

**CHILDHOOD LEAD POISONING
IN NEW JERSEY
ANNUAL REPORT**

**FISCAL YEAR 2002
(July 1, 2001 – June 30, 2002)**

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EXECUTIVE SUMMARY

This Annual Report on Childhood Lead Poisoning in New Jersey for Fiscal Year (FY) 2002 is submitted in compliance with Public Law 1995, Chapter 328, 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.

The New Jersey Department of Health and Senior Services (DHSS) maintains a Childhood Lead Poisoning Prevention Surveillance System (CLPPSS). This system collects reports from laboratories of the results of blood lead tests performed on children, identifies children with elevated test results, and notifies local health departments about the children with elevated blood lead who reside in their jurisdiction. The CLPPSS also includes a database that tracks the actions taken by the local health departments in response to children reported with elevated blood lead, as required by Chapter XIII of the New Jersey State Sanitary Code.

In analyzing the data from the CLPSS database, one major change was made from previous Annual Reports. This report focuses on children between six months and twenty-nine months (two and one-half years) of age as the primary target ages for blood lead testing. In previous years, the reports focused on children between one and two years (i.e. from 12 months to 35 months) of age. This change was made to better reflect the State regulations regarding screening for lead poisoning, which specify that children should be tested between 9 and 18 months of age, and again between 18 and 26 months of age, with high risk children to be tested as early as six months of age. The analysis of the data that was performed in the preparation of this report found that a significant number of children were being tested between 9 and 11 months of age, but were not being included in assessing compliance with the State lead screening law in previous reports.

Children tested for lead poisoning in FY 2002 (Chapter 1)

This report documents the continued progress of the DHSS and its partners in addressing childhood lead poisoning in New Jersey. The number of children tested for lead poisoning in FY 2002 was 171,712, an increase of 15% over the 149,233 children tested during FY 2001. This number includes 89,460 children between six months and twenty-nine months of age, the ages at which all children should be tested under State law. This is **40%** of all children in New Jersey in this age group, a significant increase over the 35% of children in this age group who were tested last year.

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. The most significant new finding in this year's report is that nearly **65%** of the estimated number of two-year-old children in New Jersey have had at least one blood lead test in their lifetime.

The percentage of children who were tested was highest in the counties where children are at the highest risk of having elevated blood lead, particularly Essex and Passaic counties. This is the first year for which municipal level testing data has been available, and the percentage of children who were tested was also highest in the cities where the greatest number of high risk children reside. These numbers reflect activities to increase testing in these communities.

Children with elevated blood test results in FY 2002 (Chapter 2)

Analysis of the blood lead reports received from clinical laboratories identified 5,457 children (3.2% of all children tested) who had blood lead test results at or above 10 micrograms per deciliter (ug/dL), the level that the U.S. Centers for Disease Control and Prevention (CDC) has stated may cause health and/or developmental problems in children. This number is a decrease of 159 children (2.8%) from the 5,616 children reported with blood lead levels ≥ 10 ug/dL in FY 2001. Because of the increase in the number of children tested, the percentage of children with elevated test results decreased from 3.8% to 3.2% (a 15.5% decrease).

Included in these numbers are 934 children (one half of one percent of all children tested) who had blood lead test results of 20 ug/dL or greater, the level at which environmental investigation is required under State regulations. This number is a small decrease (17 children; -1.8%) from the 947 children reported with blood lead levels ≥ 20 ug/dL in FY 2001.

The number and percentage of children with elevated blood lead results was highest in Essex County, where there were 2,153 children with blood lead levels ≥ 10 ug/dL (39% of all children in New Jersey with elevated test results). The number of children with elevated test results was also high in the urban counties of Camden, Hudson, Mercer, Passaic and Union. However, elevated test results were not limited to urban areas. High percentages of children with elevated test results were also found in rural Cumberland and Salem counties in South Jersey. **Every** county in New Jersey had children with elevated blood test results.

Environmental Investigations (Chapter 3)

The number of inspections and abatements completed during FY 2002 was greater than were completed in FY 2001. There were 482 inspections completed in FY 2002 in response to elevated blood lead tests reporting during the Fiscal Year (compared to 452 in FY 2001) and 133 abatements completed (compared to 99 in FY 2001). These increases occurred even though the number of cases where inspections were required decreased. The percentage of inspections completed, 71%, was significantly higher than the 62% completed within FY 2001 and the 60% completed within FY 2000. Likewise, the percentage of abatements completed by the end of Fiscal Year 2002, 37%, was higher than the 28% completed within FY 2001, and the 22% completed within FY 2000. These increases reflect both improved performance by the local health departments, and the impact of increased monitoring of the timeliness of inspections by the DHSS.

Major Accomplishments in FY 2002 (Chapter 4)

- Lead Screening Improvement Pilot Projects – To increase lead screening, particularly in the Medicaid population, DHSS collaborated with the Department of Human Services (DHS) and a number of community partners in the development of pilot projects in Camden and Irvington.
- Grants to local health departments - An increase of \$758,000 in the funding provided to local health departments in support of childhood lead poisoning activities. DHSS provided a total of roughly \$2,700,000 in grant funding for these activities in FY 2002 to 20 local health departments.
- Lead Abatement - Collaboration with the Department of Community Affairs (DCA) on the Lead Abatement Assistance Demonstration Program in East Orange, Irvington, and Paterson.
- Homeowner Assistance - The Catastrophic Illness in Children Relief Fund agreed to allow reimbursement of the cost of lead abatement as a “medical” expense for families who were eligible for its assistance. Two families applied for and received assistance with lead abatement from the Fund this year.
- Lead Rap Video – DHSS and New Jersey Network produced a four-minute lead poisoning prevention video, using a rap music format. It will be used as an educational tool targeted to young parents with children of blood screening age.

Significant Initiatives Planned for FY 2003

- Lead Screening Improvement Pilot Projects – Implementation of the collaborative effort to increase lead screening in the cities of Camden and Irvington began in August 2002, and will continue through September 2003.
- Enforcement of Environmental Regulations - On a quarterly basis, local health departments are receiving reports showing all cases of children with an elevated blood lead for which an inspection has not yet been completed, or which are still pending abatement. State law provides for sanctions against local health departments that do not properly enforce these rules.
- Public Service Announcements – DHSS, the New Jersey Chapter of the American Academy of Pediatrics, and New Jersey Network are collaborating on radio and television public service announcements on childhood lead poisoning.
- Regional coalitions - Funding of \$220,000 is provided to establish four regional childhood lead poisoning prevention coalitions to develop local lead poisoning prevention education programs, starting in January 2003.
- New Jersey State Immunization Information System - Enhancements include incorporating data on blood lead test results for all children who have immunization records in this computerized database. This information will be available to each participating physician.

Chapter One

TESTING CHILDREN FOR LEAD POISONING

New Jersey State law (N.J.S.A. 26:2-137.4) requires all physicians, nurse practitioners, and health care facilities to perform lead screening on each patient under six years of age to whom they provide health care services. The law also requires clinical laboratories licensed by the DHSS to report the results of all blood lead tests. The methodology used for blood lead reporting, and the manner in which the DHSS maintains and analyzes those reports, is described in Appendix 4 (page 58).

The Department of Health and Senior Services (DHSS) adopted regulations (N.J.A.C. 8:51A) implementing this law in 1997. These regulations, which follow federal Centers for Disease Control and Prevention (CDC) guidelines, require health care providers to do a blood lead test on all one and two-year old children. These are the ages at which lead poisoning is most damaging to the developing nervous system. While it is recommended that children be tested at or about their first and second birthdays, the regulations specify that children be tested between nine and 18 months of age, and again between 18 and 26 months of age. In addition, children determined to be a high risk should be tested starting at six months of age. Older children, up until six years of age, are to be tested only if they have never been previously tested, or are assessed to be at high risk. While testing of children six years of age and older is not required, health care providers may opt to test these children due to previously elevated test results or other risk factors.

In analyzing the data from the blood lead test reports for this report, one major change has been made from previous Annual Reports. This report focuses on children between six months and twenty-nine months (two and one-half years) of age as the primary target ages for blood lead testing. In previous years, the reports focused on children between one and two years (i.e. from 12 months to 35 months) of age. This change was made to better reflect the State regulations regarding screening for lead poisoning, which specify that routine testing of children should begin as early as 9 months of age, with high risk children to be tested as early as six months of age. The analysis of the data that was performed in the preparation of this report found that a significant number of children were being tested between 9 and 11 months of age, but were not being included in the method used for assessing compliance with the State lead screening law in previous reports.

Ideally, all children would be tested for lead poisoning at both one year and two years of age. However, at a minimum, all children should have at least one blood lead test done before their third birthday. As the DHSS has reports of all blood lead tests performed on New Jersey children since July 1, 1999, the database contains complete records of all blood lead tests done on New Jersey resident children born on or after that date (i.e. all children two years of age, or younger). This data was used to determine how many of these children have had a blood lead test during their lifetime.

Children tested during FY 2002

During Fiscal Year (FY) 2002, laboratories reported 183,496 blood lead tests to the DHSS. Based on these reports, 171,712 individual children, ages birth through 16 years of age, were identified as having been tested for lead poisoning. Table 1 (page 10) shows the number of children tested, by county of residence and by blood lead test result. See also Map 1 (page 21).

All children in New Jersey who were between six months and two and one-half years of age during FY 2002 should have received a blood lead test. There were 89,460 children in this age range with reported blood lead tests this year. That number is 40% of the estimated 222,837 children in this age group, based on the 2000 U.S. Census. Table 2 (page 11) shows the number and percentage of children in this age group who were tested, by county. The percentage of children tested ranges from a high of 46% in Essex County to a low of 22% in Burlington County. While most testing occurred at or near 12 and 24 months of age, a significant number of children were tested before 12 months of age, particularly between nine and 11 months (Figure 1, page 12).

When the analysis is expanded to include all blood lead tests reported since July 1, 1999, there are 72,199 children who were born between July 1, 1999 and June 30, 2000 who have had at least one blood lead test reported. This number is 64.7% of the estimated number of two-year-old children currently in New Jersey, based on the 2000 Census. Likewise, there were 53,980 children who were one-year old as of June 30, 2002, who had at least one blood lead test reported, which is 48.5% of the estimated number of one-year-olds in New Jersey (Table 3, page 13).

While all children in New Jersey are at risk for lead poisoning, experience has shown that children living in urban areas are at the highest risk, due to the concentration both of older housing, which is more likely to have lead-based paint, and low-income housing, which is more likely to be in poor repair. Appendix 1 (starting on page 45) contains tables showing the number of children tested, and the test results, for the largest municipalities in New Jersey (population > 35,000). Table 12 shows that the percentage of children tested in the six months through 29 months age group is highest in the urban areas where the greatest number of high-risk children live. The cities with the highest percentages of children tested were New Brunswick (71%), Passaic (61%), Irvington (59%) and Newark (55%). Other cities where the percentage of children tested was higher than the statewide percentage of 40% include Camden (45%), Elizabeth (48%), Hackensack (50%), Paterson (44%), Trenton (46%) and Vineland (45%).

Trends in testing

The total number of children tested in FY 2002 increased by 22,479 (15%) over the number of children tested in FY 2001 (Table 4, page 14), almost double the increase of 11,697 children tested in FY 2001 over FY 2000. The number of children tested increased in every age group (Table 5, page 15).

