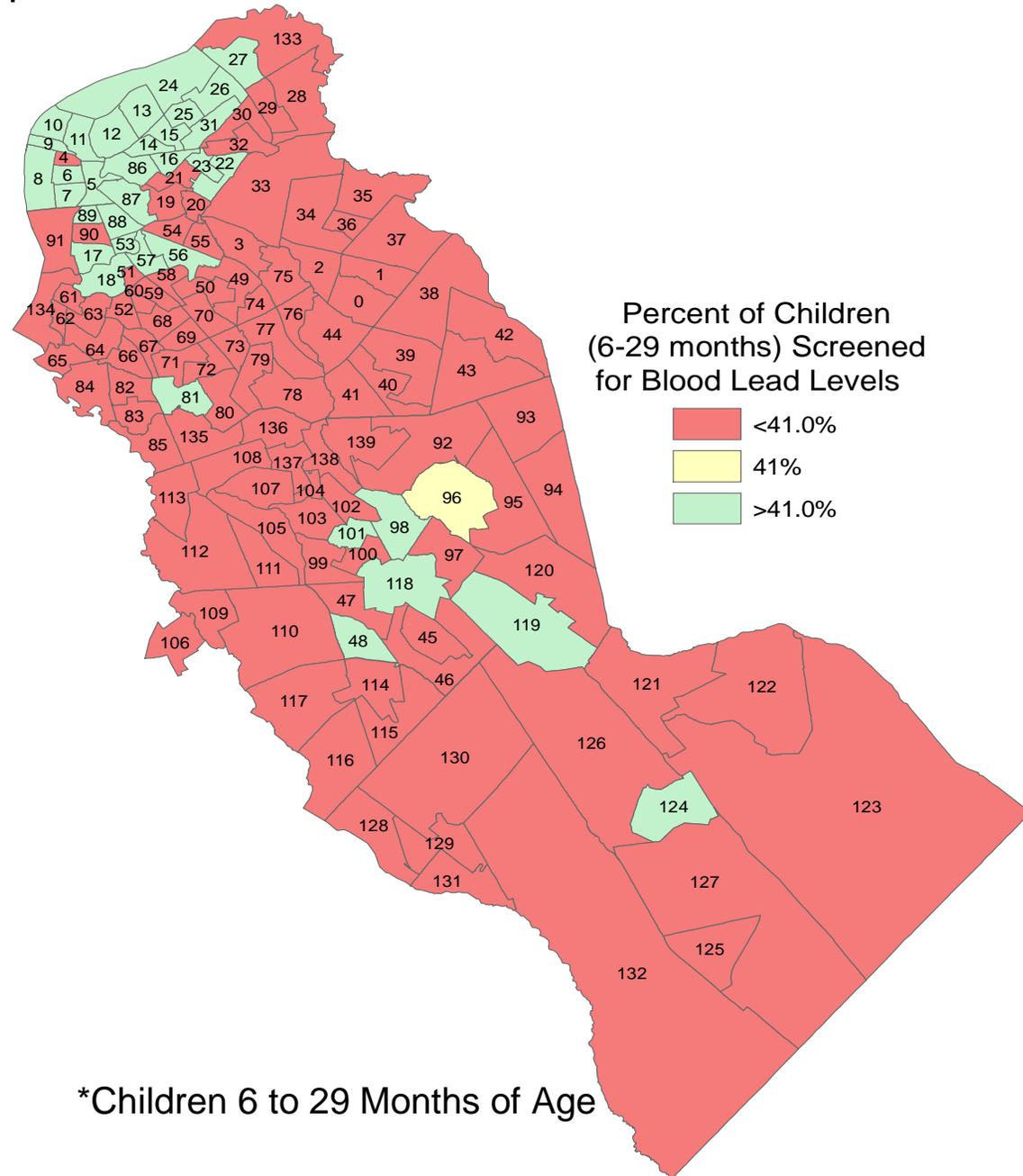
- a. 0 to 0.14% (Below the State Average of 0.25% for FY2007) (light green shade)
- b. 0.15 to 0.25% (At par with the State Average of 0.25% for FY2007) (pale yellow shade)
- c. \geq 0.25% (Above the State Average of 0.25% for FY2007) (light red shade)

C. Increments for the Screening maps:

- a. $<$ 41% (Below State Average for FY2007) (light red shade)
- b. 41% (At par with State Average for FY2007) (pale yellow shade)
- c. $>$ 41% (Above the State average) (light green shade)

Note: All reference tables for the GIS maps will be available in the web version of the web version of this report at <http://www.state.nj.us/health/fhs/newborn/lead.shtml> .

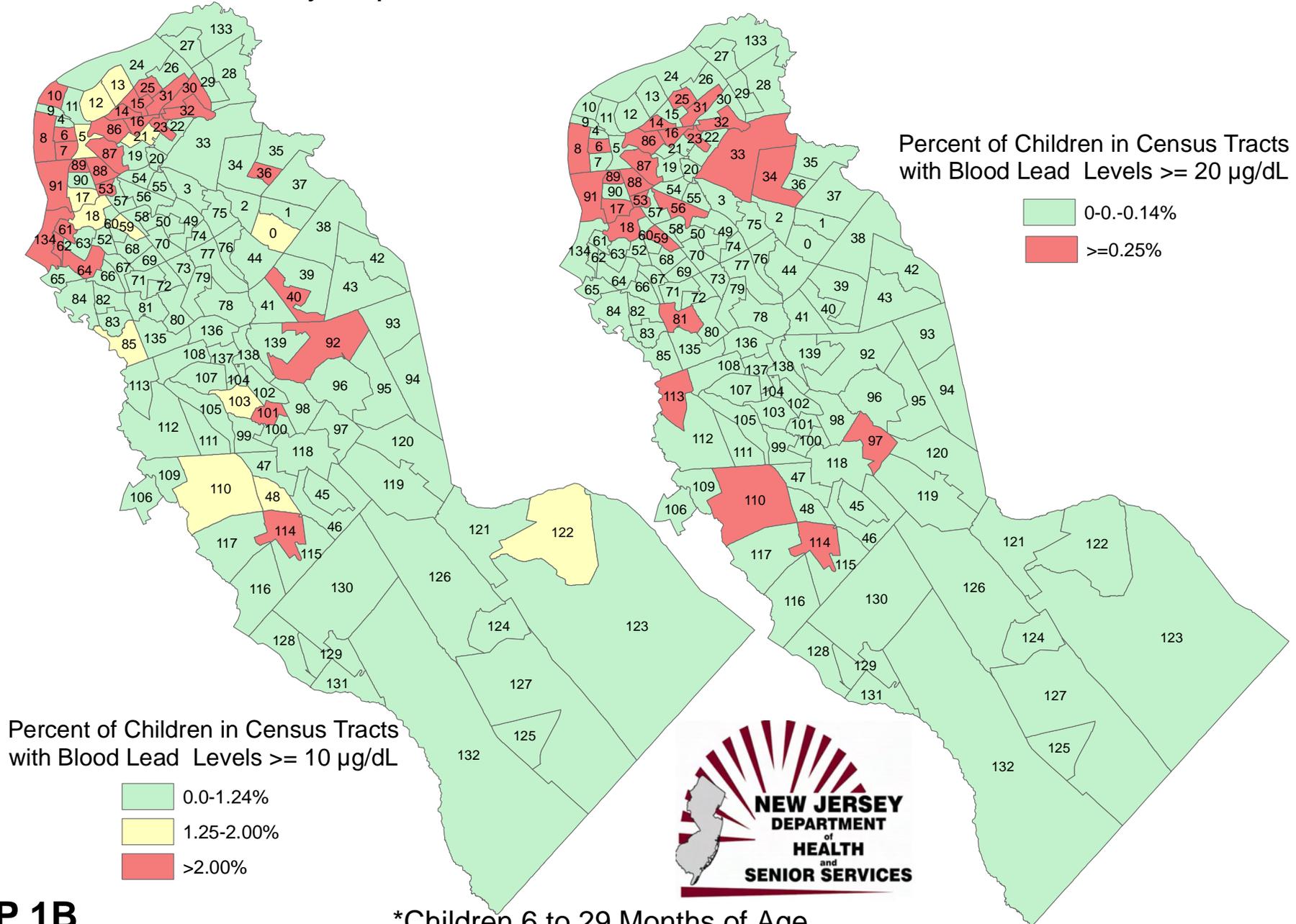
Screening Rates* by Census Tract: Camden County Department of Health and Human Services, CY2005-07



MAP 1A

*Children 6 to 29 Months of Age

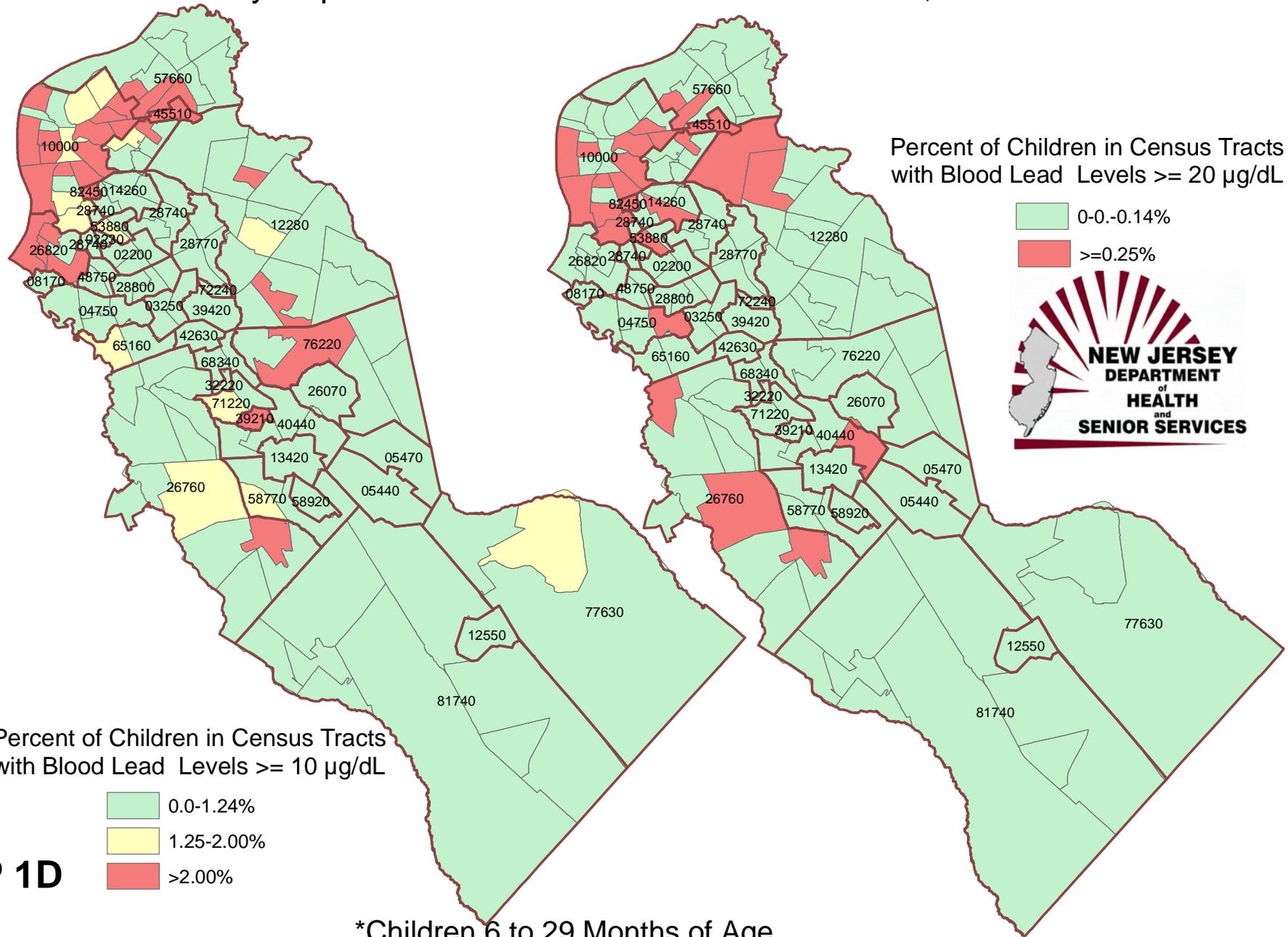
EBL* by Census Tract: Camden County Department of Health and Human Services, CY2005-07



MAP 1B

*Children 6 to 29 Months of Age

EBL* by Municipality: Camden County Department of Health and Human Services, CY2005-07

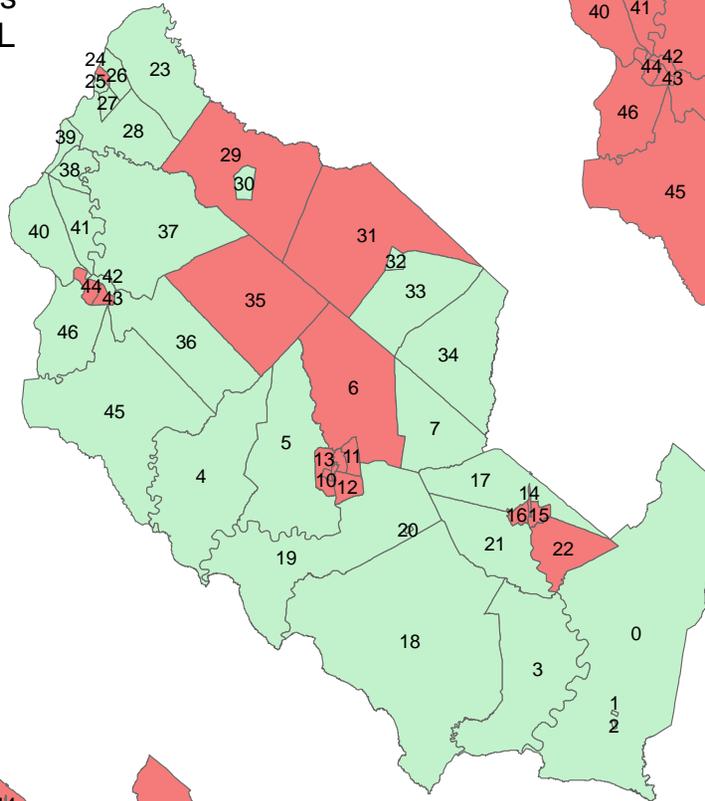
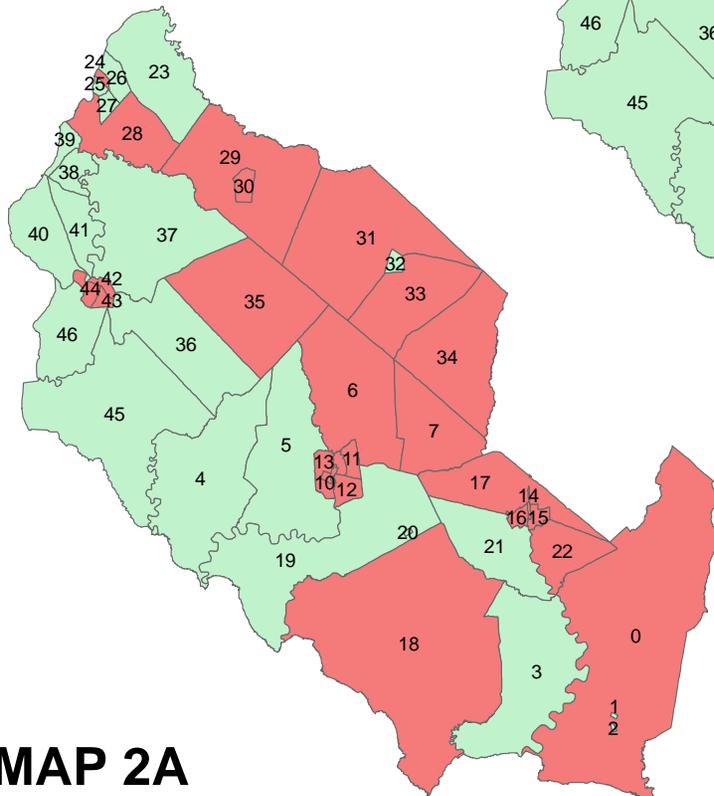