For children between six months and 29 months of age, the number of children tested increased by 10,910, which is a 14% increase over the number of children in this age group tested in FY 2001. The percentage of all children in this age group who were tested increased from 35% in FY 2001 to 40% in FY 2002.

Analysis of testing data

The most significant finding from the data is that an estimated 65% of the two-year-olds in New Jersey have been tested for lead poisoning at some time in their life. In prior years, limitations on the database allowed the data to be analyzed only for tests performed within the immediate Fiscal Year. By combining data from the three Fiscal Years since reporting of all blood lead tests started on July 1, 1999, it is possible to calculate the total number of children who have had at least one blood lead test during this period. Children migrating in or out of New Jersey during this time period affects the ability of the surveillance database to determine exactly how many of the children currently living in the State have had a blood lead test. However, this figure provides an estimate of the cumulative effect of the activities to screen New Jersey's children for lead poisoning. In the future, as additional years of data are collected, the surveillance system will be able to follow each cohort of children until it is able to estimate how many of the children under six years of age have been tested.

The number of children tested for lead poisoning in New Jersey at the target ages (six months through two and one-half years of age) increased significantly in FY 2002, and continues to increase each year since reporting of all testing began in FY 2000. However, it still falls far short of the goal of testing all children in the State at both one and two years of age.

This year, for the first time, the percentage of children who were tested was highest in the counties where children are at the highest risk of having elevated blood lead, particularly Essex and Passaic counties. This is the first year for which municipal level testing data has been available, and the percentage of children who were tested were also highest in the cities where the greatest number of high risk children reside. These numbers reflect activities to increase testing in these communities.

Data for counties and municipalities is based on the home address provided by the laboratory. Unfortunately, there was a high percentage of test reports (12% of all children and 11% of six through 29-month-olds) where the address was missing, incomplete, or inaccurate. In these cases, while the children are included in the statewide totals, they cannot be assigned to a county or municipality. Therefore, it should be recognized that the county and municipal data presented here are undercounts, and should be interpreted with caution. However, this also means that the actual number and percentage of children tested in these municipalities is probably higher than shown in these tables.

Table 1

**CHILDREN WITH BLOOD TEST RESULTS REPORTED IN FY 2002
BY BLOOD LEAD LEVEL
AND COUNTY OF RESIDENCE**

County	Children Tested	Less than <10 ug/dL	10-14 ug/dL	15-19 ug/dL	20-44 ug/dL	>=45 ug/dL
Atlantic	4,127	4,070	34	11	11	1
Bergen	13,148	13,011	77	26	32	2
Burlington	3,495	3,468	15	10	2	0
Camden	7,288	7,101	122	40	23	2
Cape May	1,181	1,167	6	5	3	0
Cumberland	3,188	2,984	131	44	29	0
Essex	27,023	24,870	1,286	453	382	32
Gloucester	2,709	2,671	24	9	4	1
Hudson	14,266	13,985	166	58	51	6
Hunterdon	1,514	1,497	12	2	3	0
Mercer	6,499	6,219	190	53	33	4
Middlesex	12,994	12,776	135	47	32	4
Monmouth	8,039	7,914	85	22	18	0
Morris	6,533	6,493	24	8	8	0
Ocean	6,232	6,159	35	26	12	0
Passaic	13,364	12,712	379	128	134	11
Salem	756	727	17	6	6	0
Somerset	4,653	4,619	25	7	2	0
Sussex	1,429	1,424	3	1	1	0
Union	11,740	11,421	183	56	73	7
Warren	1,258	1,239	13	2	4	0
Zip Unknown	20,276	19,728	448	99	1	0
TOTAL	171,712	166,255	3,410	1,113	864	70

Table 2
CHILDREN 6 TO 29 MONTHS OF AGE
WITH BLOOD LEAD TEST RESULTS REPORTED IN FY2002
BY COUNTY OF RESIDENCE

County	No. of Children*	Children Tested	Percent Tested	Percent <10ug/dL	Percent >=10ug/dL	Percent >=20ug/dL
Atlantic	6,403	2,154	33.6%	98.5%	1.5%	0.3%
Bergen	21,968	8,541	38.9%	98.8%	1.2%	0.3%
Burlington	10,728	2,372	22.1%	99.3%	0.7%	0.1%
Camden	13,663	3,942	28.9%	97.6%	2.4%	0.4%
Cape May	2,103	646	30.7%	98.9%	1.1%	0.2%
Cumberland	3,639	1,467	40.3%	94.3%	5.7%	1.2%
Essex	22,734	10,478	46.1%	93.7%	6.3%	1.4%
Gloucester	6,666	1,756	26.3%	98.7%	1.3%	0.2%
Hudson	15,205	5,560	36.6%	97.8%	2.2%	0.5%
Hunterdon	3,121	1,323	42.4%	98.7%	1.3%	0.2%
Mercer	8,810	3,332	37.8%	96.5%	3.5%	0.5%
Middlesex	19,683	7,271	36.9%	98.5%	1.5%	0.3%
Monmouth	16,744	4,801	28.7%	98.7%	1.3%	0.3%
Morris	12,987	4,764	36.7%	99.5%	0.5%	0.1%
Ocean	12,765	3,641	28.5%	98.8%	1.2%	0.2%
Passaic	14,232	6,563	46.1%	95.9%	4.1%	0.9%
Salem	1,540	436	28.3%	97.0%	3.0%	0.7%
Somerset	8,843	3,117	35.2%	99.4%	0.6%	0.0%
Sussex	3,876	913	23.6%	99.6%	0.4%	0.1%
Union	14,402	5,848	40.6%	97.7%	2.3%	0.5%
Warren	2,725	911	33.4%	99.0%	1.0%	0.2%
Unknown		9,624		97.8%	2.2%	0.0%
Total	222,837	89,460	40.1%	97.6%	2.4%	0.5%

*U.S. Census 2000 children 1 and 2 years old

Figure 1

CHILDREN TESTED DURING FY2002

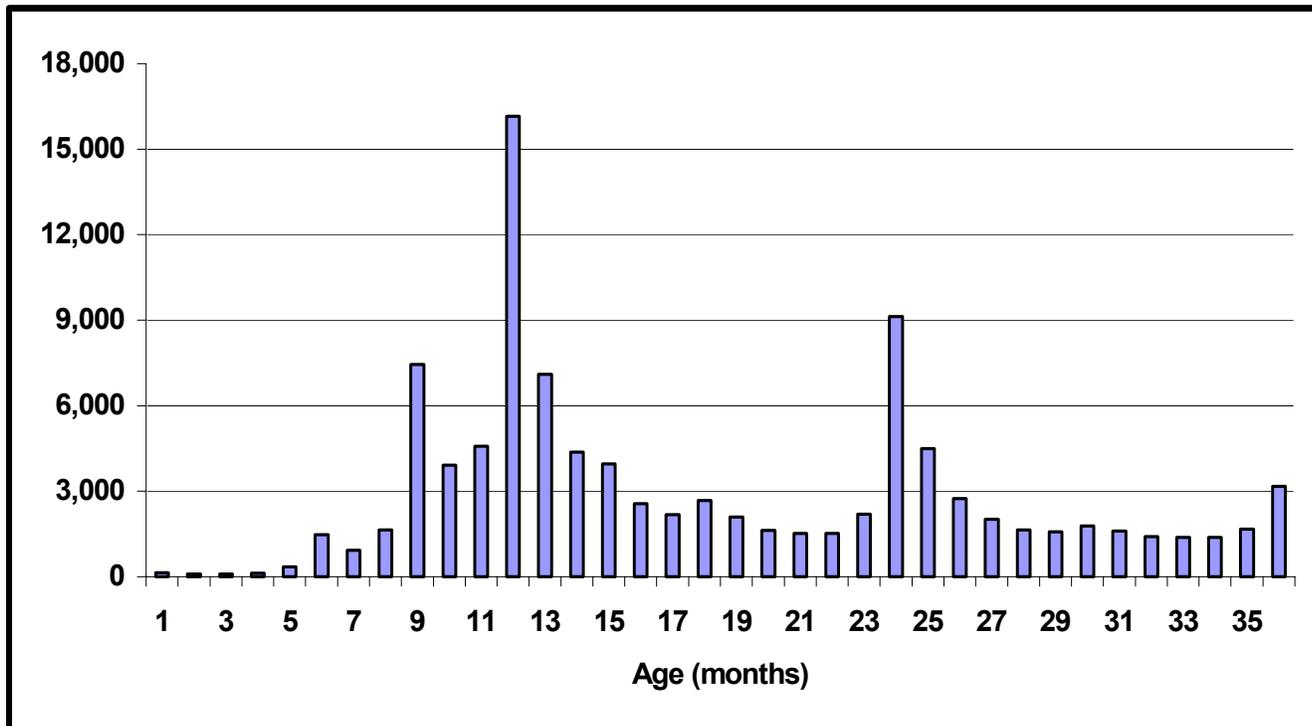


Table 3

**ALL CHILDREN TESTED SINCE JULY 1999
BY AGE**

Age of Child*	Number of Children	Children Tested	Percent of Children Tested
Less than 1	110,298	5,265	4.8%
One Year	111,308	53,980	48.5%
Two Years	111,529	72,199	64.7%

* Age on June 30, 2002

Table 4
CHANGES IN CHILDREN TESTED
FY 2001 - 2002

	FY 2001	FY 2002	Change 2001 - 02	Percent Change 2001 - 02
ALL CHILDREN				
Number of Children Tested	149,233	171,712	22,479	15%
6 – 29 MONTH OLDS				
Number of Children in NJ*	222,837	222,837		
Number of Children Tested	78,550	89,460	10,910	14%
Percent of Children Tested	35%	40%	5%	14%

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

Table 5

**CHILDREN WITH BLOOD LEAD TEST RESULTS REPORTED IN FY 2002
BY AGE AT TIME OF TEST**

Child's Age in Months	FY2001	FY2002	Difference	Percent Change
0-5	793	1,195	402	50.7%
6-11	17,865	19,955	2,090	11.7%
12-29	60,685	69,505	8,820	14.5%
30-72	47,972	57,178	9,206	19.2%
73 +	17,921	23,271	5,350	29.9%
Unknown	3,997	608	-3,389	-84.8%
Total	149,233	171,712	22,479	15.1%

Chapter Two

CHILDREN WITH ELEVATED BLOOD LEAD

U.S. Centers for Disease Control and Prevention (CDC) guidelines state that a blood lead test of 10 micrograms per deciliter (ug/dL) or greater should be considered elevated. In addition, the CDC guidelines state that a confirmed blood lead test result of 20 ug/dL or greater should trigger public health follow-up, including an environmental investigation to determine the source of the lead, and case management assistance to the family. Following these guidelines, blood lead test reports to the DHSS are analyzed to see if the result is above either of these thresholds. If the result is 20 ug/dL or greater, the local health department covering the community where the child resides is notified. State law and DHSS regulations require the local health department to conduct an environmental investigation of each of these cases (see Chapter 3), and to provide case management for the families of these children.

Blood lead test results in FY 2002

While close to 97% of the children tested in New Jersey in FY 2002 had blood lead levels below the CDC threshold of 10 ug/dL, there were 5,457 children with a blood lead test result above this level, which was 3.2% of all children tested. This included 934 children who had at least one test result of 20 ug/dL or greater (Table 6, page 19). The distribution of results by blood lead level is shown in Figure 2 (page 20). The distribution of children with elevated blood lead by county is shown on Map 1 (page 21).

Essex County had the highest number and percentage of children with elevated test results. There were 2,153 children from Essex County with blood lead levels of 10 ug/dL or more, and 414 children with blood lead levels of 20 ug/dL or more (Table 6, page 19). These numbers represent 39% of all children in New Jersey with blood lead levels of 10 ug/dL or more, and 44% of all children with blood lead levels of 20 ug/dL or more. Eight percent of Essex County children tested had blood lead levels of 10 ug/dL or more, and 1.5% had blood lead levels of 20 ug/dL or more. These percentages are more than double the statewide percentages, and significantly higher than in any other county.

There were four other counties in which the percentage of children with blood lead levels of 10 ug/dL or more exceeded the statewide percentage of 3.2% (Table 6, page 19; Map 2, page 22). These were Cumberland (6.4%), Passaic (4.9%), Mercer (4.3%), and Salem (3.8%). Other than Essex, only in Passaic County did more than one percent of children tested have blood lead levels of 20 ug/dL or greater. On the other hand, in 16 of the 21 counties, less than 3% of the children tested had blood lead levels \geq 10 ug/dL. In Burlington, Morris, Somerset, and Sussex counties, less than one percent of children tested had elevated test results. But **every** county in the State had children with elevated test results, including at least one child with a test result \geq 20 ug/dL.

Data for the largest municipalities (population > 35,000) is presented in Appendix 1 (Table 13, starting on page 49). The municipality with the highest percentage of children with elevated blood lead test results is Irvington, with 10.7%, followed closely by East Orange at 10.2%. Other municipalities with percentages of children with elevated blood lead significantly higher than the statewide percentage of 3.2% include Camden (4.1%), Montclair (4.6%), New Brunswick (5.9%), Newark (9.4%), Passaic (5.5%), Paterson (7.2%), Plainfield (5.5%) and Trenton (7.8%).

East Orange, with 2.2%, had the highest percentage of children with results ≥ 20 ug/dL. Other municipalities where one percent or more of the children tested had a test result ≥ 20 ug/dL were Irvington (2.0%), Newark (1.8%), Passaic (1.2%), Paterson (1.5%), and Plainfield (1.2%). Of the 60 municipalities for which the data were analyzed, there were only four (Bridgewater, East Brunswick, Fort Lee, and Mount Laurel) where no children with elevated blood lead were reported.

Trends in elevated blood lead

The 5,457 children reported with test results ≥ 10 ug/dL in FY 2002 represents a decrease of 159 children (2.8%) from the 5,616 children with reported elevated blood lead in FY 2001. Combined with the increase in the number of children tested, this resulted in a decrease in the percentage of children tested who had elevated results from 3.8% in FY 2001 to 3.2% in FY 2002 (Table 7, page 23).

There was also a small decrease in the number of children with blood lead levels ≥ 20 ug/dL. The 934 children reported with at least one blood lead test result ≥ 20 ug/dL was 17 children less than the 947 reported in FY 2001, a decrease of 1.8%.

These numbers are based on the highest blood lead level reported on each child during the year, and include all children with at least one elevated blood test result. They include both newly identified elevated blood levels and children identified in previous years who still have elevated blood lead levels. An analysis was done to determine the number of "incidence cases", that is, children whose blood lead level was elevated in the current fiscal year but not in the previous fiscal year. It was found that of 934 children with elevated blood lead test results in FY2002, 226 had had elevated blood lead test results reported in FY2001. Thus, in FY2002 there were 708 incidence cases of new children with elevated results. When this analysis was extended back to FY2001 using our current data, which is constantly updated to ensure more accurate information, there were 725 incidence cases of new children with elevated blood lead test results identified during that year. In the future, DHSS will be able to more easily monitor the year-to-year changes in blood lead levels in individual children with elevated blood lead levels as we move towards developing and implementing a state wide case management data system.

Analysis of elevated blood lead data

The continuing decreases in the number of children with reported blood lead levels, in spite of the increase in the number of children tested (Figure 3, page 24), is consistent with the decline in the number and percentage of children with elevated blood lead found in national studies. However, there are still thousands of children in New Jersey with elevated blood lead levels, including children who have not yet been identified through testing. The continuing efforts of the DHSS and its partners to increase screening and to find these children are described in Chapter 4.

While the highest numbers of children with elevated results were in urban counties (Essex, Passaic, Union, Hudson and Mercer), some rural counties in Southern New Jersey (Cumberland and Salem) also had high rates of elevated blood lead, and **every** county in New Jersey had children with reported elevated blood lead test results, including at least one child with a blood lead level ≥ 20 ug/dL. This documents that lead poisoning continues to be a statewide problem.

The fact that childhood lead poisoning is a statewide problem in New Jersey is also shown in the municipal data. This year, for the first time, data were available on elevated blood lead at the municipal level. Not surprisingly, these data show that the highest percentages of children with elevated results are in the urban municipalities. However, of the 60 municipalities with populations greater than 35,000, there were only four where no children with elevated blood lead were reported.

The data at the county and municipal level needed to be evaluated with some caution, as there was a high percentage of test reports (12% of all children and 11% of six through 29-month-olds) where the address was missing, or incomplete. In these cases, the children were included in the statewide totals, but could not be assigned to a county or municipality. If these results could be assigned to the county and municipality where the child resided, the percentage of elevated results might have changed.

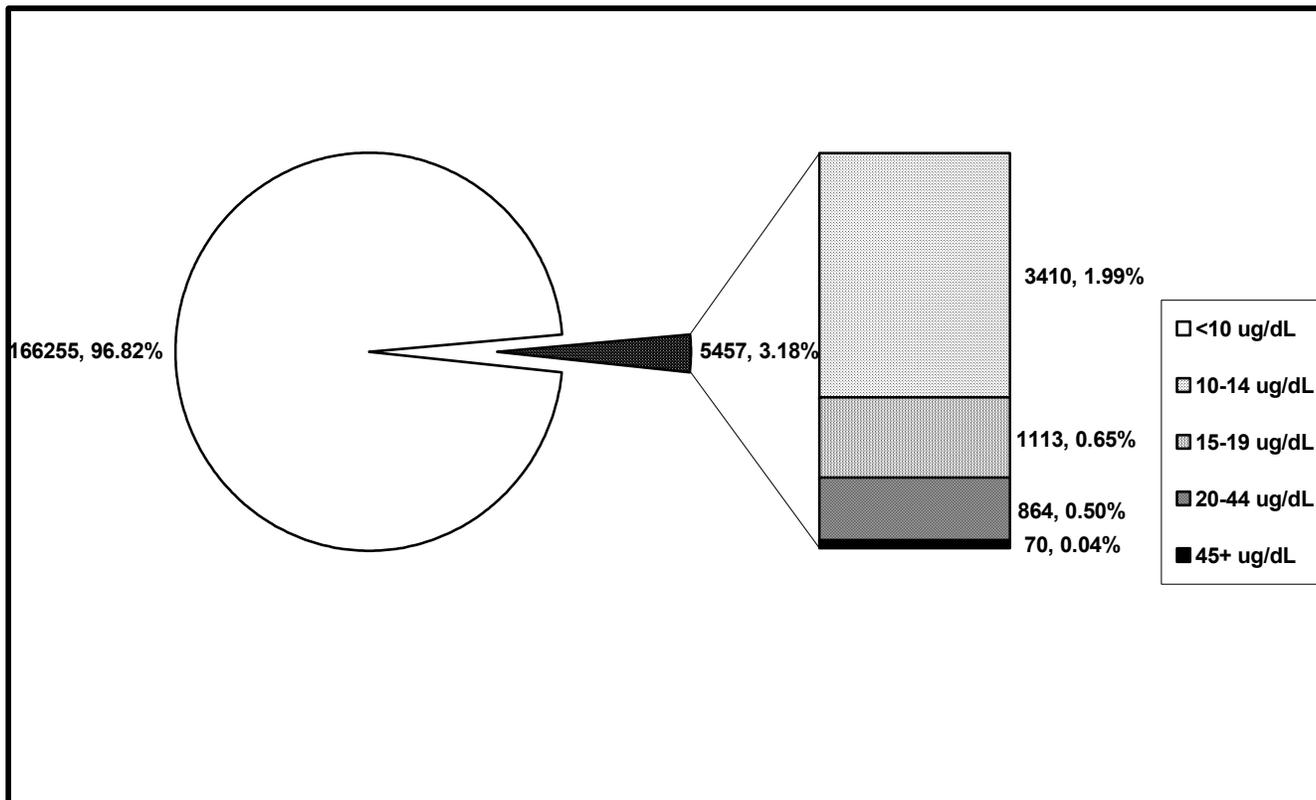
Table 6

**CHILDREN WITH BLOOD TEST RESULTS REPORTED IN FY 2002
NUMBER AND PERCENT OF CHILDREN WITH ELEVATED BLOOD LEAD
BY COUNTY OF RESIDENCE**

County	Children Tested	Less than 10 ug/dL	10 ug/dL or More	20 ug/dL or More	Percent >=10 ug/dL	Percent >=20 ug/dL
Atlantic	4,127	4,070	57	12	1.4%	0.3%
Bergen	13,148	13,011	137	34	1.0%	0.3%
Burlington	3,495	3,468	27	2	0.8%	0.1%
Camden	7,288	7,101	187	25	2.6%	0.3%
Cape May	1,181	1,167	14	3	1.2%	0.3%
Cumberland	3,188	2,984	204	29	6.4%	0.9%
Essex	27,023	24,870	2,153	414	8.0%	1.5%
Gloucester	2,709	2,671	38	5	1.4%	0.2%
Hudson	14,266	13,985	281	57	2.0%	0.4%
Hunterdon	1,514	1,497	17	3	1.1%	0.2%
Mercer	6,499	6,219	280	37	4.3%	0.6%
Middlesex	12,994	12,776	218	36	1.7%	0.3%
Monmouth	8,039	7,914	125	18	1.6%	0.2%
Morris	6,533	6,493	40	8	0.6%	0.1%
Ocean	6,232	6,159	73	12	1.2%	0.2%
Passaic	13,364	12,712	652	145	4.9%	1.1%
Salem	756	727	29	6	3.8%	0.8%
Somerset	4,653	4,619	34	2	0.7%	0.0%
Sussex	1,429	1,424	5	1	0.4%	0.1%
Union	11,740	11,421	319	80	2.7%	0.7%
Warren	1,258	1,239	19	4	1.5%	0.3%
Zip Unknown	20,276	19,728	548	1	2.7%	0.0%
TOTAL	171,712	166,255	5,457	934	3.2%	0.5%