MAP 1D

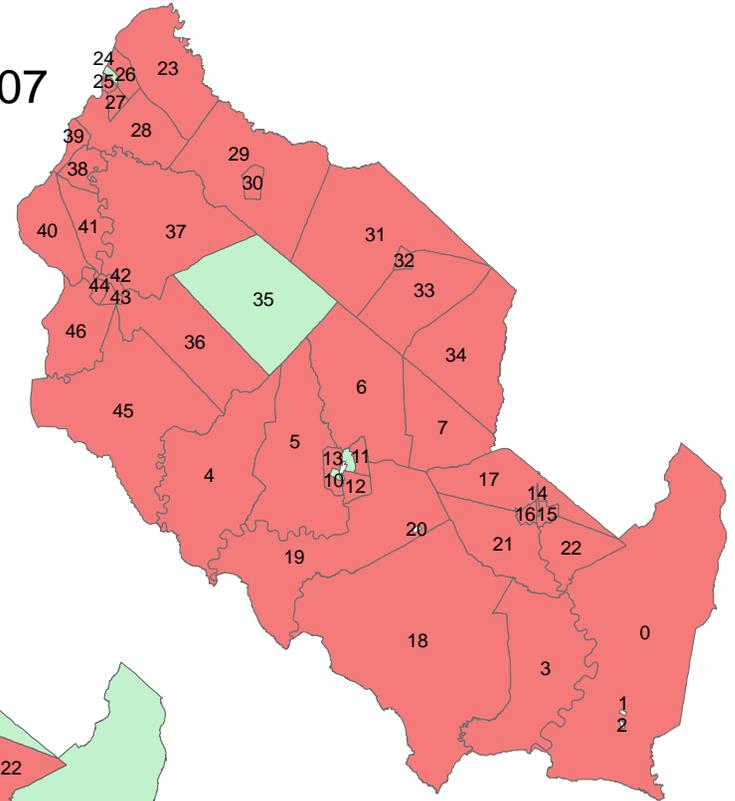
*Children 6 to 29 Months of Age

EBL* and Screening Rates* by Census Tract: Cumberland County Department of Health, CY2005-07

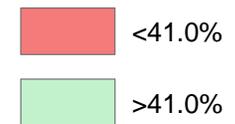
Percent of Children in Census Tracts
with Blood Lead Levels $\geq 10 \mu\text{g/dL}$



Percent of Children in Census Tracts
with Blood Lead Levels $\geq 20 \mu\text{g/dL}$



Percent of Children Screened for
Blood Lead Levels Before 29 months



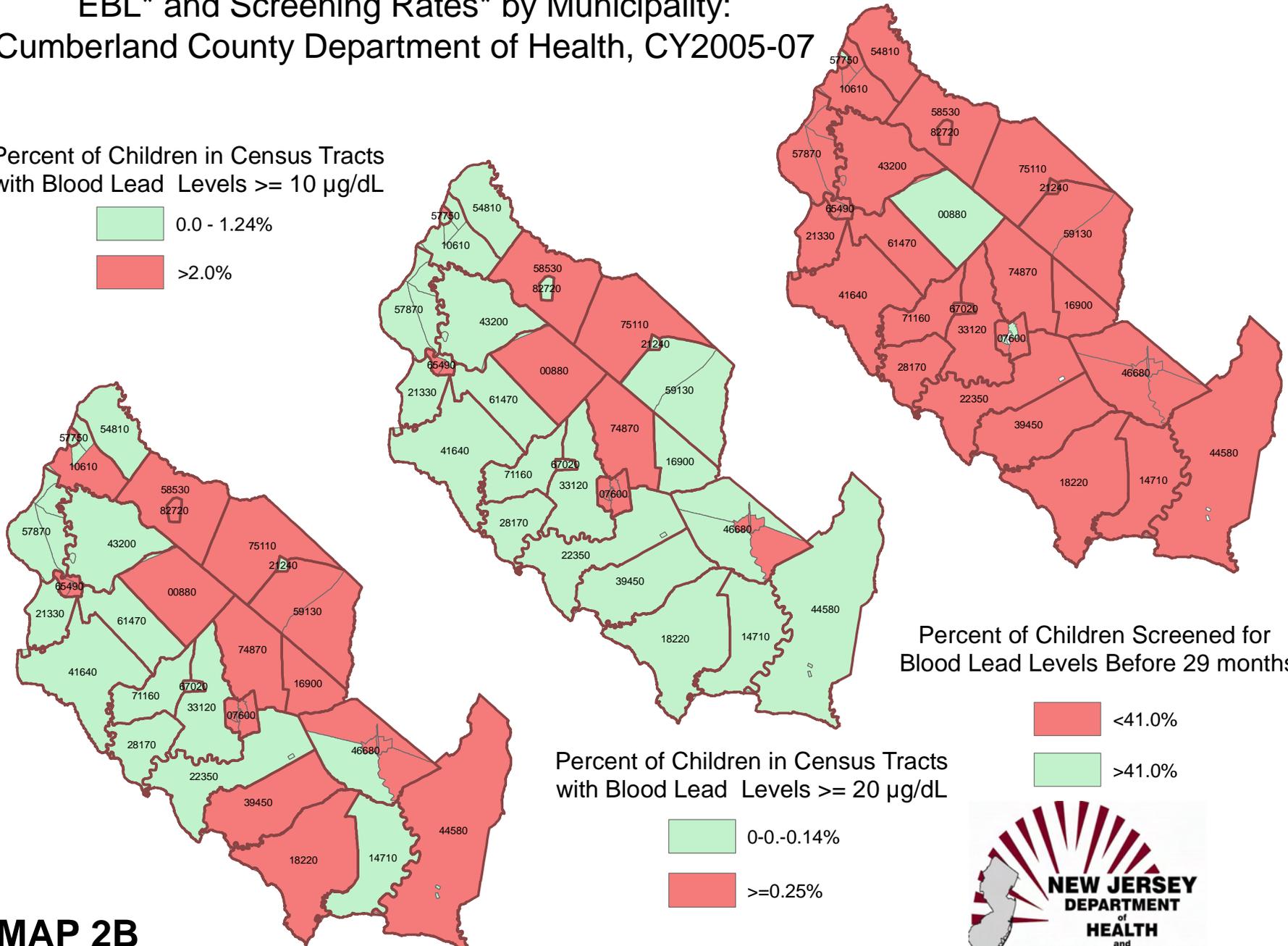
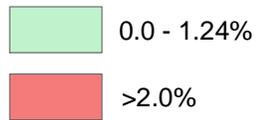
MAP 2A

*Children 6 to 29 Months of Age



EBL* and Screening Rates* by Municipality: Cumberland County Department of Health, CY2005-07

Percent of Children in Census Tracts
with Blood Lead Levels $\geq 10 \mu\text{g/dL}$

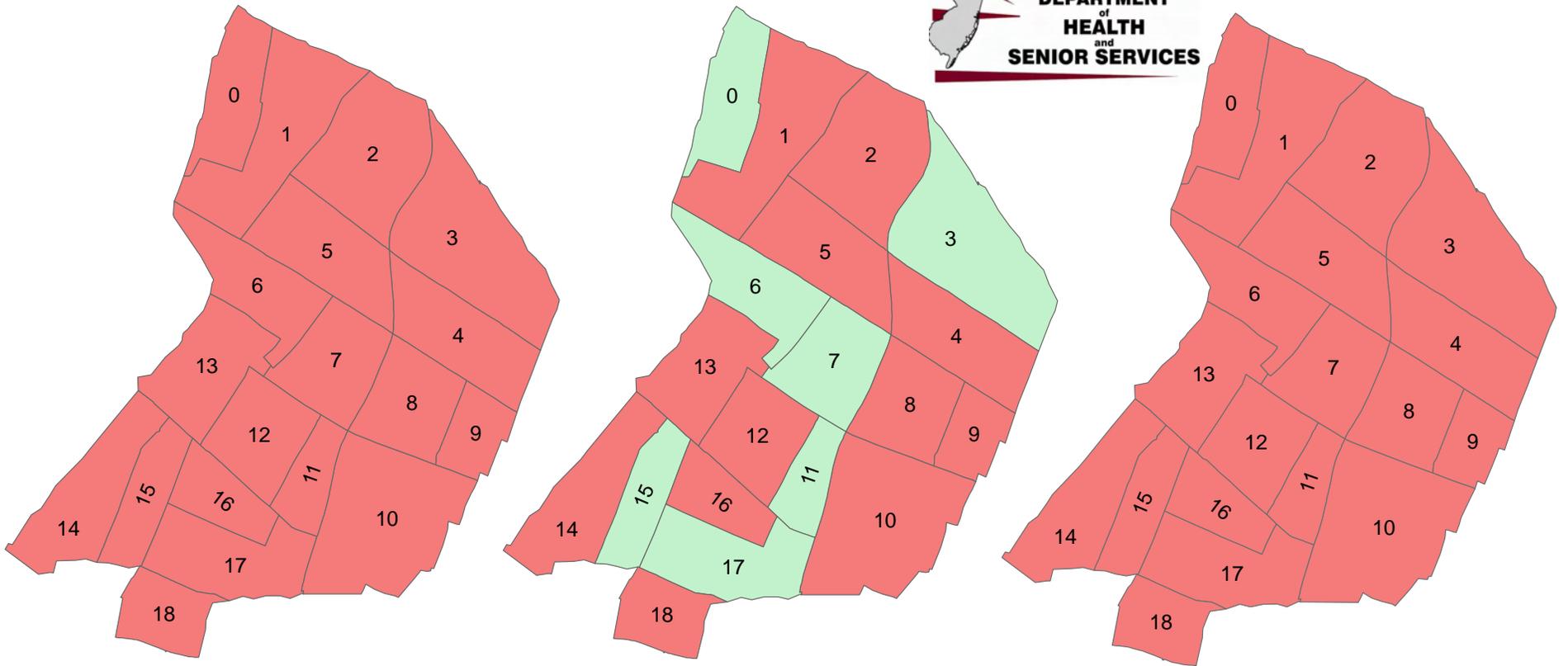


MAP 2B

*Children 6 to 29 Months of Age



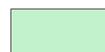
EBL* and Screening Rates* by Census Tract: East Orange Health Department, CY2005-07



Percent of Children in Census Tracts with Blood Lead Levels $\geq 10 \mu\text{g/dL}$

 $>2.0\%$

Percent of Children in Census Tracts with Blood Lead Levels $\geq 20 \mu\text{g/dL}$

 0-0-.014%

 $\geq 0.25\%$

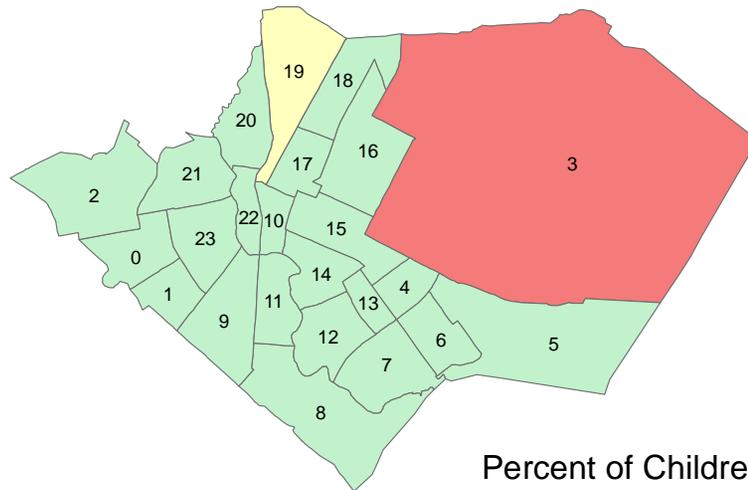
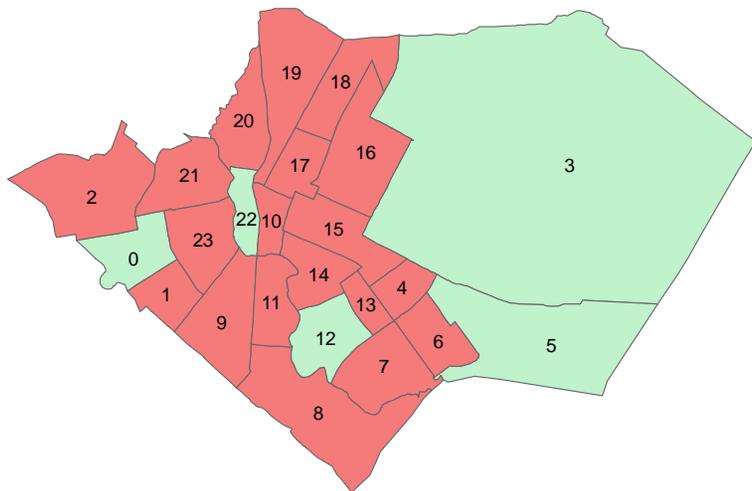
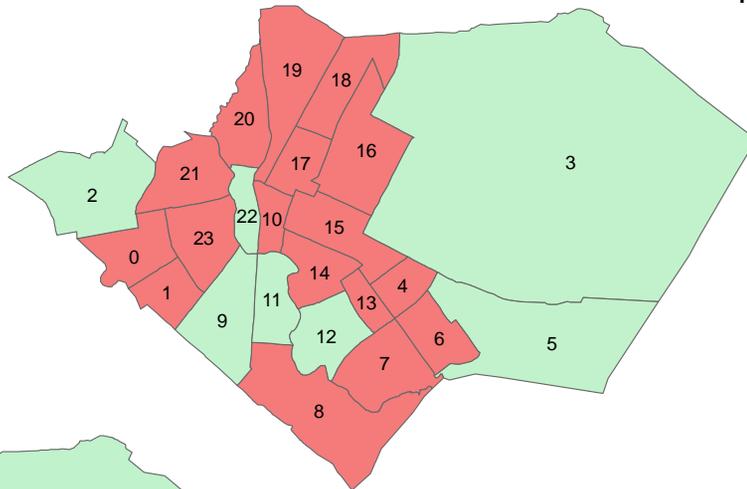
Percent of Children Screened for Blood Lead Levels Before 29 months

 $<41.0\%$

MAP 3

*Children 6 to 29 Months of Age

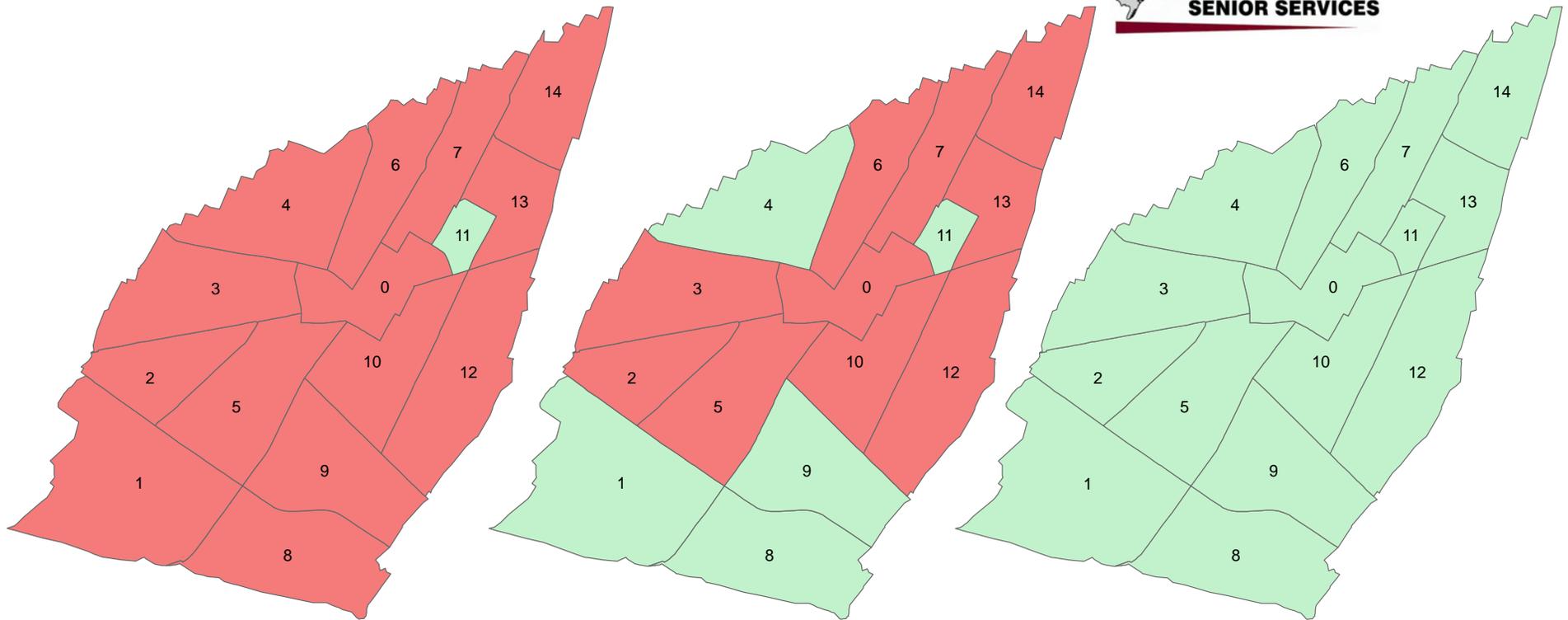
EBL* and Screening Rates* by Census Tract: Elizabeth Department of Health and Human Services, CY2005-07



MAP 4

*Children 6 to 29 Months of Age

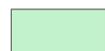
EBL* and Screening Rates* by Census Tract: Irvington Department of Health & Welfare, CY2005-07



Percent of Children in Census Tracts
with Blood Lead Levels $\geq 10 \mu\text{g/dL}$

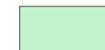
 $>2.0\%$

Percent of Children in Census Tracts
with Blood Lead Levels $\geq 20 \mu\text{g/dL}$

 $0-0.14\%$

 $\geq 0.25\%$

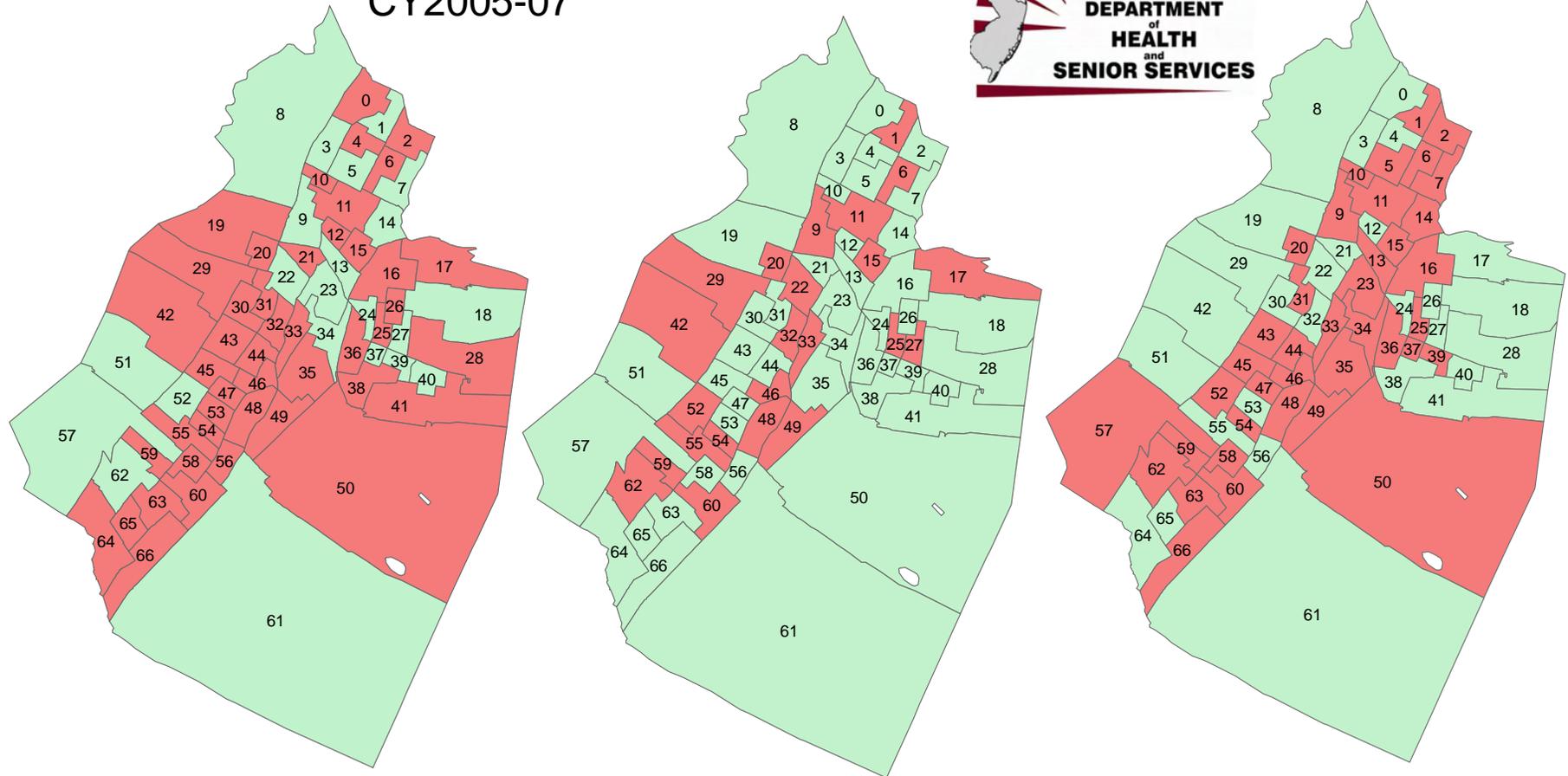
Percent of Children
(6-29 months) Screened
for Blood Lead Levels

 $>41.0\%$

MAP 5

*Children 6 to 29 Months of Age

EBL* and Screening Rates* by Census Tract: Jersey City Department of Health and Human Services, CY2005-07



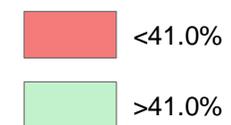
Percent of Children in Census Tracts with Blood Lead Levels $\geq 10 \mu\text{g/dL}$



Percent of Children in Census Tracts with Blood Lead Levels $\geq 20 \mu\text{g/dL}$



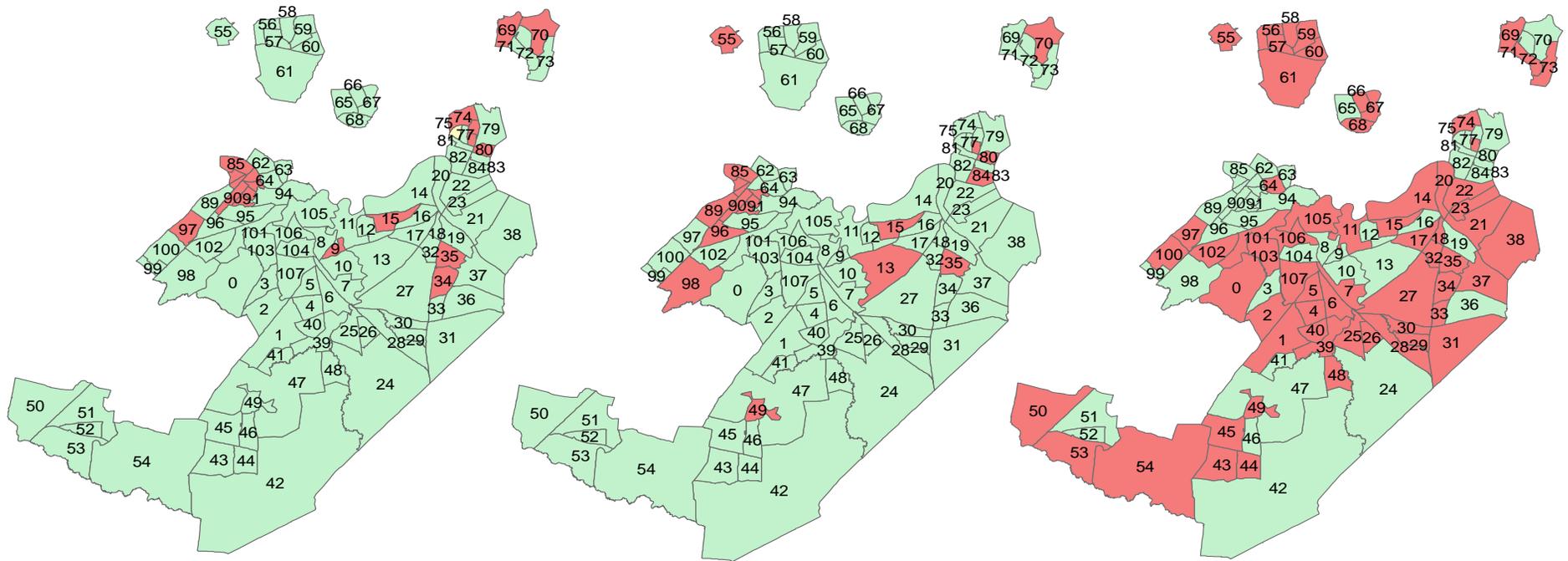
Percent of Children (6-29 months) Screened for Blood Lead Levels



MAP 6

*Children 6 to 29 Months of Age

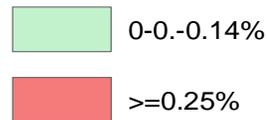
EBL * and Screening Rates* by Census Tract: County of Middlesex – Public Health Department, CY2005-07



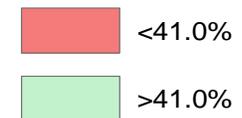
Percent of Children in Census Tracts with Blood Lead Levels $\geq 10 \mu\text{g/dL}$



Percent of Children in Census Tracts with Blood Lead Levels $\geq 20 \mu\text{g/dL}$



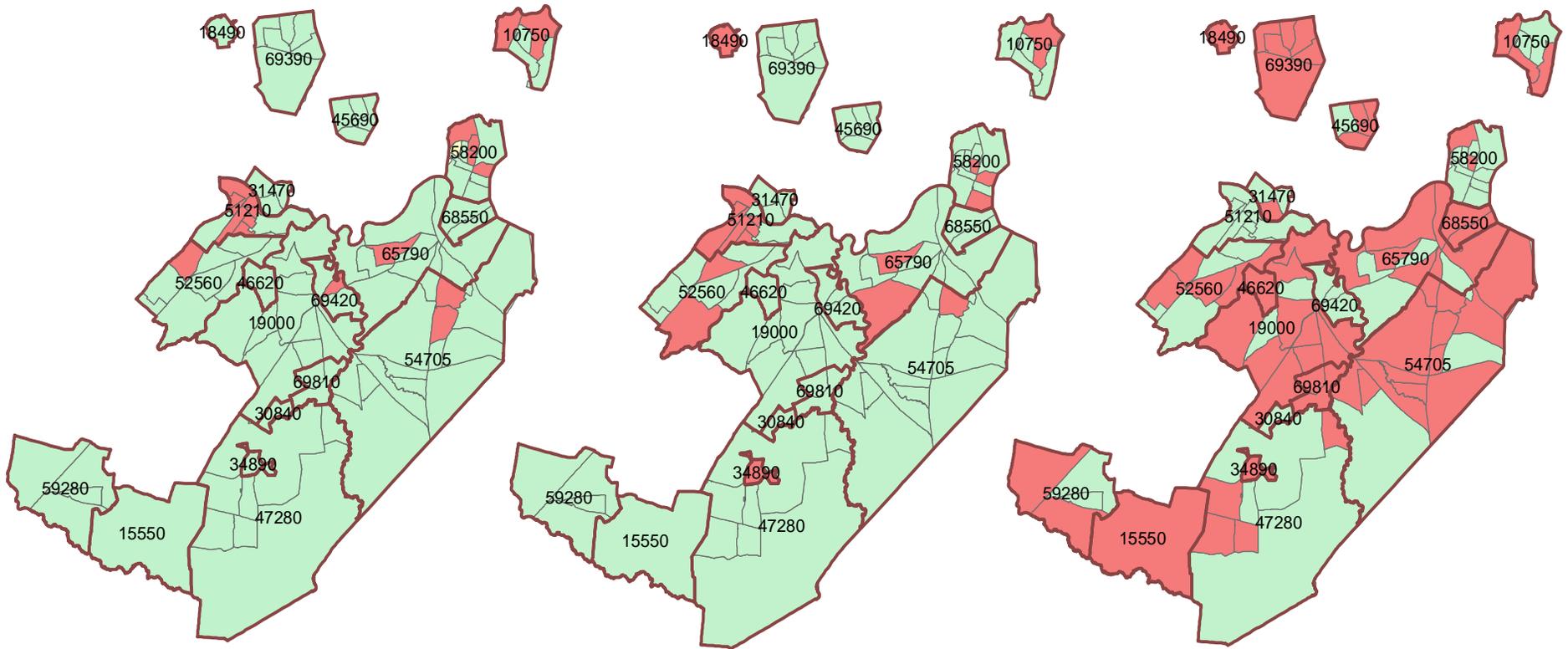
Percent of Children (6-29 months) Screened for Blood Lead Levels



MAP 7A

*Children 6 to 29 Months of Age

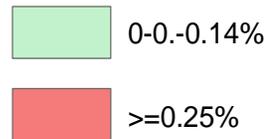
EBL* and Screening Rates* by Municipality: County of Middlesex – Public Health Department, CY2005-07



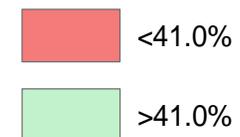
Percent of Children in Census Tracts with Blood Lead Levels $\geq 10 \mu\text{g/dL}$



Percent of Children in Census Tracts with Blood Lead Levels $\geq 20 \mu\text{g/dL}$



Percent of Children (6-29 months) Screened for Blood Lead Levels

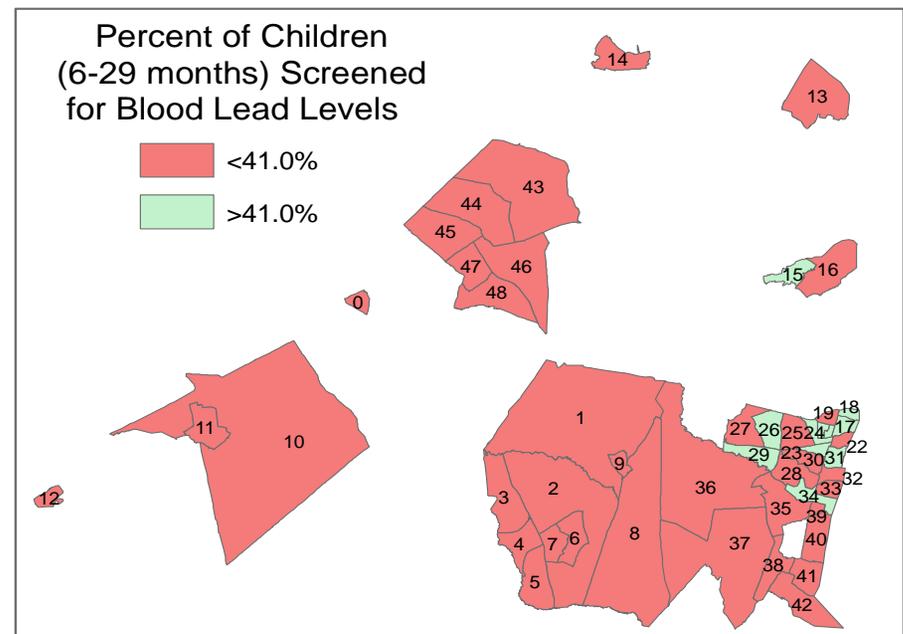
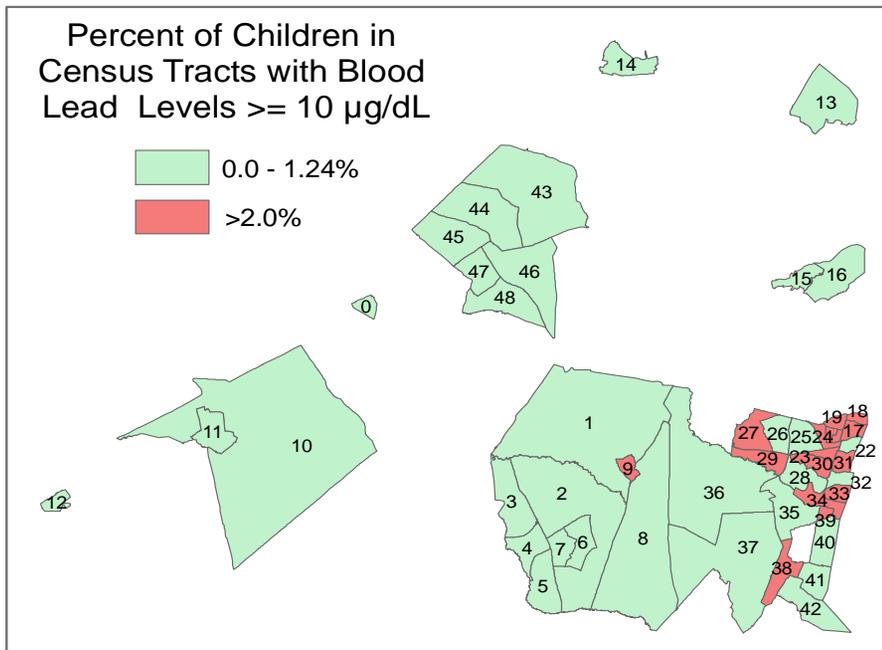
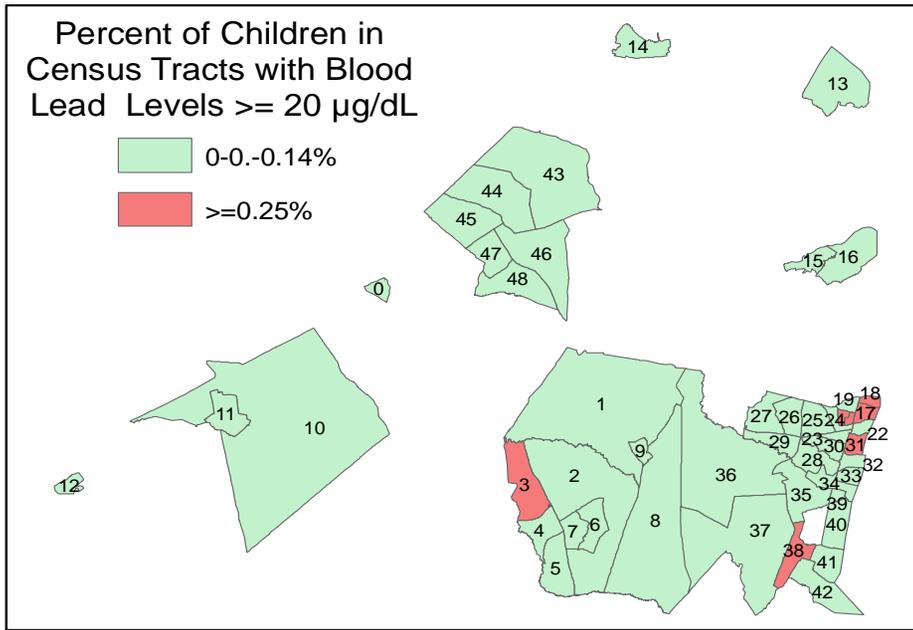