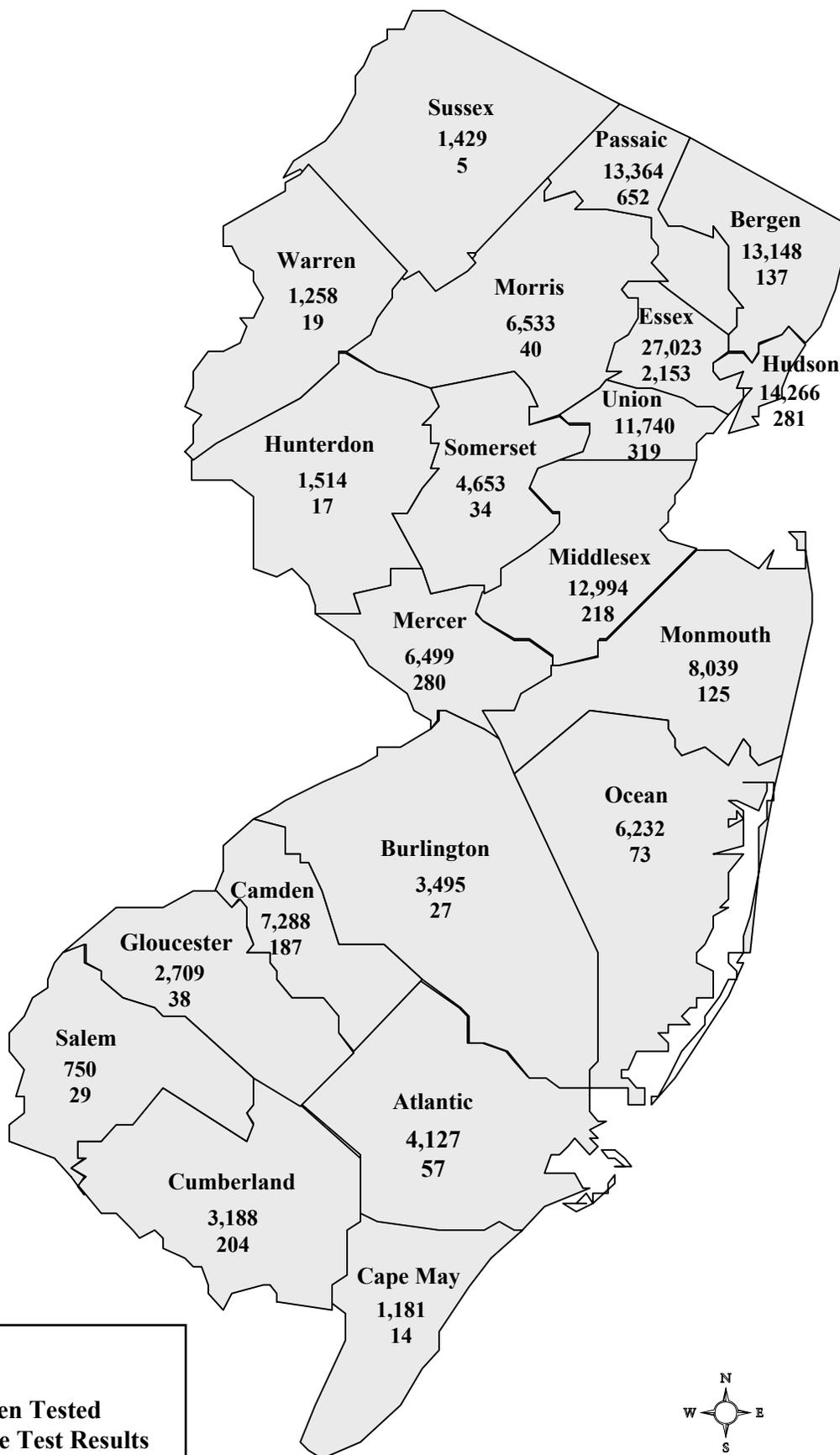
Figure 2

**BLOOD LEAD LEVELS FOR ALL CHILDREN TESTED
DURING FY2002**



Map 1

**NUMBER OF CHILDREN WITH BLOOD LEAD TEST RESULTS
GREATER THAN OR EQUAL TO 10 UG/DL
FY 2002**



**PERCENTAGE OF CHILDREN WITH BLOOD LEAD TEST RESULTS
GREATER THAN OR EQUAL TO 10 UG/DL
FY 2002**

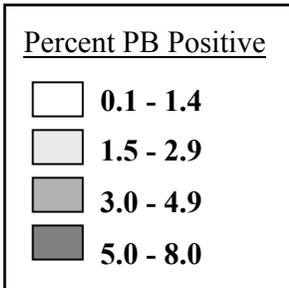
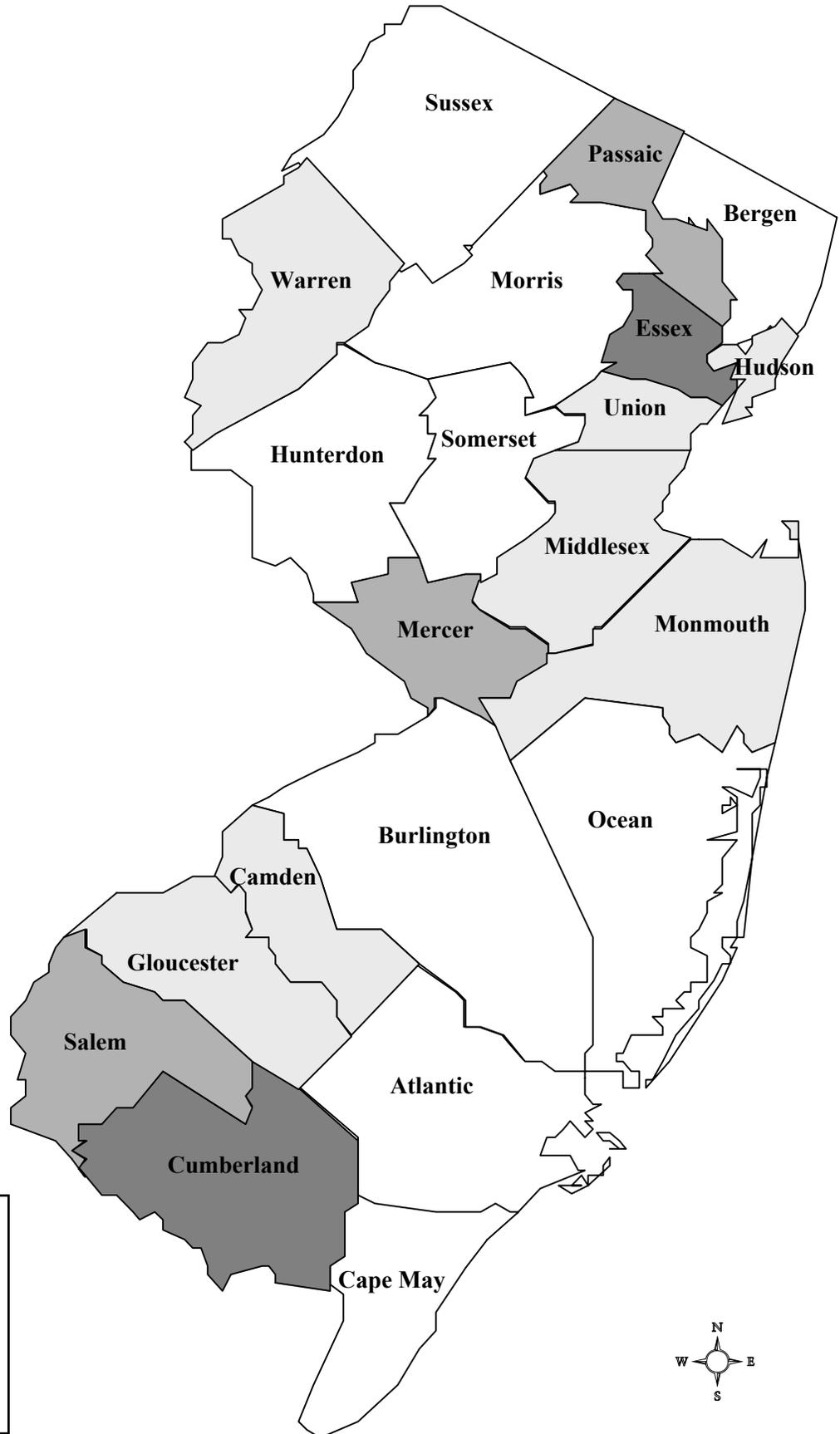


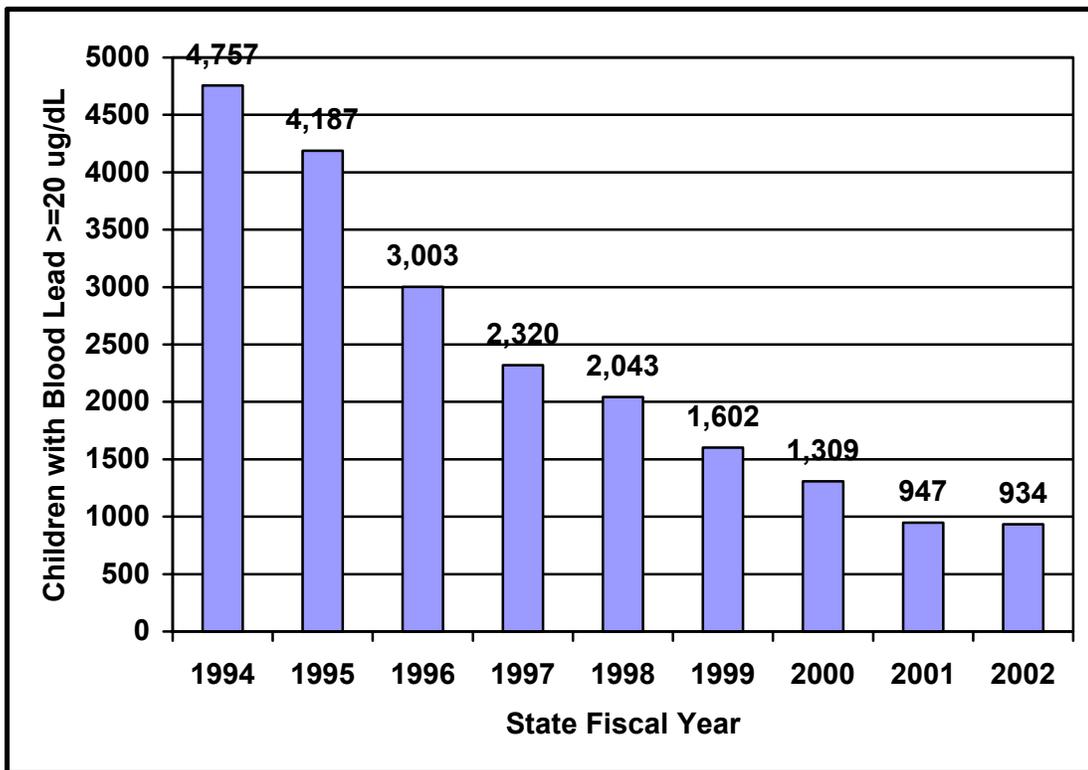
Table 7

**CHANGES IN CHILDREN TESTED AND BLOOD LEAD LEVELS
FY 2001 - 2002**

	FY 2001	FY 2002	Change 2001 - 02	Percent Change 2001 - 02
ALL CHILDREN				
Number of Children Tested	149,233	171,712	+22,479	+15.1%
Number of Children with Results ≥ 10 ug/dL	5,616	5,457	-159	-2.8%
Percentage of Children with Results ≥ 10 ug/dL	3.8%	3.2%	-0.6%	-15.8%
Number of Children with Results ≥ 20 ug/dL	947	934	-13	-1.4%
Percentage of Children with Results ≥ 20 ug/dL	0.6%	0.5%	-0.1%	-16.6%

Figure 3

**CHILDREN WITH BLOOD LEAD \geq 20 ug/dL
BY STATE FISCAL YEAR**



Chapter Three

ENVIRONMENTAL INVESTIGATIONS BY LOCAL HEALTH DEPARTMENTS

New Jersey law (N.J.S.A. 24:14A) requires local boards of health to investigate all reported cases of lead poisoning within their jurisdiction and to order the abatement of all lead paint 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 and 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 4. 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 ≥ 20 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 elevated blood lead reported to local health departments, and local health department actions in response.

The data in Tables 8, 9, 10 and 11, and in Appendix 2, 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.

Environmental investigations completed during FY 2002

There were 867 notices of children with elevated blood lead test results sent to local health departments. Table 8 (page 29) shows the number of reports, and the actions taken in response to these reports, by county.

There were 188 cases (22%) closed without an investigation being performed. Each of these cases was reviewed by DHSS staff to make sure that the reason given for not investigating the case was appropriate to the circumstances. A case may be closed without investigation if:

- the reported elevated test result was from a capillary blood sample, and a subsequent venous confirmatory test found that the child's blood lead was not elevated;
- an abatement recently had been completed on the child's residence, as a result of either a previous elevated blood lead test on the same child, or an elevated blood lead test on a sibling or other child living at the same address; or
- the child had never lived at the address given on the laboratory report, and the local health department was not able to locate the family.

Of the 679 cases for which an inspection was required, inspections were completed on 482 (71%) within FY 2002. For some additional cases, particularly those children whose elevated blood lead test was reported late in the Fiscal Year, inspections may have been completed after June 30, 2002, and are not included in this total. Where investigations were completed, local health departments found lead paint hazards in 362 properties (75%). Lead hazard abatement had been completed on 133 of these properties (37%) as of June 30, 2002.

Seventy-six of the 112 local health departments in the State (68%) received at least one notice of a child with elevated blood lead residing within its jurisdiction. However, most of the children with reported elevated blood lead test results resided within the jurisdictions of only 12 local health departments (Table 9, page 30). These local health departments each received 20 or more reports of children with elevated blood lead in FY 2002, and were responsible for 74% of the reported cases. They were also responsible for 75% of the completed investigations, and 70% of all completed hazard abatements. Newark Department of Health and Human Services received 233 reports of children with elevated blood lead in FY 2002, 27% of all reports issued in the State. Complete data on the status of all elevated blood lead reports issued in FY 2002, by local health department, is in Appendix 2 (page 52).

Analysis of environmental investigation data

This number of reports issued to local health departments in FY 2002 (867) is greater than the number of new children (708) identified with elevated blood lead in FY 2002. This is because whenever the address on an elevated blood lead test report is different than the address on the previous report, a new notice is sent to the local health department. This allows the local health department to track the child, even when they move, and to investigate the child's new dwelling.

The number of inspections and abatements completed during FY 2002 was greater than were completed in FY 2001. These increases occurred in spite of a decrease in the number of reports sent to local health departments and in the number of cases where inspections were required. There were also increases in both the percentage of properties requiring inspection that were inspected, and the percentage of properties requiring abatement where abatement was completed by the end of the Fiscal Year. The percentage of inspections completed, 71%, was significantly higher than the 62% completed within FY 2001 and the 60% completed within FY 2000. Likewise, the percentage of abatements completed by the end of Fiscal Year 2002, 37%, was higher than the 28% completed within FY 2001, and the 22% completed within FY 2000. These increases reflect both improved performance by the local health departments, and the impact of

increased monitoring of the timeliness of inspections by the DHSS. In FY 2002, the frequency of reminder notices sent to local health departments on outstanding lead inspection cases increased from twice a year to quarterly.

Almost all of the local health departments with a significant number of cases either improved the percentage of inspections completed in FY 2002 as compared with FY 2001, or maintained an already high percentage of inspections completed. The most significant improvements were made by Passaic City (from 33% completed in FY 2001 to 76% completed in FY 2002), Trenton (39% to 85%), and Middlesex County (47% to 64%). The percentage of required inspections completed in Newark decreased in FY 2002 to 54%, after having steadily improved from 23% in FY 1999 to 47% in FY 2000 to 62% in FY 2001. DHSS has increased its monitoring of the Newark program in FY 2003 to assist it in increasing the number of inspections completed.

These numbers reflect the status of cases as of the end of the Fiscal Year on June 30, 2002. Given the time required to complete investigations and (particularly) abatements, there were cases reported to local health departments late in FY 2002 where the inspection and/or abatement was not completed until after July 1. As these tables are based on the date that the elevated blood lead test was performed, local health departments may not have received reports on children tested in late June 2002 until after the end of the Fiscal Year. Actions that were completed after July 1, 2002 were not included in these numbers, but will be reflected in the report for FY 2003.

Likewise, there were many cases reported to local health departments during FY 2001, and prior years, that were not completed until FY 2002. This was particularly true with respect to abatements. When the data base was expanded to all cases where some action was completed during FY 2002, including those based on an elevated blood lead test result reported prior to July 1, 2001, there were a total of 582 investigations and 448 abatements completed during FY 2002 (Table 10, page 31). These are both increases over the 569 inspections and 383 abatements completed in FY 2001.

Tables 9 and 11, when compared, show that 315 of the 448 abatements completed during FY 2002 (70%) were for elevated blood lead tests reported before July 1, 2002. Looking at all cases reported to local health departments over the past six years, more than 90% of investigations had been completed, and 78% of properties with lead hazards had been abated, by the end of FY 2002 (Table 11, page 32). Note that the numbers in Table 11 are cumulative through June 30, 2002, and are not limited to the Fiscal Year the report was sent to the local health department.

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 the lead hazards responsible for the elevation is affected by a number of factors, which vary from case to case. These factors can 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.

In discussions with local health department officials and community-based advocates for children with elevated blood lead, the most important factor that they cite for the delays in completing abatement of lead hazards is the cost of the abatement. While some cases involve the fixing of a limited area of deteriorated paint, the full abatement of lead-based paint can cost between \$10,000 and \$15,000 per housing unit. A significant proportion of the cases of children with elevated blood lead, the parents or a relative own the house where their child was poisoned. For 25% of the properties inspected in FY 2002, the property owner was the parent of the child with elevated blood lead. Many properties in New Jersey's urban areas, including both residences and rental properties, are owned by people with low to moderate incomes for whom the cost of lead abatement can be a significant burden.

The cost problem with lead abatement is exacerbated by the fact that there is very limited private or public funding to assist property owners with lead abatement. Bank loans to cover the cost of abatement, when available, can come with unattractive interest rates. The New Jersey Department of Community Affairs (DCA) received federal funds for lead hazard reduction in 1992 and 1994, but these funds were used primarily as part of large housing rehabilitation projects to make the housing "lead safe". While these projects increased the number of lead-free units available to low-income families, and were therefore a means for primary prevention of lead poisoning, they did not help with the lead abatement problem. In FY 2002, the DHSS assisted DCA in making some federal lead hazard reduction funds available for lead abatement projects in three cities: East Orange, Irvington, and Paterson. DHSS continues to work with DCA to find additional resources to assist property owners with lead abatement. However, at this time are no State or federal funds currently available to assist with lead abatement on a statewide basis. Newark, Hudson County, and Vineland have been successful in obtaining direct lead hazards reduction grants from the U.S. Department of Housing and Urban Development, but the funds available from these grants are not sufficient to fully address the lead abatement problems in those areas.

One significant development in FY 2002 was a decision by the Catastrophic Illness in Children Relief Fund that it would allow reimbursement of the cost of lead abatement as a "medical" expense for families who were otherwise eligible for assistance under its guidelines. This decision was based on the fact that the primary "treatment" for lead poisoning in children is to remove the environmental lead hazard that is the source of the child's elevated blood lead. The Relief Fund already covered the cost of home renovations required by other children as a result of their medical conditions. Families whose medical expenses exceed 10% of their income are eligible for assistance from the Fund. Since the expenses have to be borne by the family of the affected child, this assistance would be available only for those families who own their own home and have to pay the cost of the abatement themselves. Between December 2001 (when this policy was adopted by the Board of the Fund) and June 2002, applications for financial assistance for lead abatement work were received from two families. Both were approved. While the number of cases potentially affected by this policy is small, the benefit to the affected family is great.

Table 8

ENVIRONMENTAL INVESTIGATION STATUS BY COUNTY – FY 2002

County	EBL Reports Sent	Invest. Required	Invest. Completed	Percent Invest. Complete	% Lead Hazards Found	# of Abatement Complete	% Abatement Complete
Atlantic	13	9	9	100%	89%	1	13%
Bergen	34	22	13	59%	54%	4	57%
Burlington	3	1	1	100%	0%	0	.
Camden	22	19	15	79%	80%	4	33%
Cape May	3	2	1	50%	100%	1	100%
Cumberland	32	25	20	80%	75%	4	27%
Essex	389	306	198	65%	78%	43	28%
Gloucester	4	3	3	100%	100%	1	33%
Hudson	42	32	24	75%	75%	11	61%
Hunterdon	3	2	2	100%	100%	0	0%
Mercer	37	26	19	73%	74%	2	14%
Middlesex	39	29	18	62%	50%	7	78%
Monmouth	18	14	8	57%	100%	4	50%
Morris	9	7	4	57%	0%	0	.
Ocean	11	10	6	60%	67%	2	50%
Passaic	121	92	81	88%	75%	30	49%
Salem	6	4	2	50%	100%	0	0%
Somerset	2	2	1	50%	100%	1	100%
Sussex	1	1	1	100%	100%	0	0%
Union	75	70	54	77%	74%	18	45%
Warren	3	3	2	67%	100%	0	0%
TOTAL	867	679	482	71%	75%	133	37%

Table 9

**ENVIRONMENTAL INVESTIGATION STATUS REPORT – FY 2002
LOCAL HEALTH DEPARTMENTS WITH 20 OR MORE REPORTED
ELEVATED BLOOD LEAD**

Local Health Department	EBL Reports Sent	Invest. Required	Invest. Complete	Percent Complete	# Lead Hazards Found	% Lead Hazards Found	# of Abatements Complete	Percent Complete
Newark	233	179	96	54%	69	72%	14	20%
Paterson	67	51	48	94%	33	69%	15	45%
Irvington	59	42	34	81%	28	82%	5	18%
East Orange	54	46	39	85%	34	87%	12	35%
Passaic City	39	29	22	76%	20	91%	9	45%
Middlesex Co	33	25	16	64%	9	56%	7	78%
Elizabeth	32	30	23	77%	15	65%	9	60%
Trenton	29	20	17	85%	13	76%	2	15%
Cumberland	27	21	19	90%	15	79%	4	27%
Jersey City	23	19	13	68%	9	69%	5	56%
Camden County	22	19	15	79%	12	80%	4	33%
West Orange	21	18	17	94%	12	71%	7	58%
TOTAL	639	499	359	72%	269	75%	93	35%