MAP 7B

*Children 6 to 29 Months of Age

EBL* and Screening Rates*
by Census Tract:
Monmouth County Health Department,
CY2005-07

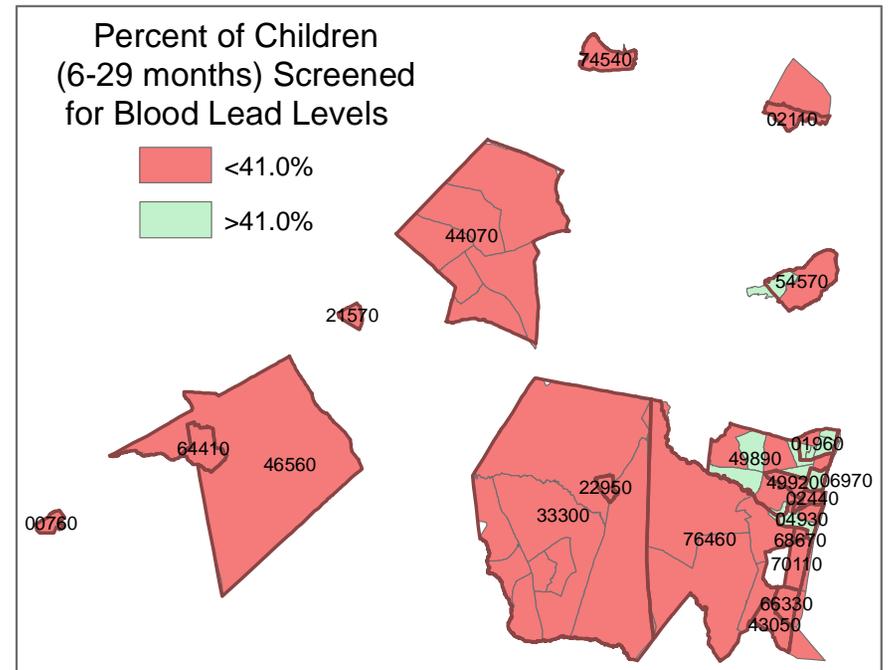
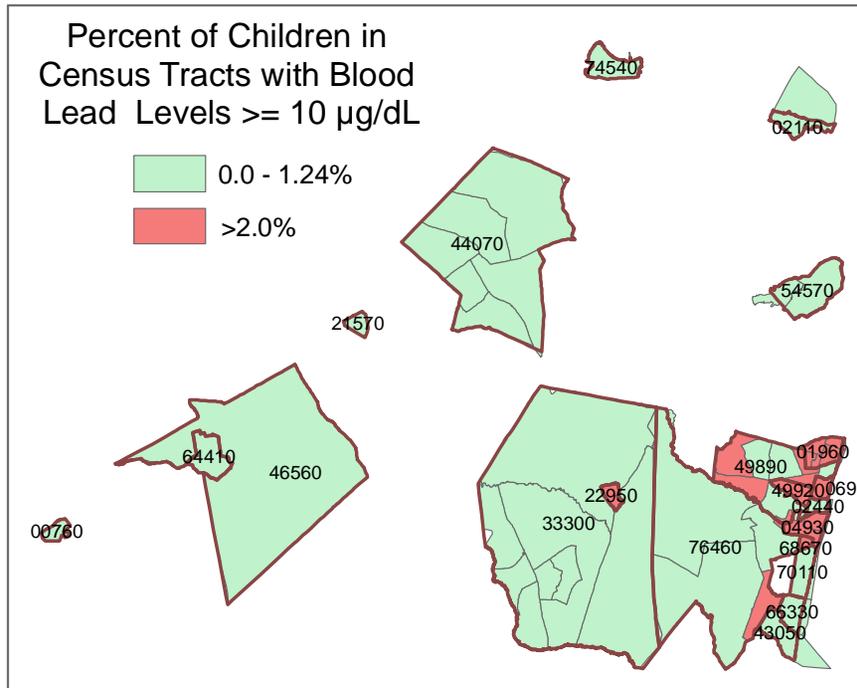
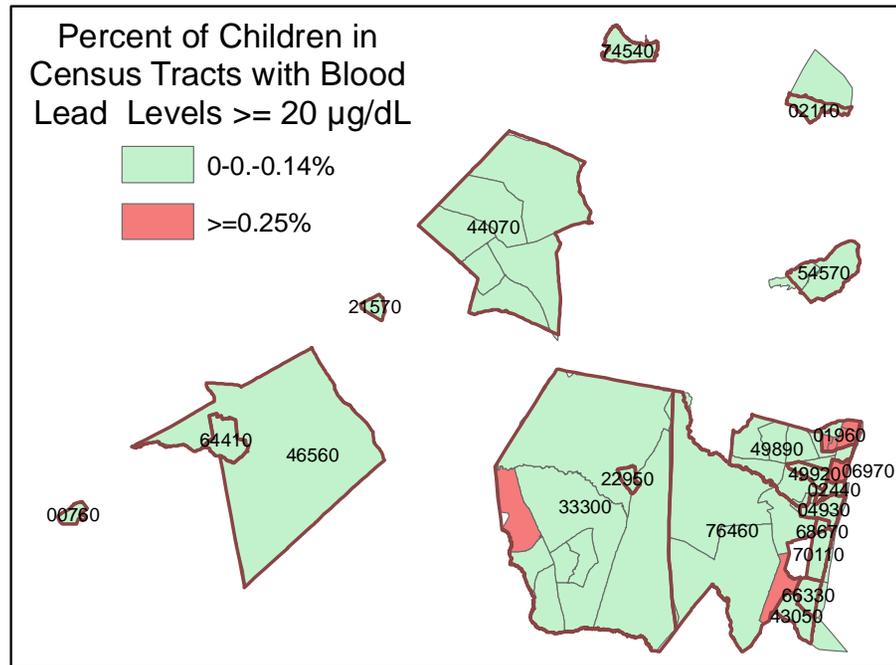
MAP 8A



*Children 6 to 29 Months of Age

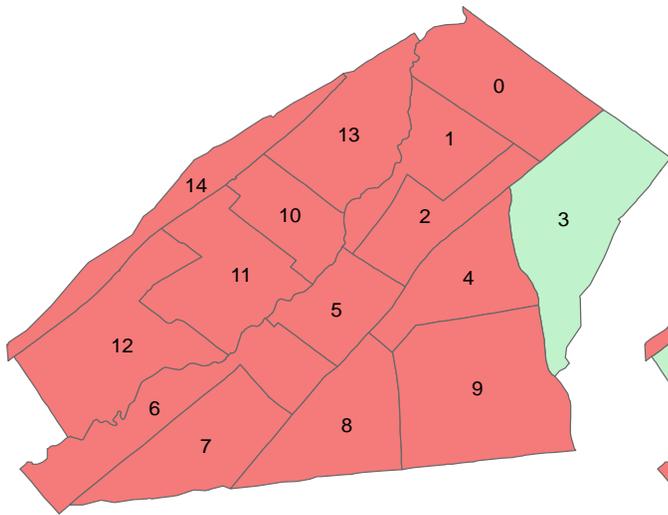
EBL* and Screening Rates* by Municipality: Monmouth County Health Department, CY2005-07

MAP 8B

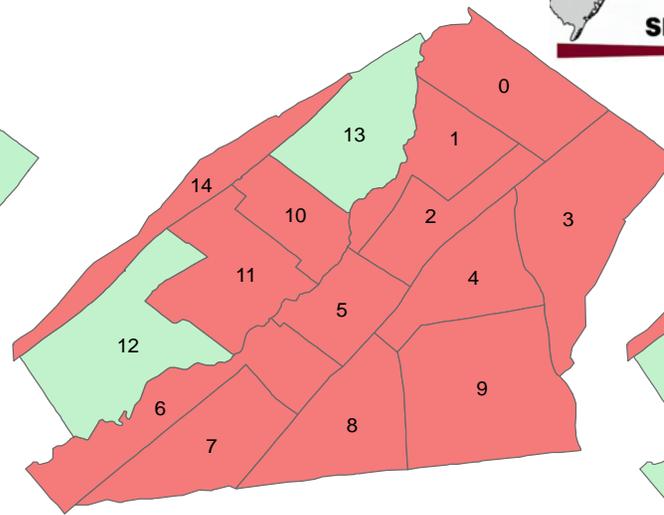
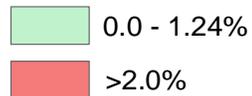


*Children 6 to 29 Months of Age

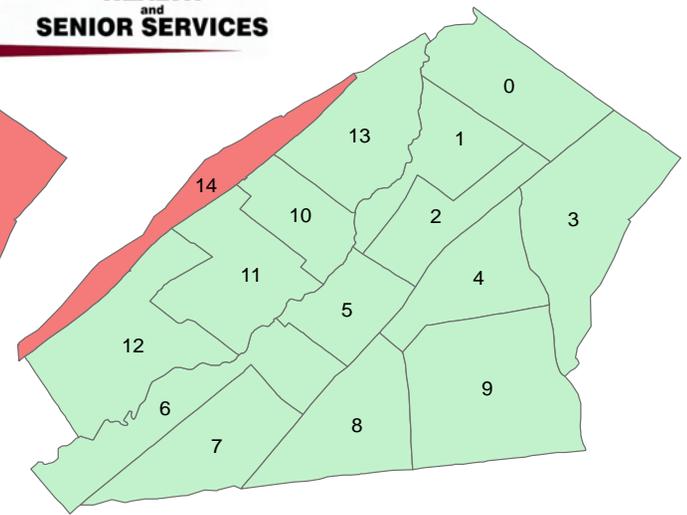
EBL* and Screening Rates*
by Census Tract:
Muhlenberg Home Care Department,
CY2005-07



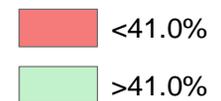
Percent of Children in
Census Tracts with Blood
Lead Levels $\geq 10 \mu\text{g/dL}$



Percent of Children in
Census Tracts with Blood
Lead Levels $\geq 20 \mu\text{g/dL}$



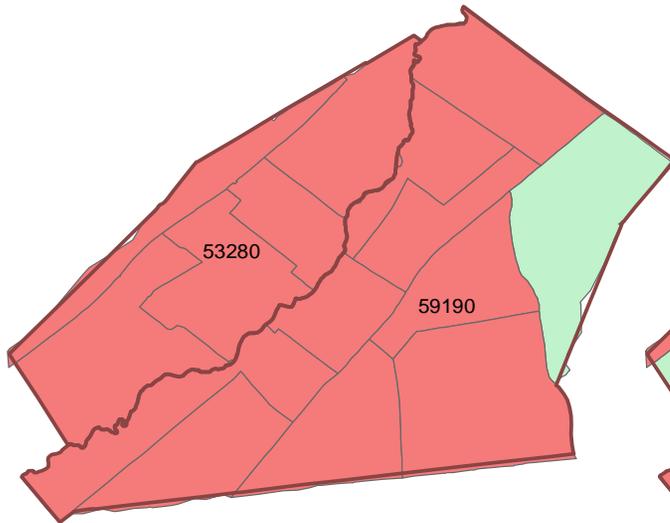
Percent of Children
(6-29 months) Screened
for Blood Lead Levels



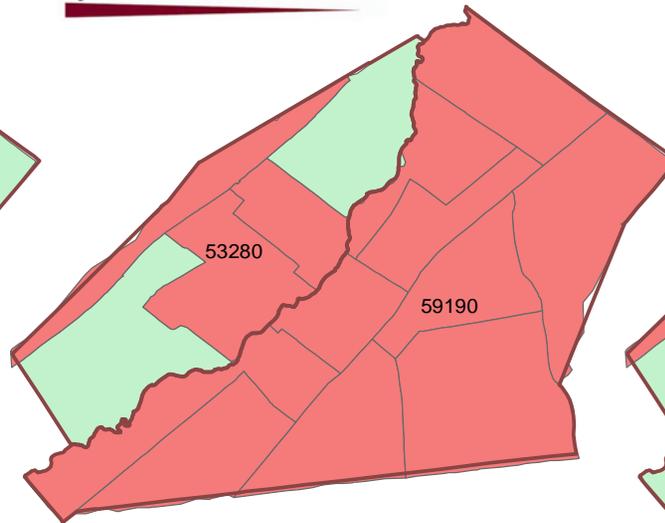
MAP 9A

*Children 6 to 29 Months of Age

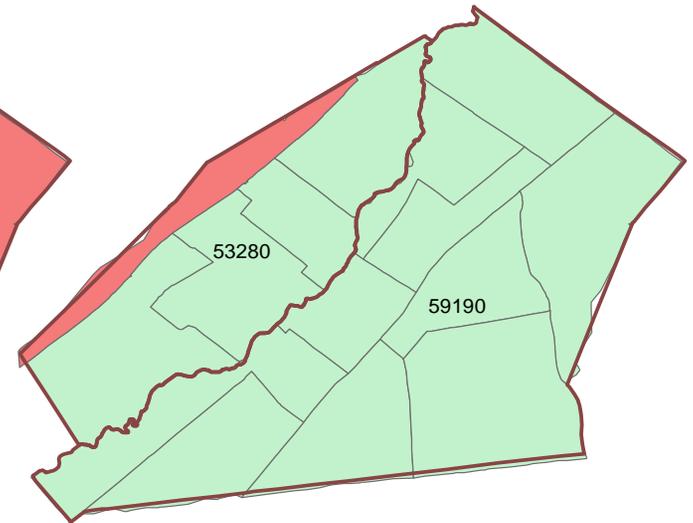
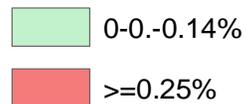
EBL* and Screening Rates* by Municipality: Muhlenberg Home Care Department, CY2005-07



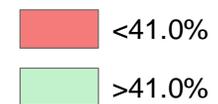
Percent of Children in
Census Tracts with Blood
Lead Levels $\geq 10 \mu\text{g/dL}$



Percent of Children in
Census Tracts with Blood
Lead Levels $\geq 20 \mu\text{g/dL}$



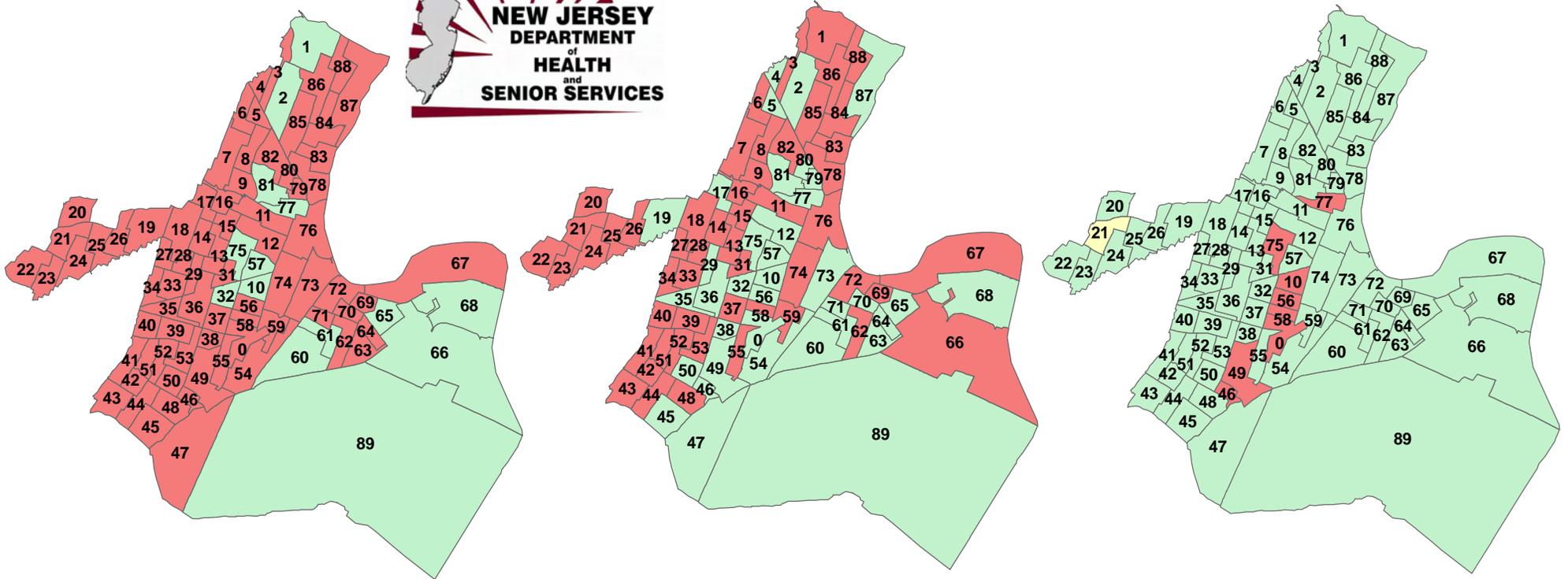
Percent of Children
(6-29 months) Screened
for Blood Lead Levels



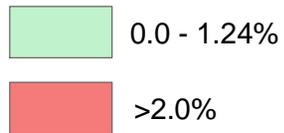
MAP 9B

*Children 6 to 29 Months of Age

EBL* and Screening Rates* by Census Tract: City of Newark - Department of Child and Family Well-being, CY2005-07

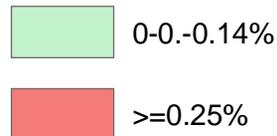


Percent of Children in Census Tracts with Blood Lead Levels $\geq 10 \mu\text{g/dL}$



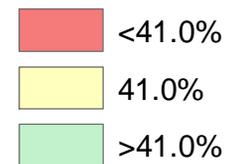
MAP 10

Percent of Children in Census Tracts with Blood Lead Levels $\geq 20 \mu\text{g/dL}$

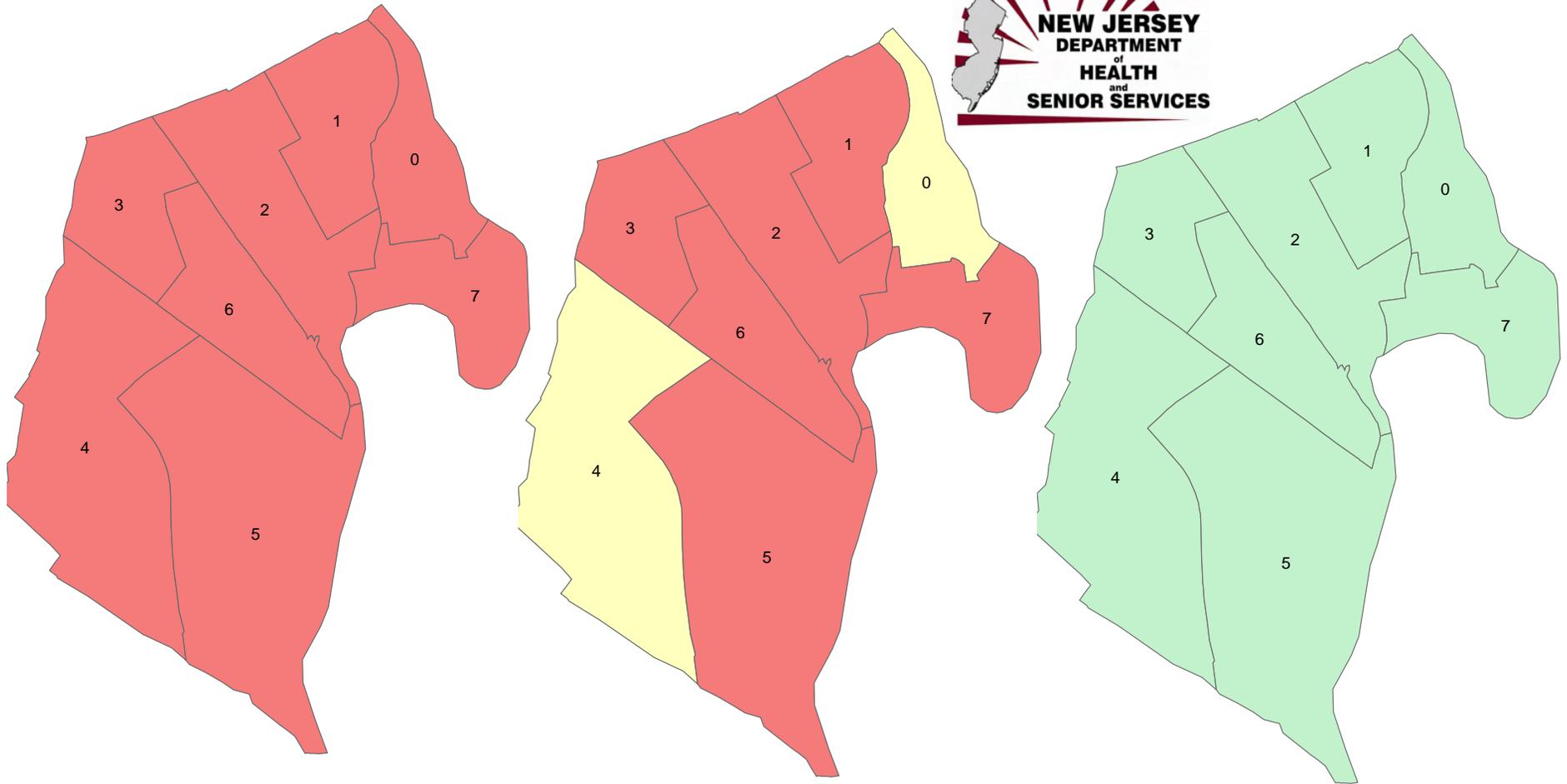


*Children 6 to 29 Months of Age

Percent of Children (6-29 months) Screened for Blood Lead Levels



EBL* and Screening Rates* by Census Tract: Passaic City Health Department, CY2005-07



Percent of Children in Census Tracts with Blood Lead Levels $\geq 10 \mu\text{g/dL}$

■ $>2.0\%$

Percent of Children in Census Tracts with Blood Lead Levels $\geq 20 \mu\text{g/dL}$

■ 0.15-0.24%

■ $\geq 0.25\%$

Percent of Children (6-29 months) Screened for Blood Lead Levels

■ $>41.0\%$

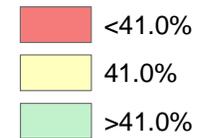
MAP 11

*Children 6 to 29 Months of Age

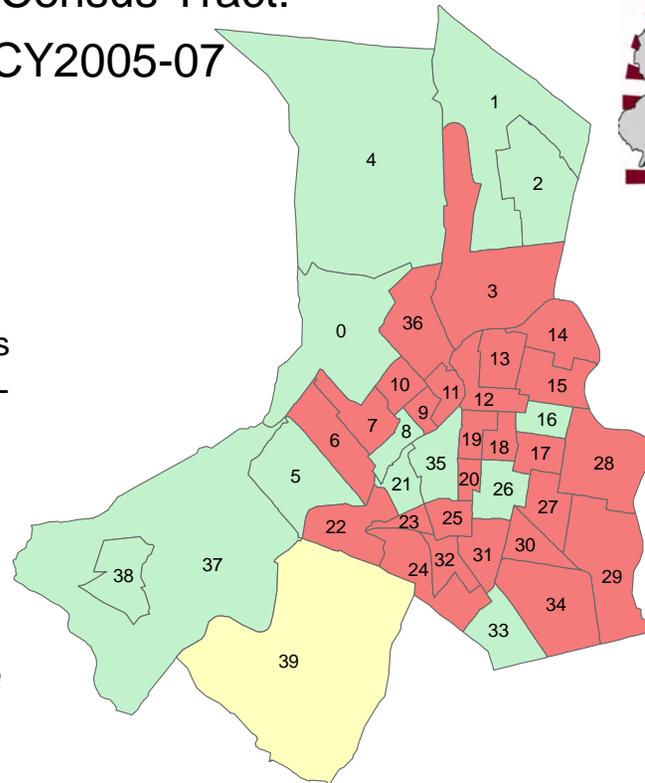
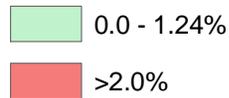
EBL* and Screening Rates* by Census Tract:
 Paterson Division of Health, CY2005-07



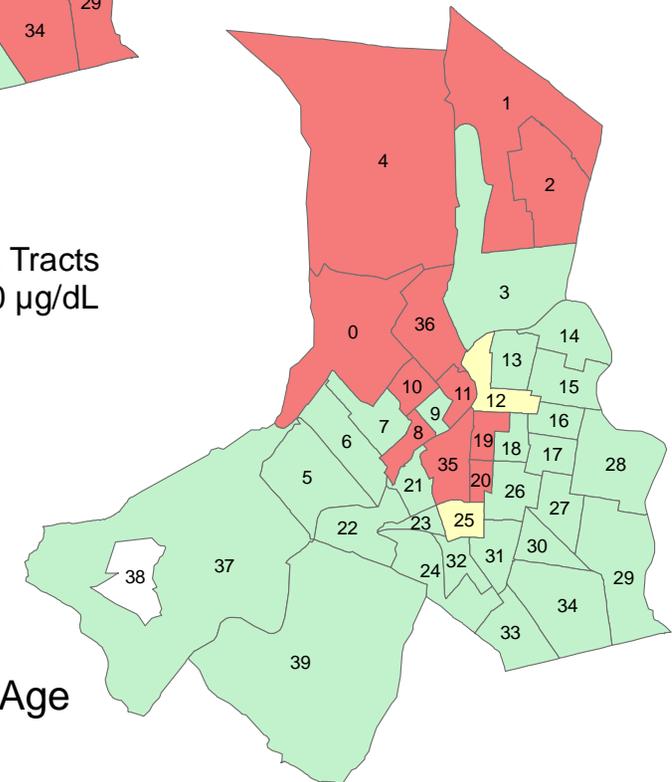
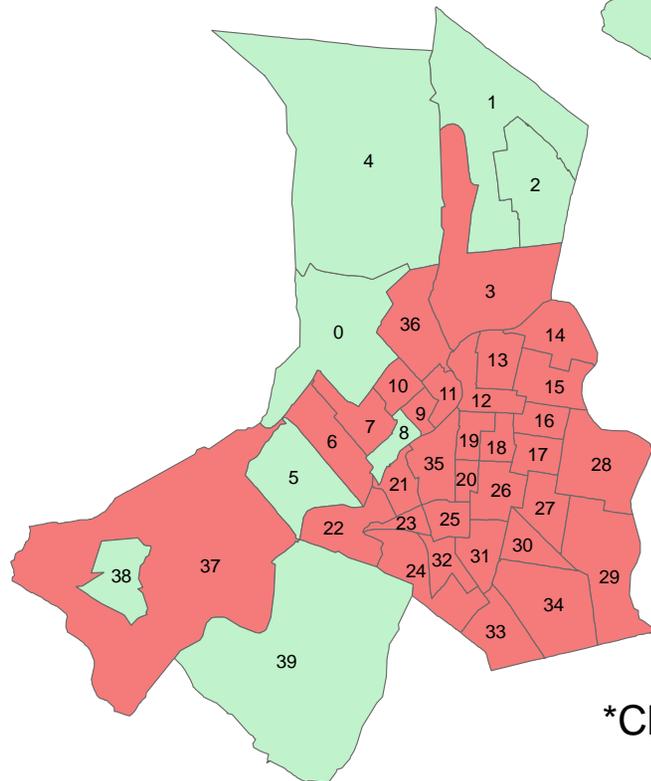
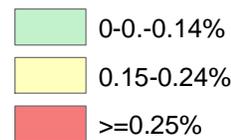
Percent of Children
 (6-29 months) Screened
 for Blood Lead Levels



Percent of Children in Census Tracts
 with Blood Lead Levels $\geq 10 \mu\text{g/dL}$



Percent of Children in Census Tracts
 with Blood Lead Levels $\geq 20 \mu\text{g/dL}$



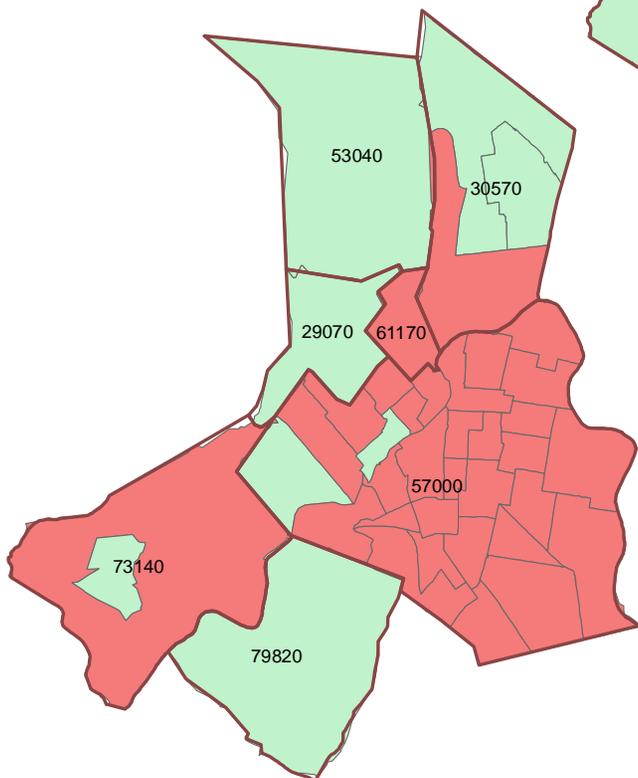
MAP 12A

*Children 6 to 29 Months of Age

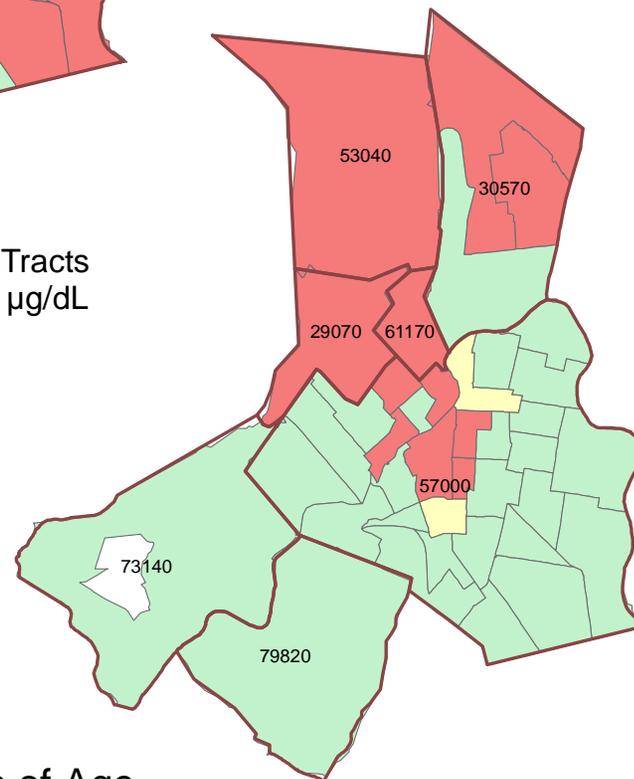
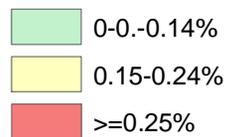
EBL* and Screening Rates* by Municipality: Paterson Division of Health, CY2005-07



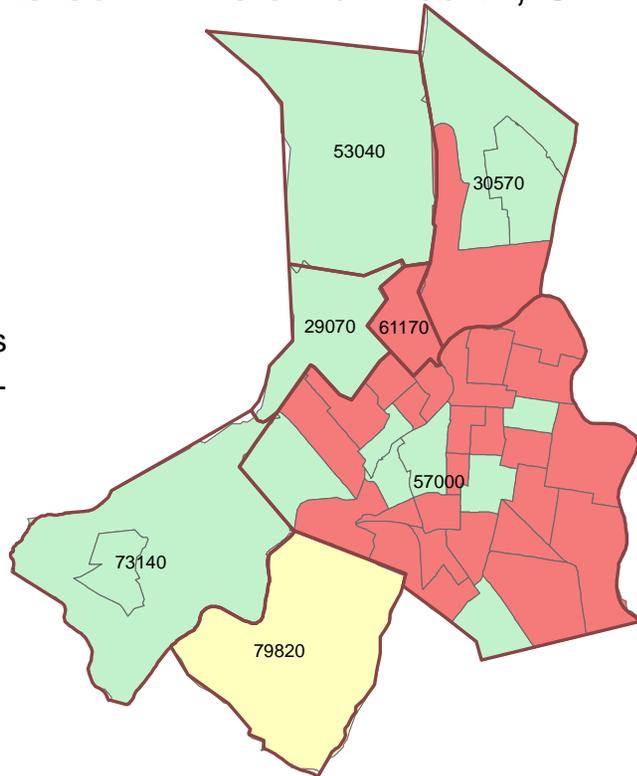
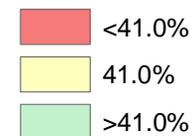
Percent of Children in Census Tracts
with Blood Lead Levels $\geq 10 \mu\text{g/dL}$