Table 10

ENVIRONMENTAL ACTIONS PERFORMED – FY 2002

County	Investigations Completed	Abatements Complete
Atlantic	6	8
Bergen	13	6
Burlington	1	0
Camden	13	14
Cape May	3	3
Cumberland	21	17
Essex	222	115
Gloucester	3	4
Hudson	47	60
Hunterdon	2	0
Mercer	20	7
Middlesex	23	15
Monmouth	10	8
Morris	8	1
Ocean	6	3
Passaic	111	127
Salem	2	1
Somerset	1	1
Sussex	1	1
Union	67	54
Warren	2	3
TOTAL	582	448

Table 11

**CURRENT ENVIRONMENTAL INVESTIGATION STATUS BY FISCAL YEAR
FY 1996 THROUGH FY 2002**

Fiscal Year	EBL Reports Sent	Invest. Required	Invest. Complete	Percent Invest. Complete	% Lead Hazard Found	# Lead Hazard Found	# of Abatement Complete	% Abatement Complete
FY 1996	2,724	1835	1,770	96%	55%	973	938	96%
FY 1997	2,169	1,541	1,466	95%	54%	797	734	92%
FY 1998	2,015	1,481	1,430	97%	54%	778	674	87%
FY 1999	1,517	1,063	986	93%	66%	646	489	76%
FY 2000	1,143	835	757	91%	78%	592	368	62%
FY 2001	934	675	610	90%	74%	452	261	58%
FY 2002	867	679	482	71%	75%	362	133	37%
TOTAL	11,369	8,109	7,501	93%	61%	4,600	3,597	78%

Note: This table is cumulative, and reflects the status of all cases as of June 30, 2002

Chapter Four

Addressing Childhood Lead Poisoning in New Jersey

The Planning Process

Goals and Objectives

The goal of the New Jersey Department of Health and Senior Services is to reduce, and ultimately eliminate, childhood lead poisoning 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 three 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%.
- To increase the percentage of residential lead evaluation/risk assessments conducted that meet performance standard to 90%.

In February 2000, a federal task force published a document entitled, *Eliminating Childhood Lead Poisoning: A Federal Strategy Targeting Lead Paint Hazards*. The report presents a coordinated national program to eliminate childhood lead poisoning in the United States within ten years. The recommendations in the report were based upon the premise that childhood lead poisoning is a completely preventable disease, with the most common source of lead exposure for children being lead paint in older housing and the contaminated dust and soil that it generates. The report contains four general recommendations:

1. act before children are poisoned;
2. identify and care for lead poisoned children;
3. conduct research; and
4. measure progress and refine lead poisoning prevention strategies.

The DHSS' action plan to address childhood lead poisoning in New Jersey is based on these federal recommendations.

1. **Acting before children are poisoned** is a primary prevention recommendation. The focus of this recommendation is to reduce or eliminate exposure to lead paint hazards **before** children are poisoned through exposure to them. Because these hazards are environmental, and are primarily related to housing conditions, the DHSS works in collaboration with other State agencies, including the Department of Environmental Protection (DEP) and the Department of Community Affairs (DCA), as well as with local governments, community development agencies, and non-profit environmental organizations.

2. The **identification and care for lead-poisoned children** is a secondary prevention recommendation. The strategies to accomplish this are the expansion of blood lead screening and follow-up services for affected children. These activities are carried out primarily by medical providers and local health departments. DHSS assists them in their work through setting of standards, technical assistance, guidance documents, and funding support, when available.
3. **Research** is needed to improve prevention strategies, promote ways to decrease the costs of lead hazard control, and better quantify the way in which children are exposed to lead. DHSS has collaborated with academic institutions in support of research on lead poisoning in children and reduction of environmental lead hazards, principally through the Environmental and Occupational Health Sciences Institute (EOHSI), a joint program of Rutgers, the State University of New Jersey and the University of Medicine and Dentistry of New Jersey (UMDNJ). Some of the research studies conducted in New Jersey have been recognized as making important contributions to the knowledge of lead poisoning in children. Of particular note are the Children's Lead Exposure and Reduction Study (CLEARs) in Jersey City, which demonstrated the effectiveness of home cleaning techniques on control of blood lead levels between 10 and 15 ug/dL (Rhoads, George G., et al., "The Effect of Dust Lead Control on Blood Lead in Toddlers", *Pediatrics* 1999, 101(3):551-555), and the Treatment of Lead-Exposed Children study, in which UMDNJ in Newark was one of four sites participating in a national study, which showed that chelation therapy did not result in improvements in neuropsychological function in children with blood lead levels less than 45 ug/dL (Rogan, Walter J., et al, "The Effect of Chelation Therapy with Succimer on Neuropsychological Development in Children Exposed to Lead", *New England Journal of Medicine*, May 10, 2001, 334:1421-6).
4. The final recommendation, to **measure progress and refine lead poisoning prevention strategies**, is being implemented through the DHSS' Childhood Lead Poisoning Prevention Surveillance System (CLPPSS), and through data linkages with the Department of Human Services to monitor lead screening in the Medicaid population. The CLPPSS database provided the information for this report. DHSS also participates in a national childhood lead poisoning prevention surveillance system run by CDC, through providing it with annual surveillance abstracts of the lead screening and follow-up activities in New Jersey. As part of this national surveillance system, all of the local health departments that receive funds from the DHSS to support their childhood lead poisoning activities use CDC's STELLAR software to record their activities.

Following these federal recommendations, the objectives of the DHSS for reducing childhood lead poisoning are:

- a) Increase screening rates of children six through 29 months of age;
- b) Maintain and expand a statewide surveillance system for childhood lead poisoning, including electronic reporting by laboratories of all blood lead tests.
- c) Ensure that children with elevated blood lead receive proper follow-up care, including environmental investigations, case management, and medical treatment.
- d) Educate the public and health care professionals about lead screening and prevention activities.
- e) Strengthen existing, and develop new collaborations, to increase screening rates and to

outreach to target populations.

Target population - children enrolled in Medicaid

While all children in New Jersey are at risk of lead poisoning, some children are at higher risk. The children at highest risk are those who are served by the federal/State Medicaid program. In 1999, the U.S. General Accounting Office issued a report, based on data from the National Health and Nutrition Examination Study (NHANES), that found that 80% of the children participating in the Study who were found to have elevated blood lead levels were enrolled in, or income-eligible for, Medicaid. In addition to the State law requiring medical providers to screen all children under their care, federal Medicaid rules require that all children under six years of age covered by Medicaid be screened for lead poisoning. The Medicaid rules for lead screening are the same as the New Jersey State regulations, as both are based on CDC guidelines.

The activities to screen all Medicaid children are being carried out as a collaborative effort between the DHSS and the Division of Medical Assistance and Health Services (DMAHS) in the New Jersey Department of Human Services, which is responsible for New Jersey's Medicaid program. To facilitate the realization of this goal, a multi-faceted approach is being undertaken that targets the beneficiaries, providers, and other responsible agencies. Because of the complex nature of this public health concern, a collaborative relationship with advocacy groups, public agencies and provider groups is being developed. Integral to this relationship is the sharing of vital information between agencies and the exchange of best practices among organizations.

Advisory Committee recommendations

DHSS has established a Physicians Lead Advisory Committee (PLAC) to advise it on policy and actions to address childhood lead poisoning in New Jersey. Meetings of the PLAC were held in March and April 2002, at two locations (Trenton and New Brunswick) in order to encourage maximum participation by physicians. DHSS staff presented the latest data on childhood lead screening in New Jersey, and the Department's activities to promote the testing of all children. There ensued a lively discussion at each meeting on the reasons that children were not being screened, and what should be done to increase the screening rate. While a wide variety of opinions were expressed, the essential points of the discussion, to which most of the physicians present agreed, were as follows.

1. **Sample collection:** Many physicians no longer collect blood samples in their offices, for any type of test. Several factors and trends in medical care have combined to actively discourage the collection of blood samples. These include:
 - New federal rules regarding blood-borne pathogens and disposal of medical waste have increased the cost of blood sample collection.
 - A law requiring federal (as well as State) licensing of all clinical laboratories has resulted in many physician practices discontinuing in-office laboratories for simple analyses.
 - The evolution of insurance payment from fee-for-service to capitation means that many insurers no longer reimburse physicians for the cost of blood sample collection.
2. **Access to laboratories:** Because of health insurer policies, physicians will refer clients to blood collection stations operated by the major commercial clinical laboratories. Where the

insurance companies requires that the test be done by the particular laboratory with whom they have a contract, families have to go to the location operated by that laboratory, even if another laboratory's site is closer or more convenient for them. These laboratory operations can have limited operating hours, and/or are located in areas that are not convenient to get to, particularly for families that are dependent on public transportation. Some of them are also minimally staffed, resulting in long waiting times. These circumstances can be particularly difficult barriers to overcome for the low-income families whose children are at the highest risk of lead poisoning. Families who bring their children to the physician to be screened for lead poisoning, but are given a referral to a laboratory instead, do not always get to the laboratory site to get the blood sample collected.

- 3. Physician compliance:** Although some physicians disagree with the State policy that all children need to be screened for lead poisoning, the physicians present at these meetings stated that they, and most of their colleagues, do offer lead testing to most of the children in their care who should be tested. However, they stated that they know of families and children who have signed up with them as their primary care providers through managed care plans, but who have never come to them for preventive care. The PLAC recommended that the DHSS give equal emphasis in its educational activities to both encouraging physician compliance with the law and to educating families about the importance of preventive and primary care, including lead testing.

The limited amount of assessment that has been done of lead screening rates in individual medical practices seems to support the position that many physicians are complying with the law. On behalf of the DMAHS, the Peer Review Organization of New Jersey (PRO/NJ) conducted audits of large pediatric practices in several communities to determine how many of the children in their care who were enrolled in Medicaid had received a blood lead test. These audits found that the rates of children tested, or referred for lead testing in the audited practices was high: 74% in Trenton, 78% in Camden, 81% in Newark and 82% in Irvington. In addition, DMAHS staff audited the records of all of New Jersey's Federally Qualified Health Centers (FQHCs) in the Fall of 2001. They reviewed Medicaid records of Medicaid enrolled children between six and 26 months of age. At nine of the 12 FQHCs, 70% or more of these children had been tested for lead poisoning.

- 4. Primary Prevention:** There was passionate commentary from some physicians that lead poisoning is a preventable disease, and that using children to detect lead hazards through identifying the children already exposed is not good public policy. This concern has been increased by recent research that has shown that treatment of children with lead poisoning, while reducing their blood lead levels, does not result in improvements in the neurological damage caused by their lead exposure. The PLAC recommended that the State put greater emphasis on primary prevention, and devote more of its resources to removal of environmental lead hazards, particularly in housing, instead of concentrating on lead screening.

The DHSS has given serious consideration to the recommendations of the PLAC, and has used them in the preparation of its FY 2003 action plan for addressing lead poisoning.