Percent of Children in Census Tracts
with Blood Lead Levels $\geq 20 \mu\text{g/dL}$



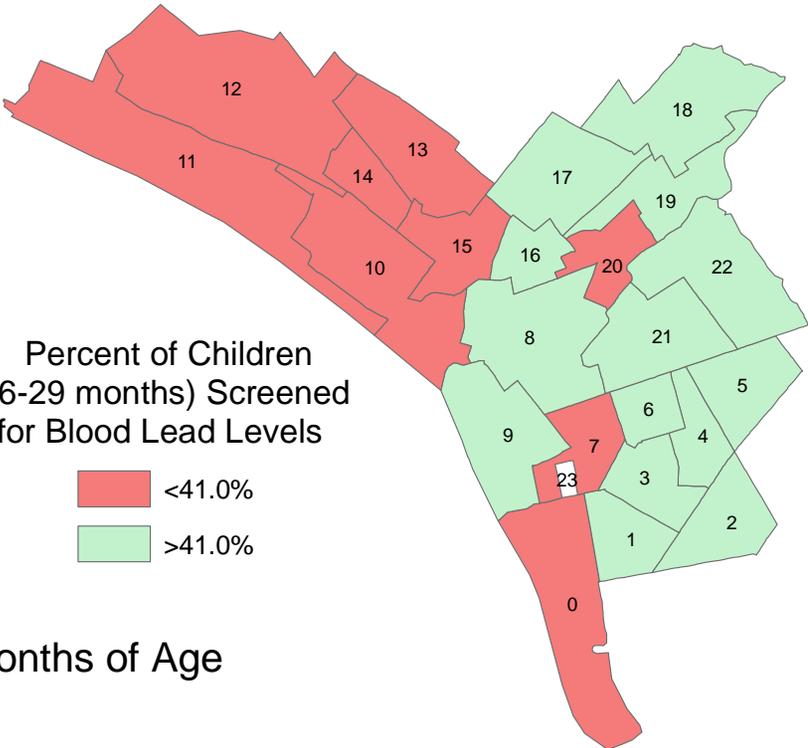
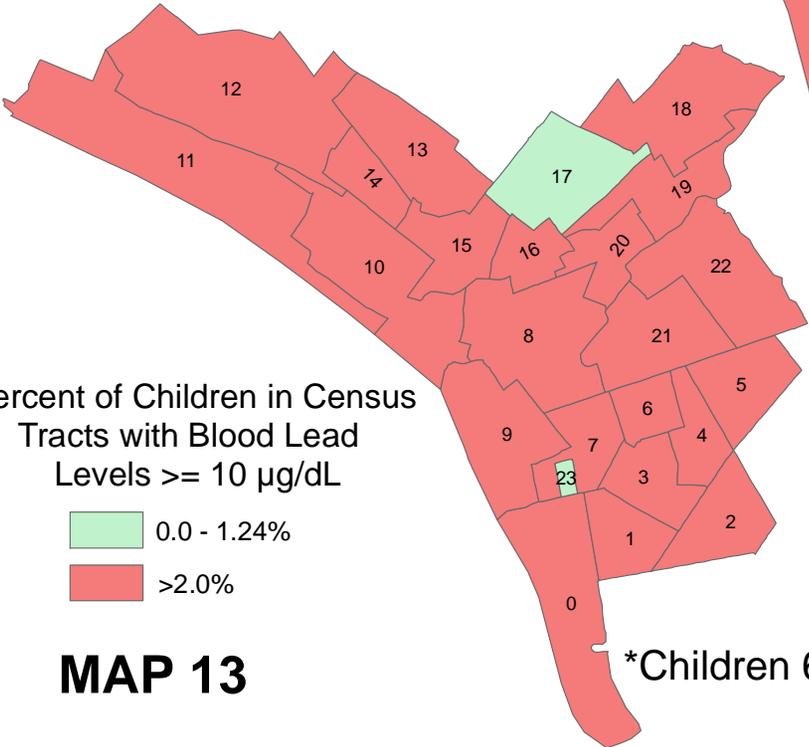
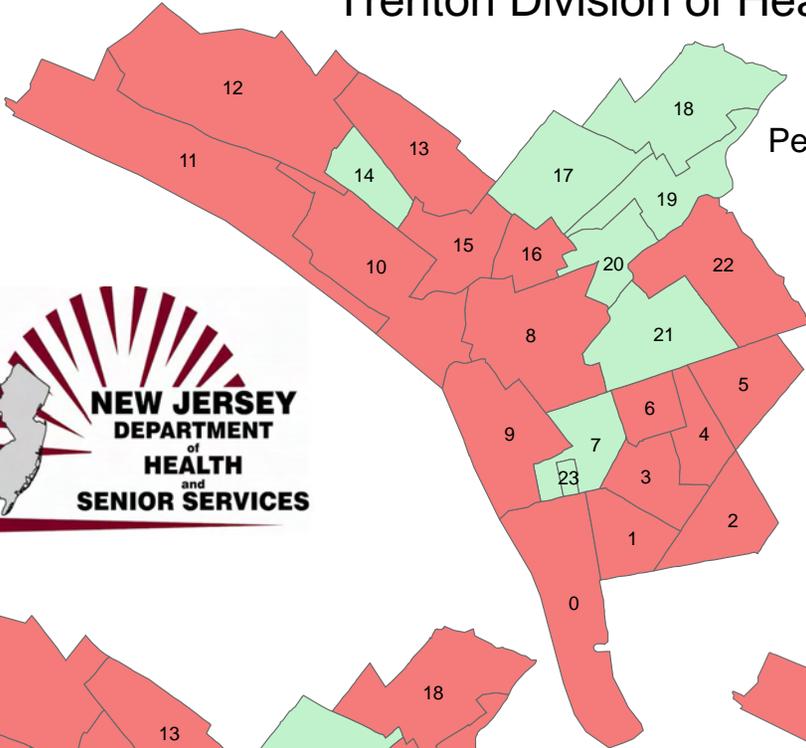
Percent of Children
(6-29 months) Screened
for Blood Lead Levels



MAP 12B

*Children 6 to 29 Months of Age

EBL* and Screening Rates* by Census Tract: Trenton Division of Health, CY2005-07



MAP 13

*Children 6 to 29 Months of Age

Chapter Four

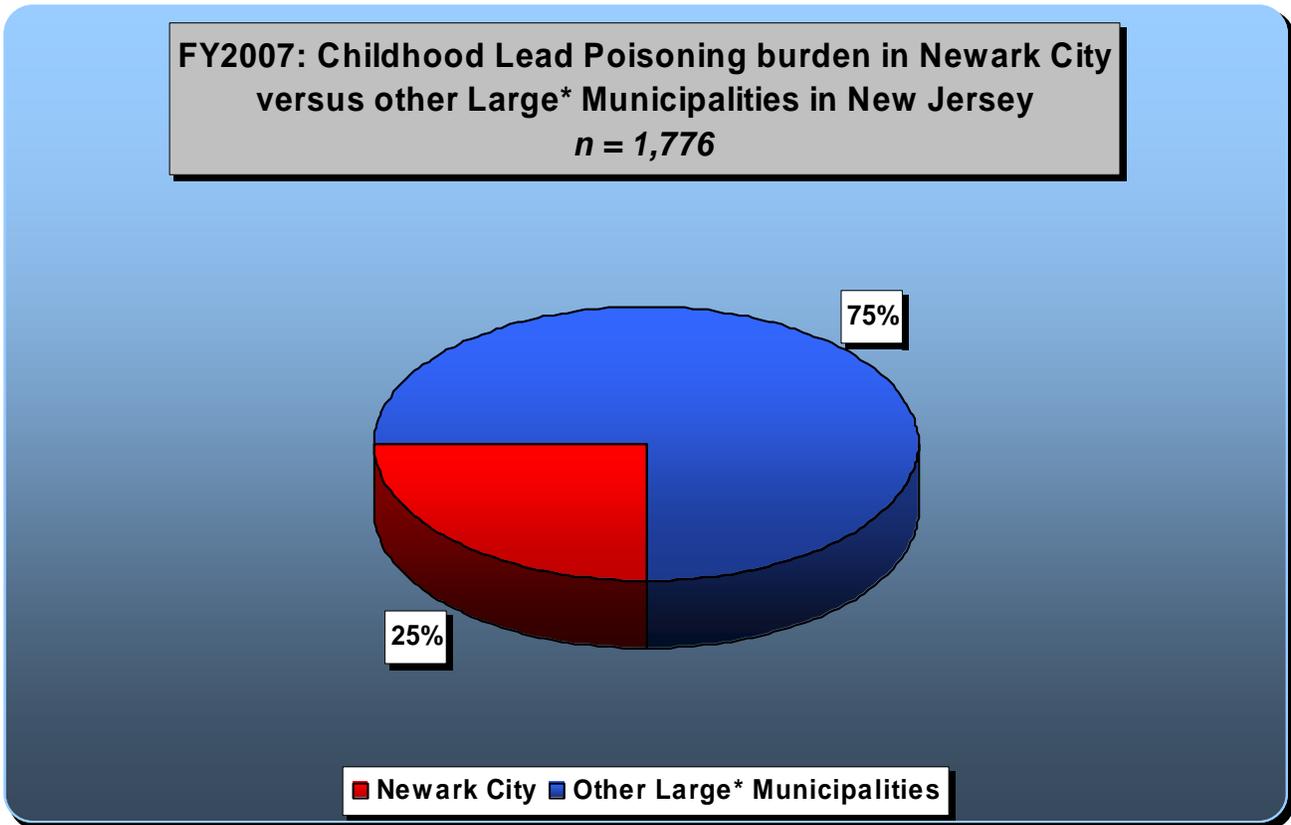
SPOTLIGHT ON NEWARK CITY

Newark has the heaviest burden of childhood lead poisoning in the entire state, as depicted in the charts and graphs exhibited in this chapter.

Newark comprised 18% of all children (< 6 years old) in the entire State with EBL ($\geq 10 \mu\text{g/dL}$) during FY2007. Among all large municipalities, Newark has the highest number of children (< 6 years old) with EBL. Newark comprised 25% of the number of children (< 6 years old) with EBL in all large municipalities.

Whether or not New Jersey as a state meets its goal of eliminating childhood lead poisoning as a public health problem depends heavily on Newark's success in addressing the issue.

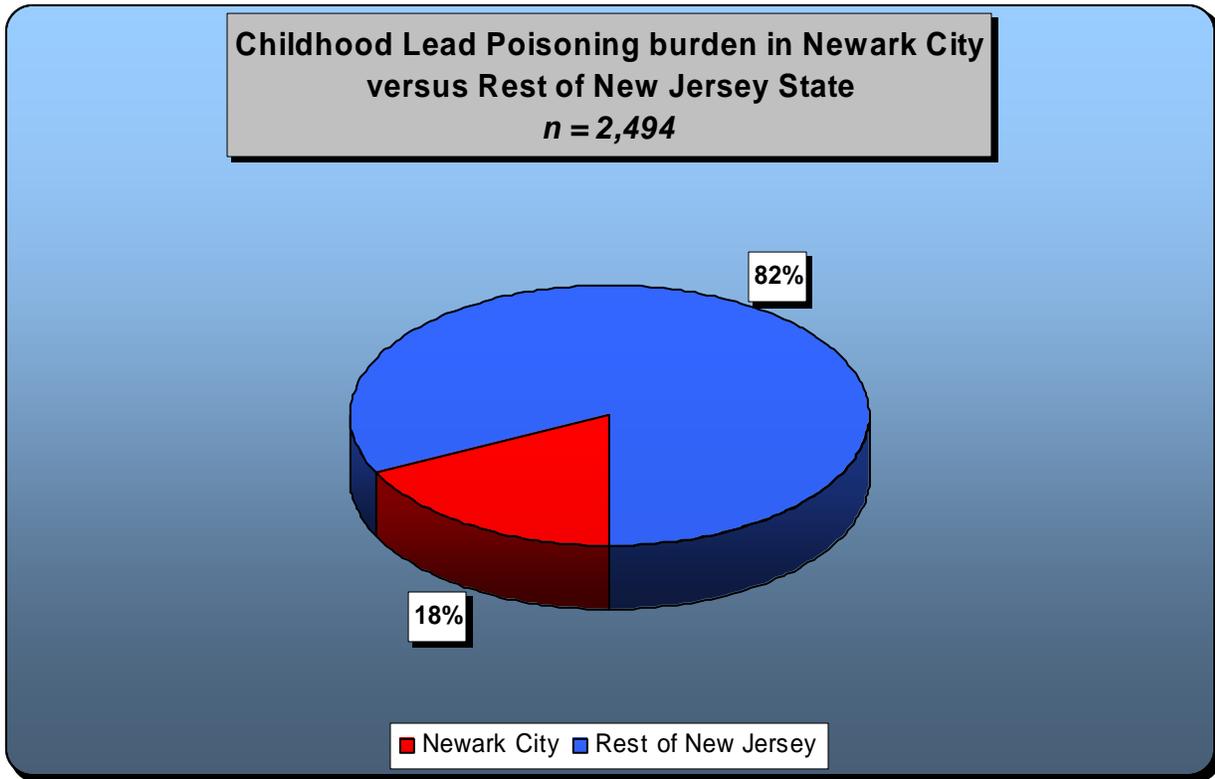
Figure 9



**Municipalities with population of >35,000 (Source: US Census 2000 data)*

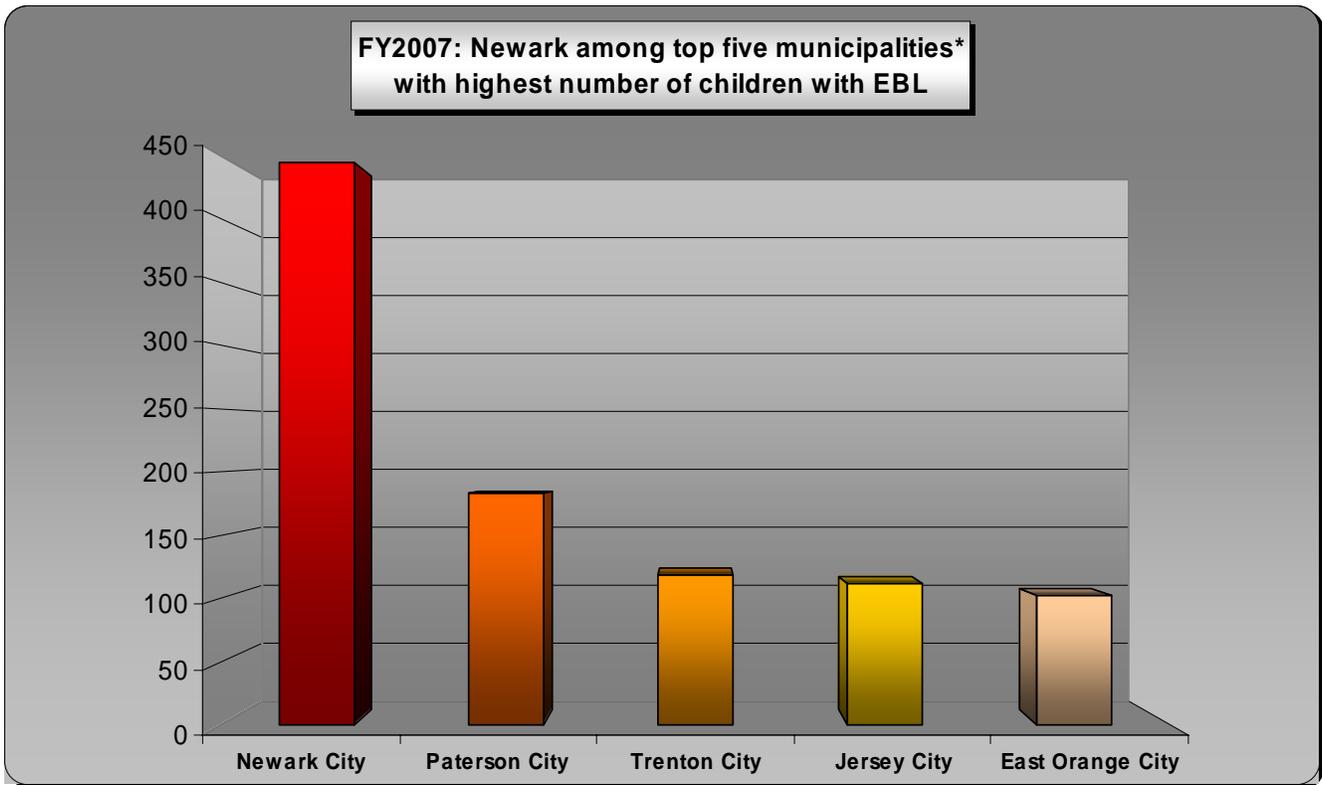
The above pie chart is based on the number of unduplicated children (<6 years old) in the large* municipalities, reported with blood lead levels of $\geq 10 \mu\text{g/dL}$ (1,776 children), counting only one test (highest blood lead level reported) per child, during FY2007.

Figure 10



The above pie chart is based on the number of unduplicated children (<6 years old) in the entire State, reported with blood lead levels of $\geq 10 \mu\text{g/dL}$ (2,494 children), counting only one test (highest blood lead level reported) per child, during FY2007.

Figure 11

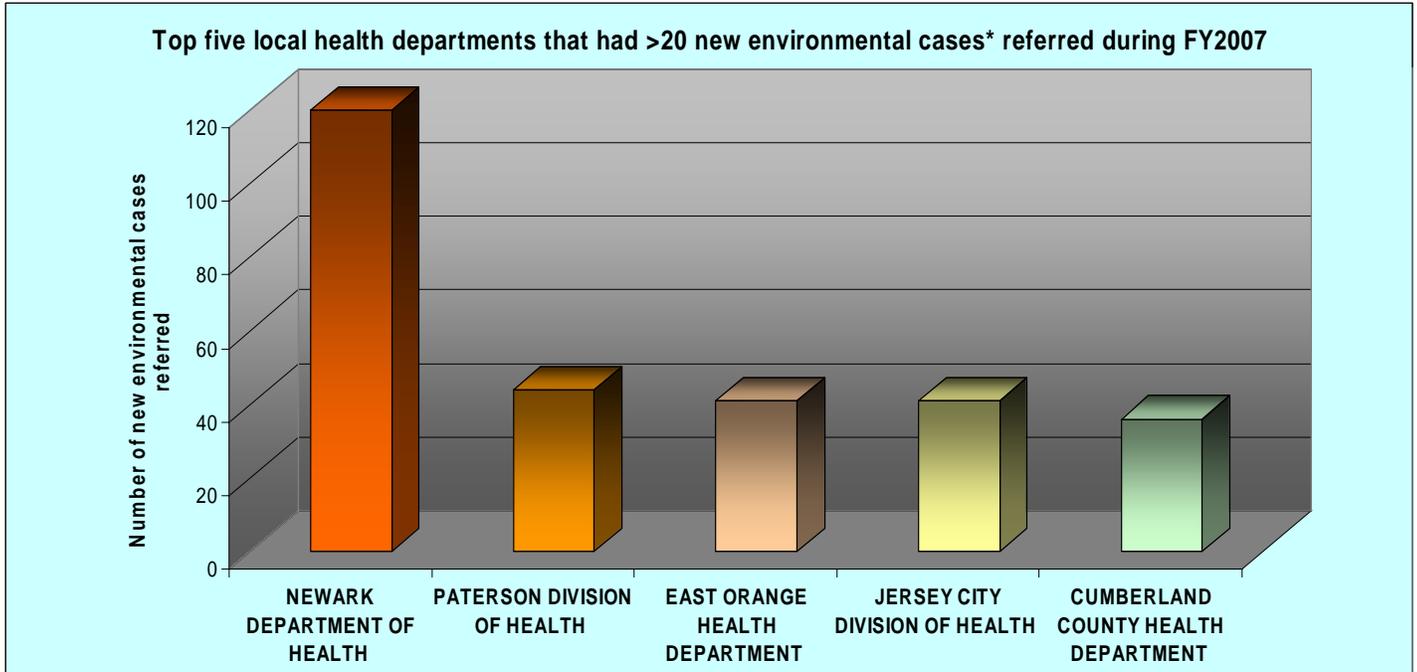


***Municipalities with population of >35,000**

The above pie chart is based on the number of unduplicated children (<6 years old) in the large* municipalities, reported with blood lead levels of $\geq 10 \mu\text{g/dL}$, counting only one test (highest blood lead level reported) per child, during FY2007.

The following chart highlights Newark, with the highest number of new environmental cases referred to during FY2007 and the magnitude of the same among the top five local health departments that had more than 20 new environmental cases referred to during the same fiscal year.

Figure 12



*New environmental case is referred to the local health department when a child with lead level of $\geq 15 \mu\text{g/dL}$ is reported to NJ DHSS, with an address for which there has been no environmental case referred to ever before, or if it has been more than one year since the environmental case for the address has been closed.

Chapter Five

ENVIRONMENTAL INVESTIGATIONS BY LOCAL HEALTH DEPARTMENTS

New Jersey law (N.J.S.A. 24:14A-6) requires local boards of health to investigate all reported cases of lead poisoning within their jurisdiction and to order the abatement of all lead hazards identified in the course of the investigation. The procedures for conducting these investigations are specified in Chapter XIII of the New Jersey State Sanitary Code (N.J.A.C. 8:51). The local health department must conduct an inspection of the child's primary residence, and any other places, such as a child care center or the home of a relative or babysitter, where the child spends a significant amount of time. Even if the child moves, the property where the child resided when the blood lead test was done must be inspected. The inspection includes a determination of the presence of lead-based paint, the identification of locations where that paint is in a hazardous condition (such as peeling, chipping or flaking), and the presence of lead in dust or soil. The inspector completes a questionnaire through speaking to the child's parent or guardian to help determine any other potential sources of lead hazard exposure.

In addition, the local health department arranges for a home visit by a public health nurse to educate the parents about lead poisoning and the steps that they can take to protect their child. The nurse also provides on-going case management services to assist the family in getting follow-up testing, medical treatment, and other social services that they may require to address the effects of their child's exposure to lead.

The DHSS maintains a system for notifying each local health department of all children with elevated blood lead reported in its jurisdiction. This system is described in Appendix 1. When an elevated blood lead test result is received, it is compared with the records in the database to determine if this child has had a previously reported blood lead level ≥ 15 ug/dL, for whom a notice had been issued, at the same address, within the previous 12 months. For each child not previously reported, a notice is sent to the local health department which has jurisdiction over the address given on the laboratory report. This chapter presents the data on children with EBL reported to local health departments, and local health department actions in response.

The data in Tables 9, 10 and 11 reflect the results of environmental investigations as reported to the DHSS by local health departments. They are accurate to the extent that local health departments make complete and timely reports to the DHSS. It is possible that additional inspections and/or abatements may have been completed, but not reported.

Table 9

ENVIRONMENTAL ACTIVITY STATUS BY COUNTY - FY2007								
County	EBL Reports Sent	Invest. Required	Invest. Completed	Percent Invest. Completed	Lead Haz. Found	% Lead Hazards Found	No. Abatements Completed	% Abatements Completed
ATLANTIC	22	19	17	89%	12	71%	8	67%
BERGEN	36	28	22	79%	22	100%	9	41%
BURLINGTON	11	6	4	67%	2	50%	1	50%
CAMDEN	34	31	22	71%	14	64%	8	57%
CAPE MAY	3	3	3	100%	2	67%	2	100%
CUMBERLAND	77	55	46	84%	14	30%	4	29%
ESSEX	301	256	231	90%	174	75%	69	40%
GLOUCESTER	5	5	4	80%	3	75%	0	0%
HUDSON	79	60	39	65%	21	54%	17	81%
HUNTERDON	3	3	3	100%	3	100%	2	67%
MERCER	53	49	42	86%	24	57%	14	58%
MIDDLESEX	49	36	35	97%	26	74%	10	38%
MONMOUTH	35	28	19	68%	14	74%	10	71%
MORRIS	6	5	5	100%	4	80%	1	25%
OCEAN	23	20	17	85%	11	65%	7	64%
PASSAIC	151	127	82	65%	44	54%	24	55%
SALEM	16	14	13	93%	12	92%	4	33%
SOMERSET	16	12	12	100%	6	50%	0	0%
SUSSEX	2	2	1	50%	0	0%	0	0%
UNION	74	65	49	75%	37	76%	21	57%
WARREN	12	12	9	75%	8	89%	3	38%
TOTAL	1008	836	675	81%	453	67%	214	47%

The above table displays the profile of environmental activity for each county, based on the number of EBL reports (referrals) for new environmental cases* sent to the appropriate local health department in the county and the status of the environmental activity performed for the cases.

**A new environmental case is generated and referred to the pertinent local health department when there is an EBL reported on a child, residing at the address that either never had an environmental case opened or it has been more than 365 days since the last time when an environmental case was closed for the same address.*

Table 10

LOCAL HEALTH DEPARTMENTS WITH 20 OR MORE NEW ENVIRONMENTAL CASES REFERRED DURING FY2007								
Local Health Department	EBL Reports Sent	Invest. Required	Invest. Completed	Percent Invest. Completed	Lead Hazards Found	% Lead Hazards Found	Abatements Completed	% Abatements Completed
NEWARK DEPARTMENT OF HEALTH	174	146	139	95%	115	83%	39	34%
PATERSON DIVISION OF HEALTH	92	83	55	66%	31	56%	20	65%
CUMBERLAND COUNTY HEALTH DEPARTMENT	73	51	42	82%	10	24%	4	40%
JERSEY CITY DIVISION OF HEALTH	58	44	29	66%	14	48%	12	86%
PASSAIC CITY HEALTH DEPARTMENT	53	38	27	71%	13	48%	4	31%
EAST ORANGE HEALTH DEPARTMENT	49	44	33	75%	16	49%	13	81%
TRENTON DEPT OF HEALTH & HUMAN SERVICES	46	44	37	84%	20	54%	11	55%
MIDDLESEX COUNTY PUBLIC HEALTH DEPARTMENT	43	32	31	97%	22	71%	9	41%
IRVINGTON DEPARTMENT OF HEALTH & WELFARE	40	35	32	91%	26	81%	13	50%
CAMDEN COUNTY DEPARTMENT OF HEALTH	34	31	22	71%	14	64%	8	57%
ELIZABETH DEPARTMENT OF HEALTH & HUMAN SERVICES	32	27	16	59%	11	69%	10	91%
PLAINFIELD HEALTH DEPARTMENT	31	27	25	93%	16	64%	7	44%
OCEAN COUNTY HEALTH DEPARTMENT	23	20	14	70%	11	79%	7	64%
MONMOUTH COUNTY HEALTH DEPARTMENT	20	17	12	71%	9	75%	6	67%

The above table depicts the local health department that had more than 20 new environmental cases* referred (EBL reports sent) to them during FY2007, and the status of the environmental activity performed for the cases. See Appendix 2 for complete data on the status of all elevated blood lead reports issued by local health department.

**A new environmental case is generated and referred to the pertinent local health department when there is an EBL reported on a child, residing at the address that either never had an environmental case opened or it has been more than 365 days since the last time when an environmental case was closed for the same address.*

Table 11

CURRENT ENVIRONMENTAL INVESTIGATION STATUS BY FISCAL YEAR FY 1997 THROUGH FY 2007								
Fiscal Year	EBL Reports* Sent	Invest. Required	Investigation Completed	% Invest. Completed	# Lead Hazard Found	% Lead Hazard Found	# of Abatement Completed	% Abatement Completed
FY1997	2168	1499	1466	98%	777	53%	765	98%
FY1998	2014	1455	1405	97%	738	53%	725	98%
FY1999	1517	1044	949	91%	584	62%	555	95%
FY2000	1144	815	700	86%	510	73%	481	94%
FY2001	932	648	560	86%	384	69%	372	97%
FY2002	866	600	540	90%	365	68%	358	98%
FY2003	796	527	492	93%	306	62%	285	93%
FY2004	748	527	465	88%	303	65%	280	92%
FY2005	718	542	471	87%	295	63%	267	91%
FY2006	688	505	394	78%	257	65%	198	77%
FY2007	1008	836	675	81%	453	67%	214	47%
TOTAL	8,797	6,166	5,987	97%	3,939	66%	376	83%

*EBL referrals sent to the local health departments

The above table displays the trend of environmental investigation status by State Fiscal Years, from SFY1997 through SFY2007

Note: This table is cumulative, and reflects the status of all cases as of June 30, 2007

Table 11 illustrates that it can take several years to complete abatement of a property where lead hazards have been identified. The length of time between the reporting of an elevated blood lead test result and the completion of the abatement of lead hazards responsible for the elevation is affected by a number of factors, which vary from case to case. These factors include:

- difficulty in identifying and communicating with absentee landlords;
- lengthy enforcement actions required against recalcitrant property owners, including court action, when necessary;
- delays in contracting and scheduling work by State-certified lead abatement contractors; and
- inability of some property owners to cover the cost of the required abatement, and/or to obtain financial assistance for these costs.

Chapter Six

ADDRESSING CHILDHOOD LEAD POISONING IN NEW JERSEY

The goal of the New Jersey Department of Health and Senior Services is to reduce, and ultimately eliminate childhood lead poisoning as a public health problem in New Jersey. In *Healthy New Jersey 2010*, published in August 2001, the DHSS has set health objectives for the State for the next ten years, including the following two objectives related to childhood lead poisoning:

- To increase the percentage of children tested for lead poisoning by two years of age to 85%.
- To reduce the percentage of children whose blood lead level is ≥ 10 ug/dL by 50%.

Accomplishments in FY 2007

A. Increasing Screening Rates

Collaboration with the Department's Refugee Health Program (RHP) - Collaboration was initiated with the Refugee Health Program to ensure that blood lead screening is completed and documented as part of the child's initial health assessment at Federally Qualified Health Centers and at other health care providers.

Educating Physicians in their Communities (EPIC) – The lead module, with an emphasis on performing in-office blood draws, was developed by the New Jersey Chapter of the American Academy of Pediatrics/Pediatric Council on Research and Education (PCORE) in FY 2006, and implemented in 12 Trenton primary care practices that serve children. In order to improve lead screening efforts of physicians in Monmouth County, the lead module was implemented in FY 2007 in seven primary care practices in the following towns: Asbury Park, Red Bank, Long Branch and Neptune.

Matching Lead Registry Data with Medicaid Data - On an ongoing collaboration basis, NJ DHSS has been performing the quarterly process of matching its lead registry records with the children's records supplied by Medicaid. This activity has been significantly helping Medicaid staff identify screening rates of Medicaid children, obtain their blood lead levels, as well as identify unscreened children. This in turn would help Medicaid target their focus for increasing screening rates of Medicaid children.

B. Surveillance

LeadTrax, a web-based surveillance system, became operational in July 2006. LeadTrax has enabled DHSS to decrease the time between the receipt of a blood lead sample report from the analyzing lab to notification of the DHSS grantee of an EBL requiring a public health response. In addition, using LeadTrax, DHSS grantees are able to view blood lead level results in virtually real time fashion as well as electronically document and track their case management and environmental investigation activities for lead poisoned children in their jurisdiction.

Several enhancements and additions were made to LeadTrax during FY2007, including, but not limited to, added ability to view and print multiple pages of case management activity documentation, and enhancement of the de-duplication tool. During FY2007, a new template was created for the users of LeadCare analyzer to electronically report blood lead test data to the DHSS. This template enabled fast and electronic reporting of LeadCare analysis results as well as importing of the data into LeadTrax system.

C. Follow-up of Children with Elevated Blood Lead

Case management protocols were revised so that all children with one EBL of ≥ 15 ug/dL were admitted for case management services by DHSS grantees. DHSS data analysis indicated a substantial increase in caseload for the Newark Childhood Lead Poisoning Prevention Program (CLPPP) due to lowering the action level and in response allocated additional funding to the Newark Department of Health and Human Services to hire two additional nurses.

D. Public and Professional Education

Childhood Lead Poisoning Prevention (CLPP) Week (October 2006) – The regional CLPP coalitions, in partnership with the New Jersey Interagency Task Force on the Prevention of Lead Poisoning, planned and implemented activities statewide. The 2006 theme centered on the importance of hand washing to prevent lead poisoning. The week-long observance included an event on the steps of Trenton City Hall where children that attend the Learning Depot childcare center performed several songs about preventing lead poisoning. New mittens and gloves were collected and distributed to social service agencies statewide.

E. Strengthening Collaborations

Statewide Planning – DHSS continued to be an active participant on the Interagency Task Force. Through the Task Force, DHSS staff from Family Health Services, Consumer and Environmental Health Services, and Occupational Health Services worked with their colleagues in other State agencies and community-based organizations to implement policies and projects to reduce and eliminate childhood lead poisoning in New Jersey. Strategies focused on five key areas of the statewide Elimination Plan:

surveillance; screening and case management; education; lead-safe maintenance/renovation and abatement; and environment.