Accomplishments in FY 2002

A. Increasing Screening Rates

- Lead Screening Improvement Pilot Projects – DHSS and DMAHS initiated pilot projects in the cities of Camden and Irvington in order to determine what methods would be most effective in increasing lead screening in the Medicaid population. These projects involve the collaboration of a number of organizations, including the American Civil Liberties Union Foundation, the Association for Children of New Jersey, the New Jersey Chapter of the American Academy of Pediatrics, New Jersey Citizen Action, the University of Medicine and Dentistry of New Jersey (UMDNJ), the Gateway Maternal and Child Health Consortium, the Irvington and Camden County health departments, and the HMOs who have contracts with DMAHS to serve the Medicaid population. Three Work Groups (Provider Education, Member Education and WIC/Child Care) were formed to develop the strategies to be used and the plans for implementing these strategies. DHSS and DMAHS staff have developed a process for evaluating the success of these strategies. Implementation of the pilot projects started in August 2002, and the activities will be monitored through September 2003. At that time, the effectiveness of these strategies will be evaluated, and decisions made as to what strategies will be implemented on a statewide basis, starting in 2004. The specific plans for the pilot projects are described in the next section.
- Parent Awareness - To increase awareness of the importance of blood lead screening, targeted outreach letters, health promotion flyers, and multi-language lead stuffers were distributed by DMAHS to the parents of children in the lead screening-eligible age groups.
- Provider Awareness - Multiple provider-focused activities were implemented by DHSS and DMAHS to heighten provider awareness on the need for universal lead screening. Professional publications, physician Internet reference lists and provider letters are some of the materials produced to date.
- HMO Requirements - DMAHS has amended the Medicaid/NJFamilyCare Managed Care Contract to require HMOs to track individual provider screening rates and then educate the individual provider on lead screening requirements. The contract also has specific language addressing lead screening requirements and follow-up care. To improve accessibility of lead screening services, a contract amendment was made that provided for separate/additional reimbursement for in-office screenings. Lead screening is part of the performance measurements for HMOs. The contract requires an 80% performance standard and has corresponding sanctions for under-performance.

On a semi-annual basis, the Contract requires the contractor to outreach, through letters and informational materials to parents/caregivers of all children who have not been screened, and educate them on the importance of lead screening and inform them how to obtain lead screening and transportation to the screening location. The Contract also requires the contractor to implement a corrective action plan to outreach parents/caregivers who do not respond to the letters and outreach indicated previously.

- Promoting Comprehensive Preventive Services - DMAHS has also implemented initiatives to improve documentation and reporting of vital child health services. Federal Medicaid rules require that a package of preventive health services, known as EPSDT (Early and Periodic Screening, Diagnosis, and Treatment) be offered to all enrolled children at regular intervals.

Lead screening is one of the preventive services included in EPSDT. A standardized EPSDT Billing Worksheet for use by Medicaid Managed Care providers has been in use since January 2001. The billing worksheet helps to eliminate duplicate HMO billing forms and enhances accurate reporting of services. Complementary to this strategy is the \$10 EPSDT incentive pass-through payment to providers that took effect on September 1, 2000 in fee-for-service and October 1, 2000 in managed care.

B. Surveillance

- Laboratory Reporting System - The DHSS continued to expand the capabilities of its Childhood Lead Poisoning Prevention Surveillance System (CLPPSS) in FY 2002. Efforts to encourage electronic reporting of blood lead test results by the major clinical laboratories were successful. By the end of the Fiscal Year, all but one of the major laboratories were reporting electronically. Programming was completed that allowed test results to be processed through a database of all known addresses in New Jersey, which enabled the system to check the validity of the address reported and to assign a municipal code. This enabled the system to produce reports on lead screening by municipality for the first time.
- Medicaid Data Match - DHSS and DMAHS collaborated in matching records of children enrolled in Medicaid with the laboratory reports of blood lead tests of children. Matches were completed during this year, looking back at children enrolled in Medicaid during FYs 2000 and 2001. A match for children enrolled in FY 2002 was also completed after the end of the Fiscal Year. This matching process enables DMAHS to determine how many of the children who at one point in the fiscal year were enrolled in the Medicaid program had a lead screening. Matching records of a blood lead test were found for 16.1% of the children less than eleven years of age who had some period of eligibility in Medicaid during FY 2000 and 15.8% of the children under the age of eleven who had some period of eligibility during FY 2001. However, because of limited information that was common to both databases, exact matches could not be found for many of the children. DMAHS is conducting follow-up through the contracted HMO's to determine if blood lead tests were performed on the children for whom matching records were not found.

C. Follow-up of Children with Elevated Blood Lead

- Grants to Local Health Departments - In FY 2002, DHSS increased by \$758,000 the funding that it provided to local health departments in support of follow-up activities on behalf of children reported with elevated blood lead. This amount included \$150,000 to 10 local health departments for lead inspectors, \$65,000 to five local health departments for nurses to do home visiting and case management, \$350,000 to 14 local health departments to purchase state-of-the-art lead paint analyzers, and \$68,000 to 13 local health departments for special needs. All totaled, the DHSS provided approximately \$2,700,000 in grant funding in FY 2002 to 20 local health departments to support lead inspections and case management for children with elevated blood lead. In addition, Public Health Priority Funding is a state resource available to all local health departments to support lead poisoning activities.
- Enforcement of Chapter XIII - DHSS increased its monitoring of the environmental activities of local health departments. DHSS staff prepare and send to local health departments reports

showing all cases of children with an elevated blood lead for which an inspection has not yet been completed, or are still pending abatement, according to the records in the CLPPSS. Starting in January 2002, these reports were sent quarterly to all local health departments with outstanding cases. Prior to this year, they had been sent twice a year to local health departments with more than 20 outstanding cases, and annually to all other local health departments. DHSS staff follow up on these reports if no response is received within 30 days to ensure that local health departments are taking all the necessary steps to ensure that investigations are completed and abatements are done in a timely fashion.

- Follow-up of Medicaid Children - DMAHS monitors and audits individual HMO lead case management. DMAHS also directly monitors and tracks lead-burdened children in Medicaid Fee-for Service and the follow-up care that is provided by the Primary Care Provider and the responsible Local Health Department.
- Children in Foster Care - DHSS and DMAHS have also been collaborating with the Department of Human Services, Division of Youth and Family Services (DYFS) to track children in foster care who are found to have elevated blood lead.
- Lead Abatement - DHSS worked in collaboration with DCA on the Lead Abatement Order Assistance Demonstration Program in East Orange, Irvington, and Paterson, three cities with significant lead-based paint hazard problems. This project resulted in the completion of lead hazard control work on 35 properties with outstanding abatement orders.
- Catastrophic Illness in Children Relief Fund - The Fund's Commission agreed to a DHSS recommendation that it allow reimbursement of the cost of lead abatement as a "medical" expense for families who were otherwise eligible for assistance under its guidelines. This decision was based on the fact that the primary "treatment" for lead poisoning in children is to remove the environmental lead hazard that is the source of the child's elevated blood lead. The Relief Fund already covered the cost of home renovations required by other children as a result of their medical conditions. Families whose medical expenses exceed 10% of their income are eligible for assistance from the Fund. Since the expenses have to be borne by the family of the affected child, this assistance would be available only for those families who own their own home and have to pay the cost of the abatement themselves. Between the adoption of this policy in December 2001 and June 2002, two families applied to the Fund for assistance with the cost of lead abatement. Both were approved. While the number of families affected by this policy is small, the benefit to the individual family and child is large.

D. Public and Professional Education

- Childhood Lead Poisoning Prevention Week - DHSS staff coordinated the planning for Childhood Lead Poisoning Prevention Week (October 27 - November 2, 2001). The planning committee had representation from State agencies, local health departments, non-profit agencies and community-based organizations. Three hundred implementation packets were distributed to local health departments, Child Care Health Consultant Coordinators, and community agencies.
- Lead Rap Video – DHSS collaborated with New Jersey Network to produce a four-minute lead poisoning prevention video, using a rap music format. The video will be used as an educational tool targeted to parents with children of lead screening age.
- Monica’s Story - An educational module was developed to incorporate with the video “Getting the Lead Out: Monica’s Story”. Johnson and Johnson developed this video in collaboration with the Governor’s Council on the Prevention of Mental Retardation and Developmental Disabilities. About 500 videos were purchased by DHSS for distribution. The educational module and video was offered to WIC clinics, child care centers, physician offices, and local health clinics for outreach and education of caregivers of children ages 1 through 5. DMAHS also purchased about 500 videos for distribution. Copies of the video were offered to Medicaid HMOs and County Boards of Social Services. In addition, DMAHS provided copies of the video for distribution as part of the Camden/Irvington pilot project.
- WIC - Funds were provided to the North Hudson Community Action Corporation for a demonstration project to educate pregnant women and parents of young children on prevention of lead poisoning and the importance of having their children screened for lead poisoning. This education emphasized the role of good nutrition, particularly iron, calcium and Vitamin C, in preventing lead poisoning. The results of this demonstration project are being reviewed to determine if these educational programs can be delivered through WIC clinics statewide. In addition, DMAHS provided WIC site Directors with an overview of their EPSDT services, including lead poisoning prevention and screening requirements. DMAHS’ Health Promotion and Lead Poisoning Prevention flyers were made available to WIC for distribution to clients.

E. Strengthening Collaborations

- Newark - The DHSS provided \$74,000 to support the Newark Partnership for Lead Safe Children. This Partnership is a collaboration of the State and City health departments with more than 50 health care providers and community-based organizations in Newark to address lead poisoning. The Partnership is administered by the Gateway Maternal and Child Health Consortium, with significant participation by New Jersey Citizen Action. One of the Partnerships major initiatives is “Leadie Eddie”, a van used for lead poisoning prevention education programs at child care centers and community sites in Newark. This van was made possible by a donation from the Episcopal Diocese of Newark, through its Episcopal Community Development Corporation.

South Jersey - DHSS and DMAHS assisted the South Jersey Lead Consortium in developing a regional Lead Poisoning Prevention Workshop in the Fall of 2001. Sponsoring agencies also included the Garden Area Health Education Center and the Interagency Task Force on Lead Poisoning Prevention. The workshop focused on ways to improve lead poisoning prevention by increasing awareness of community resources, lead screening programs, and new methods of treating lead poisoning with nutrition. The South Jersey Lead Consortium consists of the local health departments, UMDNJ - School of Osteopathic Medicine, the Southern New Jersey Perinatal Cooperative, and community-based agencies from the seven counties in southern New Jersey.

Initiatives Planned for SFY 2003

A. Increasing Screening Rates

- Lead Screening Improvement Pilot Projects – Implementation of the collaborative effort among DHSS, DMAHS, the American Civil Liberties Union Foundation, the Association for Children of New Jersey, the New Jersey Chapter of the American Academy of Pediatrics, the Irvington and Camden County health departments, and the DMAHS-contracted HMOs, to increase lead screening in the cities of Camden and Irvington. The following activities were implemented in August 2002, and will continue through September 2003.
 1. HMO representatives will visit each participating medical practice in Irvington and Camden to reinforce that both State law and federal Medicaid rules require that all children under six years of age be screened for lead poisoning, and to encourage lead screenings to be done in provider offices.
 2. Demonstration project will use filter paper for collection of blood lead samples in physicians' offices. Medtox Laboratory has agreed to analyze these samples.
 3. Training programs will be held in both cities for child care center directors and family child care providers.
 4. Hospital and visiting nurses, who provide prenatal and post-partum counseling to expectant and new parents, will be trained to educate them about the importance of getting their child screened for lead poisoning at his/her first birthday.

B. Surveillance

- Medicaid Matching - DMAHS is developing an information system that will facilitate tracking of blood lead screenings and lead poisoning prevalence as well as case management interventions for each lead-burdened child. The information derived from these systems will be useful for targeting outreach and monitoring timely follow-up care. Quarterly lead matches will be performed between the Medicaid enrollment file and the DHSS Childhood Lead Poisoning Surveillance System.
- Electronic Reporting - Efforts will continue with the one major laboratory that still reports on paper forms to convert it to electronic reporting.