Collaboration with the Division of Consumer and Environmental Health Services - DHSS' Family Health Services and Consumer and Environmental Health Services, in cooperation with the Department of Environmental Protection (DEP), identified high risk areas by conducting a demonstration project, linking blood lead data with environmental exposure data, and identified targeted screening areas under the Centers for Disease Control and Prevention (CDC) funded Environmental and Health Effects Tracking Program. This project served as the foundation toward CDC developing an Environmental Public Health Web Portal.

Department of Community Affairs (DCA) – DHSS supported the DCA-administered Lead Hazard Control Assistance (LHCA) Act in several ways. Local health departments referred families with lead poisoned children for temporary, or if needed, permanent relocation assistance while lead hazards were abated in their residences. Affected property owners were referred to DCA's Lead Education and Outreach (LEO) grantee agencies for assistance in applying for low interest loans to address the identified lead hazards. Low income applicants were eligible to receive forgivable grants. Upon the completion of the required abatements, DHSS provided address-specific data to DCA to populate the Lead Safe Housing Registry. In addition, the Regional CLPP Coalitions collaborated with the LEO grantees by promoting the financial assistance available through the LHCA Fund to all NJ property owners, regardless of if a lead poisoned child resided in the housing unit. Lastly, DCA conducted presentations at Regional CLPP Coalition meetings, DHSS local health department grantee meetings, and at Child Health Regional Network meetings. These presentations provided a forum to assure that local health departments and community-based health and housing agencies were aware of and utilized these resources (emergency relocation assistance, financial assistance to address lead hazards).

Appendix 1

CHILDHOOD LEAD POISONING PREVENTION

SURVEILLANCE SYSTEM

FY 2007

Appendix 1

CHILDHOOD LEAD POISONING PREVENTION SURVEILLANCE SYSTEM

All clinical laboratories licensed by the DHSS are required to report all blood lead tests. This universal reporting was authorized by Public Law 1995, chapter 328 (N.J.S.A. 26:2-137.5b). N.J.A.C. 8:44-2.11 established the requirement for reporting of all blood lead tests. Prior to July 1, 1999, reporting was required only of elevated test results.

During FY 2007, more laboratories were enabled to report blood lead test results electronically (97% of all reports during FY 2006 were transmitted to the DHSS electronically, compared to 92% of all reports during FY 2005). Efforts are underway to enable more laboratories to transmit files of blood lead tests results electronically rather than on hard copies.

All reported blood lead tests are entered into LeadTrax, the web-based data surveillance system. This database records the child's name, address, birth date, and blood lead level, as well as the medical provider and laboratory performing the testing. These data are used to track childhood lead poisoning in New Jersey, both geographically and over time, and to produce reports of this information (such as this Annual Report). The database contains files of over 2 million blood lead test results on about 2 million children, dating back to the mid-1970's. Most of the records from before July 1999 are of elevated test results.

Blood lead tests results are reviewed to identify children with elevated blood lead (>15 ug/dL). The DHSS then notifies local health departments of children with elevated blood lead reported in their jurisdictions. This is done through issuing a Lead Poisoning Environmental Intervention Report (LP-1). This report is issued whenever the DHSS receives a report of an elevated blood lead test on a child, unless a report form has already been issued on the same child, at the same address, within the previous twelve months. More than one form may be issued on the same child if the address shown on the laboratory report is different from that on a previous report. This is done to ensure that the local health department is aware of any changes of address made by the child and their family, and to ensure that all places where the child resides are investigated for lead hazards.

For the local health departments that have access to LeadTrax system, a notification is generated in the form of a message (via LeadTrax's built-in message system) as well as an internet based e-mail (for those users who have provided their e-mail address in the user profile). The notification contains the list of all children (<17 years old) reported with EBL on the day. The jurisdiction rules engineered into LeadTrax system governs the list of children being sent to the appropriate local health department, based on the county-municipality code for the address reported by the laboratory.

The local health department is required to report the closure or completion of an investigation and/or abatement to the DHSS, using copies of these forms. The DHSS Child and Adolescent Health Program maintains a database for tracking the status and results of lead poisoning investigations. The database contains more than 31,000 records on environmental actions taken by local health departments since the mid-1980's. When the local health department reports that an inspection has been completed and the lead hazards abated, or the case otherwise closed, the DHSS will record the case as closed. Any case of lead poisoning in a child for which the DHSS has not received a completed report from the local health department is considered to be "open". Reports are sent to local health departments to remind them of cases still open.

The local health departments that have access to LeadTrax system will use the screens for documenting case management- and environmental intervention activities on top of reporting the environmental intervention activities via LP-1 form.

Creation of Report Tables

Working copies of statistical report tables are derived using LeadTrax system's report tool. The query logic for these reports is based upon all blood lead test results reported to the NJ DHSS, with date of sample between July 1, 2006 and June 30, 2007. The query logic in LeadTrax also selects only one (the highest blood lead level result) per child among all tests selected with the criteria above. By means of that, one child is only counted once for the report statistics. From the working copies of statistical reports, the final tables and charts for the Annual Report are derived.

Blood lead test results are reported in either electronic or hardcopy format. All hardcopy reports are initially entered into a temporary database. All the reports are then batch loaded (imported electronically) into the LeadTrax system exactly in the same manner as electronically reported files are imported.

All new address records are geo-coded and standardized into U.S. Postal Services format and geo-coded to county, municipal, and census tract levels. If addresses could not be standardized, then the reported address is retained as is. However, all addresses reported with EBL results (15 ug/dL and above) would be manually verified, using the United States Postal Services website, and also geo-coded (at least to the county and municipality level) manually in LeadTrax system, on the same day of report to the NJ DHSS.

It is not possible to specifically identify the number of screening tests because the reason for testing is not reported. In assigning test results to a blood lead level group, if the result is reported as "<" some value, then the result is assigned to a group as if the "<" sign is not reported. For example, a result reported as "<3" is processed as if the value is 3 and therefore assigned to the "< 10 ug/dL" group.

U.S. Census 2000 data is used when reporting the total number of children by age group within a specific geographic area. When performing analyses for children ages six months through 29 months of age, the denominator used is children at one year old through two years old because the U.S. Census 2000 tables do not report age in months. This provides a reasonable estimate of children within the 6 through 29 month age group because of the relative stability of New Jersey's population within this age group.

Environmental Activities

All records are selected from the environmental portion of the database. Environmental records are assigned to a fiscal year based upon the date of analysis of the blood lead test result that generated the environmental record. All environmental activities (investigation, abatement, and closure) counted within this report as occurring during FY2006, actually occurred during FY2007. That is, the date for any activity completed after June 30, 2007, was set to missing and, therefore, not counted within this report. Activities counted within this section of the report were based upon records updated through September 10, 2007. It should be noted that because of the dynamic nature of the database, comparison with previous years' reports may result in small discrepancies because of updated records.

Appendix 2

ENVIRONMENTAL ACTIVITY STATUS

BY LOCAL HEALTH DEPARTMENT JURISDICTION

FY 2007

COUNTY / LOCAL HEALTH DEPARTMENT	EBL REPORTS SENT	INVEST. NOT REQUIRED	INVEST. REQUIRED	INVEST. PENDING	INVEST. COMPLETED	% INVEST. COMPLETED	LEAD HAZARDS FOUND	% LEAD HAZARDS FOUND	ABATEMENT PENDING	ABATEMENT COMPLETED	% ABATEMENT COMPLETED
ATLANTIC COUNTY											
ATLANTIC COUNTY HEALTH DEPARTMENT	10	1	9	0	9	100%	7	78%	2	5	71%
ATLANTIC CITY HEALTH DEPARTMENT	12	2	10	2	8	80%	5	63%	2	3	60%
BERGEN COUNTY											
BERGEN COUNTY DEPARTMENT OF HEALTH SERVICES	7	0	7	1	6	86%	6	100%	4	2	33%
ENGLEWOOD HEALTH DEPARTMENT	2	0	2	0	2	100%	2	100%	2	0	0%
FAIR LAWN HEALTH DEPARTMENT	1	1	0	0	0	.	0	.	0	0	.
FORT LEE DEPARTMENT OF HEALTH	1	0	1	0	1	100%	1	100%	1	0	0%
HACKENSACK HEALTH DEPARTMENT	7	5	2	0	2	100%	2	100%	0	2	100%
PALISADES PARK HEALTH DEPARTMENT	2	0	2	2	0	0%	0	.	0	0	.
PARAMUS BOARD OF HEALTH	1	0	1	0	1	100%	1	100%	0	1	100%
MID-BERGEN REGIONAL HEALTH COMMISSION	5	1	4	0	4	100%	4	100%	1	3	75%
TEANECK DEPARTMENT OF HEALTH & HUMAN SERVICES	3	0	3	1	2	67%	2	100%	2	0	0%
N.W. BERGEN REGIONAL HEALTH COMMISSION	3	1	2	0	2	100%	2	100%	2	0	0%
WASHINGTON TOWNSHIP LOCAL HEALTH AGENCY	3	0	3	2	1	33%	1	100%	0	1	100%
WESTWOOD HEALTH DEPARTMENT	1	0	1	0	1	100%	1	100%	1	0	0%
BURLINGTON COUNTY											
BURLINGTON COUNTY HEALTH DEPARTMENT	11	5	6	2	4	67%	2	50%	1	1	50%
CAMDEN COUNTY											
CAMDEN COUNTY DEPARTMENT OF HEALTH	34	3	31	9	22	71%	14	64%	6	8	57%
CAPE MAY COUNTY											
CAPE MAY COUNTY HEALTH DEPARTMENT	3	0	3	0	3	100%	2	67%	0	2	100%
CUMBERLAND COUNTY											
CUMBERLAND COUNTY HEALTH DEPARTMENT	73	22	51	9	42	82%	10	24%	6	4	40%
VINELAND DEPARTMENT OF HEALTH	4	0	4	0	4	100%	4	100%	4	0	0%
ESSEX COUNTY											
BLOOMFIELD DEPARTMENT OF HEALTH	2	0	2	0	2	100%	1	50%	1	0	0%
EAST ORANGE HEALTH DEPARTMENT	49	5	44	11	33	75%	16	49%	3	13	81%
IRVINGTON DEPARTMENT OF HEALTH & WELFARE	40	5	35	3	32	91%	26	81%	13	13	50%
MAPLEWOOD HEALTH DEPARTMENT	7	0	7	1	6	86%	1	17%	1	0	0%
MONTCLAIR HEALTH DEPT.	10	1	9	1	8	89%	4	50%	2	2	50%
NEWARK DEPARTMENT OF HEALTH	174	28	146	7	139	95%	115	83%	76	39	34%
SOUTH ORANGE HEALTH DEPARTMENT	1	1	0	0	0	.	0	.	0	0	.
WEST ORANGE HEALTH DEPARTMENT	18	5	13	2	11	85%	11	100%	9	2	18%
GLOUCESTER COUNTY											
GLOUCESTER COUNTY DEPARTMENT OF HEALTH	5	0	5	1	4	80%	3	75%	3	0	0%
HUDSON COUNTY											
BAYONNE DEPARTMENT OF HEALTH	3	1	2	1	1	50%	0	0%	0	0	.
HARRISON BOARD OF HEALTH	1	0	1	1	0	0%	0	.	0	0	.
HOBOKEN HEALTH DEPARTMENT	2	0	2	0	2	100%	1	50%	0	1	100%
JERSEY CITY DIVISION OF HEALTH	58	14	44	15	29	66%	14	48%	2	12	86%
KEARNY DEPARTMENT OF HEALTH	3	0	3	0	3	100%	2	67%	0	2	100%
NORTH BERGEN HEALTH DEPARTMENT	8	3	5	3	2	40%	2	100%	2	0	0%
WEST NEW YORK HEALTH DEPARTMENT	4	1	3	1	2	67%	2	100%	0	2	100%
HUNTERDON COUNTY											
HUNTERDON COUNTY DEPARTMENT OF HEALTH	3	0	3	0	3	100%	3	100%	1	2	67%
MERCER COUNTY											
HAMILTON TOWNSHIP DIVISION OF HEALTH	4	0	4	0	4	100%	3	75%	1	2	67%
PRINCETON REGIONAL HEALTH COMMISSION	1	1	0	0	0	.	0	.	0	0	.
TRENTON DEPT OF HEALTH & HUMAN SERVICES	46	2	44	7	37	84%	20	54%	9	11	55%
WEST WINDSOR TOWNSHIP HEALTH DEPARTMENT	2	1	1	0	1	100%	1	100%	0	1	100%
MIDDLESEX COUNTY											
MIDDLESEX COUNTY PUBLIC HEALTH DEPARTMENT	43	11	32	1	31	97%	22	71%	13	9	41%
MIDDLE-BROOK REGIONAL HEALTH COMMISSION	4	0	4	0	4	100%	4	100%	3	1	25%
PISCATAWAY TOWNSHIP HEALTH DEPARTMENT	1	1	0	0	0	.	0	.	0	0	.
SOUTH BRUNSWICK HEALTH DEPARTMENT	1	1	0	0	0	.	0	.	0	0	.
MONMOUTH COUNTY											
MONMOUTH COUNTY HEALTH DEPARTMENT	20	3	17	5	12	71%	9	75%	3	6	67%
FREEHOLD AREA HEALTH DEPARTMENT	6	2	4	2	2	50%	2	100%	0	2	100%
LONG BRANCH DEPARTMENT OF HEALTH	4	2	2	1	1	50%	0	0%	0	0	.

COUNTY / LOCAL HEALTH DEPARTMENT	EBL REPORTS SENT	INVEST. NOT REQUIRED	INVEST. REQUIRED	INVEST. PENDING	INVEST. COMPLETED	% INVEST. COMPLETED	LEAD HAZARDS FOUND	% LEAD HAZARDS FOUND	ABATEMENT PENDING	ABATEMENT COMPLETED	% ABATEMENT COMPLETED
MIDDLETOWN TOWNSHIP HEALTH DEPARTMENT	2	0	2	0	2	100%	1	50%	0	1	100%
MONMOUTH COUNTY REGIONAL HEALTH COMMISSION	2	0	2	1	1	50%	1	100%	0	1	100%
MONMOUTH COUNTY (contd.)											
DOVER HEALTH DEPARTMENT	1	0	1	0	1	100%	1	100%	1	0	0%
MORRIS COUNTY											
MORRISTOWN DIVISION OF HEALTH	3	0	3	0	3	100%	3	100%	3	0	0%
PARSIPPANY HEALTH DEPARTMENT	1	1	0	0	0	.	0	.	0	0	.
PEQUANNOCK TOWNSHIP BOARD OF HEALTH	1	0	1	0	1	100%	1	100%	0	1	100%
ROCKAWAY TOWNSHIP HEALTH DEPARTMENT	1	0	1	0	1	100%	0	0%	0	0	.
OCEAN COUNTY											
OCEAN COUNTY HEALTH DEPARTMENT	23	3	20	6	14	70%	11	79%	4	7	64%
PASSAIC COUNTY											
CLIFTON BOARD OF HEALTH	6	0	6	3	3	50%	0	0%	0	0	.
PASSAIC CITY HEALTH DEPARTMENT	53	15	38	11	27	71%	13	48%	9	4	31%
PATERSON DIVISION OF HEALTH	92	9	83	28	55	66%	31	56%	11	20	65%
SALEM COUNTY											
SALEM COUNTY DEPARTMENT OF HEALTH	16	2	14	1	13	93%	12	92%	8	4	33%
SOMERSET COUNTY											
SOMERSET COUNTY HEALTH DEPARTMENT	13	2	11	0	11	100%	5	46%	5	0	0%
FRANKLIN TOWNSHIP HEALTH DEPARTMENT	3	2	1	0	1	100%	1	100%	1	0	0%
SUSSEX COUNTY											
SUSSEX COUNTY DEPT HEALTH PUBLIC SAFETY AND SENIOR SVCS	2	0	2	1	1	50%	0	0%	0	0	
UNION COUNTY											
ELIZABETH DEPARTMENT OF HEALTH & HUMAN SERVICES	32	5	27	11	16	59%	11	69%	1	10	91%
PLAINFIELD HEALTH DEPARTMENT	31	4	27	2	25	93%	16	64%	9	7	44%
RAHWAY HEALTH DEPARTMENT	5	0	5	3	2	40%	2	100%	0	2	100%
SUMMIT HEALTH DEPARTMENT	2	0	2	0	2	100%	2	100%	2	0	0%
TOWNSHIP OF UNION DEPARTMENT OF HEALTH	2	0	2	0	2	100%	2	100%	1	1	50%
WESTFIELD REGIONAL HEALTH DEPARTMENT	2	0	2	0	2	100%	2	100%	1	1	50%
WARREN COUNTY											
WARREN COUNTY HEALTH DEPARTMENT	12	0	12	3	9	75%	8	89%	5	3	38%
STATEWIDE TOTALS	1008	172	836	161	675	81%	453	67%	237	214	47%