- Data Accuracy - Using the electronic reporting capabilities of the Childhood Lead Poisoning Prevention Surveillance System (CLPPSS), reports with inaccurate or missing data (birth dates, addresses, etc.) will be returned to the laboratories for correction. These processes should result in fewer children being listed as of unknown age or location, and will provide more accurate data for analyses. Records will be cleaned (e.g. spelling corrections) and consolidated so that all results for a child are linked to the child.
- Further Enhancements - The new capabilities of the CLPPSS will expand upon the activities performed by the current data system. Addresses within CLPPSS will be standardized and geo-coded to permit geo-spatial analyses. The geographically-coded blood lead test data will be linked to census data for analyses. This process will be used to produce a variety of maps. For example, maps may be created to show screening penetration and prevalence rates for areas surrounding each medical provider. Physicians will be provided with statistics that highlight screening rates and outcomes in the communities they serve.
- Immunization Registry - DHSS is engaged in a project to update the New Jersey State Immunization Information System (NJSIIS). A process has been established to link blood lead test result records with records in the NJSIIS. A field for recording of blood lead test data has been incorporated into the design for revision and expansion of the System. This will enable primary care providers to access the blood lead testing records for children in their care.

C. Follow-up of Children with Elevated Blood Lead

- Grants to Local Health Departments - DHSS has budgeted \$2,450,000 for grants to 16 local health departments to support follow-up activities on behalf of children reported with elevated blood lead, including environmental inspections, home visiting and case management.
- Enforcement of Chapter XIII - On a quarterly basis, local health departments will be receiving reports showing all cases of children with an elevated blood lead for which an inspection has not yet been completed, or which are still pending abatement, according to the records in the CLPPSS. DHSS staff will be following up on these reports to ensure that local health departments are taking all the necessary steps to ensure that investigations are completed and abatements are done in a timely fashion. State law provides for sanctions against local health departments that do not properly enforce Chapter XIII.

D. Public and Professional Education

- Statewide Activities - From the FY 2003 State Budget appropriation to the DHSS for Childhood Lead Poisoning, \$400,000 has been allocated for education activities to expand public awareness of lead hazards and the importance of screening. DHSS developed a plan for the use of these funds in collaboration with the Interagency Task Force on the Prevention of Lead Poisoning and the Office for Prevention of Mental Retardation and Developmental Disabilities (OPMRDD) in the Department of Human Services. The funds are being used for the pilot projects in Camden and Irvington, the support for regional lead poisoning prevention coalitions (see below), and public awareness activities.
- Childhood Lead Poisoning Prevention (CLPP) Week (October 20-26, 2002) - Statewide activities were sponsored by the New Jersey Interagency Task Force on Prevention of Lead

Poisoning. DHSS, DHS and DCA collaborated on the development and distribution of information packets for CLPP Week. Four hundred packets were mailed in August to local health departments and other agencies who could participate in these activities.

- Lead Rap Video – The four-minute lead poisoning prevention video, using a rap music format, produced by New Jersey Network with DHSS support, will be used as an educational tool targeted to parents with children of lead screening age. The final product was premiered during Childhood Lead Poisoning Prevention Week in October, and then distributed to agencies who serve families with young children.
- Foster Parents - DMAHS and DYFS have initiated a collaborative effort to increase the awareness of EPSDT, lead poisoning prevention and screening requirements for the children receiving services through DYFS. Initiatives implemented include: inservices for designated DYFS staff; DMSHS' Health Promotion and Lead Poisoning Prevention flyers included in newly approved foster parent packets and foster child placement packets; and a mailing to foster parents containing the flyers along with a letter explaining EPSDT and lead screening requirements.
- Public Service Announcements – DHSS has been involved with New Jersey Network in the development of radio and television public service announcements (PSAs) on childhood lead poisoning. The PSA, co-sponsored by the New Jersey Chapter of the American Academy of Pediatrics, was completed in August, with the assistance of the Trenton Health Department. The PSAs will be broadcast on public television (PBS Kids) and during drive time on National Public Radio (NPR). Broadcasting of the radio PSAs has begun.
- Training for Local Health Department Staff - The DHSS will continue to provide training for local health department staff engaged in childhood lead poisoning prevention and follow-up work through the Child Health Regional Network.

E. Strengthening Collaborations

- Statewide Planning - DHSS will continue to be an active participant in the New Jersey Interagency Task Force on the Prevention of Lead Poisoning. Through the Task Force, DHSS staff from Family Health Services, Consumer and Environmental Health Services, and the Occupational Health Service will work with their colleagues in other State agencies and community-based organizations to develop and implement policies and projects to reduce childhood lead poisoning in New Jersey. A major objective of the Task Force for FY 2003 is to revise and update its Strategic Plan for Prevention of Lead Poisoning in New Jersey, originally developed in 1997.
- Newark - DHSS has budgeted \$62,000 for continued support of the Newark Partnership for Lead Safe Children. Major projects planned by the Partnership for FY 2003 include:
 1. Continued use of the “Leadie Eddie” van to provide lead poisoning prevention education programs at day care centers and community sites, and lead screening at selected sites;

2. “Train the trainer” educational programs on lead poisoning prevention for the staff of community organizations;
 3. Educational programs for property owners about lead poisoning prevention and the availability of public and private lead abatement funds.
- Regional Coalitions - \$220,000 of the FY 2003 State appropriation for Childhood Lead Poisoning is being used to create four regional childhood lead poisoning prevention coalitions to develop local lead poisoning education programs. These grants will be awarded through a competitive process, through a Request for Applications issued in October 2002. Funding starting in January 2003, was awarded to the following grantees:
 - Northern New Jersey Maternal and Child Health Consortium (Bergen and Passaic counties);
 - Monmouth County Health Department (Monmouth and Ocean counties);
 - Camden County Health Department (for a seven county South Jersey region); and
 - Gateway Maternal and Child Health Consortium (on behalf of itself, Central New Jersey Maternal and Child Health Consortium, Hudson Perinatal Consortium, and Northwest New Jersey Maternal and Child Health Consortium, for a 12 county region covering northern and central New Jersey).

Appendix 1

Municipal Data Tables

for all Municipalities with Population > 35,000

FY 2002

Table 12

**CHILDREN SIX TO 29 MONTHS OF AGE
WITH BLOOD TEST RESULTS REPORTED IN FY 2002
BY MUNICIPALITY OF RESIDENCE
FOR MUNICIPALITIES WITH POPULATION > 35,000**

MUNICIPALITY	Number of Children*	Number of Children Tested	Percent Tested	Percent <10	Percent >=10	Percent >=20
Atlantic City	1,184	509	43.0%	97.3%	2.8%	0.0%
Bayonne City	1,376	348	25.3%	98.3%	1.7%	0.3%
Belleville Township	836	402	48.1%	99.0%	1.0%	0.0%
Berkeley Township	433	186	43.0%	100.0%	0.0%	0.0%
Bloomfield Township	1,102	445	40.4%	97.8%	2.3%	0.5%
Brick Township	1,847	433	23.4%	99.5%	0.5%	0.0%
Bridgewater Township	1,300	418	32.2%	100.0%	0.0%	0.0%
Camden City	2,845	1,291	45.4%	95.6%	4.4%	0.7%
Cherry Hill Township	1,591	371	23.3%	99.2%	0.8%	0.0%
Clifton City	1,766	787	44.6%	97.3%	2.7%	1.0%
Dover Township	1,915	532	27.8%	99.8%	0.2%	0.0%
East Brunswick Township	1,065	355	33.3%	100.0%	0.0%	0.0%
East Orange City	2,132	873	40.9%	91.9%	8.1%	2.9%
Edison Township	2,481	868	35.0%	99.7%	0.4%	0.2%
Elizabeth City	3,700	1,761	47.6%	97.0%	3.0%	0.5%
Evesham Township	1,227	297	24.2%	99.0%	1.0%	0.7%
Ewing Township	666	200	30.0%	98.0%	2.0%	0.5%
Fort Lee Boro	766	224	29.2%	100.0%	0.0%	0.0%
Franklin Township	1,488	649	43.6%	99.4%	0.6%	0.0%
Gloucester Township	1,763	436	24.7%	99.3%	0.7%	0.0%

MUNICIPALITY	Number of Children*	Number of Children Tested	Percent Tested	Percent <10	Percent >=10	Percent >=20
Hackensack City	1,010	508	50.3%	98.2%	1.8%	0.4%
Hamilton Township	1,981	674	34.0%	98.5%	1.5%	0.3%
Hillsborough Township	1,140	317	27.8%	99.4%	0.6%	0.0%
Hoboken City	491	225	45.8%	98.7%	1.3%	0.0%
Howell Township	1,547	360	23.3%	99.2%	0.8%	0.3%
Irvington Township	1,963	1,152	58.7%	91.5%	8.5%	1.7%
Jackson Township	1,420	300	21.1%	99.0%	1.0%	0.3%
Jersey City	6,558	2,361	36.0%	96.8%	3.2%	0.5%
Kearny Town	918	288	31.4%	97.9%	2.1%	0.7%
Lakewood Township	2,961	1,218	41.1%	97.2%	2.8%	0.4%
Linden City	877	299	34.1%	97.7%	2.3%	1.0%
Manchester Township	371	112	30.2%	100.0%	0.0%	0.0%
Marlboro Township	1,033	340	32.9%	100.0%	0.0%	0.0%
Middletown Township	1,777	490	27.6%	99.4%	0.6%	0.0%
Montclair Township	1,048	461	44.0%	95.9%	4.1%	1.1%
Mount Laurel Township	993	229	23.1%	100.0%	0.0%	0.0%
New Brunswick City	1,308	934	71.4%	94.3%	5.7%	1.2%
Newark City	8,217	4,535	55.2%	91.8%	8.2%	1.9%
North Bergen Township	1,435	562	39.2%	99.3%	0.7%	0.4%
North Brunswick Township	1,009	339	33.6%	99.1%	0.9%	0.0%
Old Bridge Township	1,700	564	33.2%	99.7%	0.4%	0.0%
Parsippany-Troy Hills Township	1,202	390	32.4%	99.5%	0.5%	0.0%
Passaic City	2,607	1,588	60.9%	94.3%	5.7%	1.3%

MUNICIPALITY	Number of Children*	Number of Children Tested	Percent Tested	Percent <10	Percent >=10	Percent >=20
Paterson City	4,973	2,195	44.1%	93.7%	6.3%	1.2%
Pennsauken Township	873	240	27.5%	97.1%	2.9%	0.4%
Perth Amboy City	1,474	565	38.3%	95.8%	4.3%	1.1%
Piscataway Township	1,381	448	32.4%	99.1%	0.9%	0.0%
Plainfield City	1,492	626	42.0%	94.3%	5.8%	1.4%
Sayreville Boro	1,079	358	33.2%	99.4%	0.6%	0.0%
South Brunswick Township	1,223	461	37.7%	99.1%	0.9%	0.2%
Teaneck Township	1,048	406	38.7%	98.3%	1.7%	0.0%
Trenton City	2,602	1,187	45.6%	91.7%	8.3%	1.0%
Union City	1,955	807	41.3%	97.2%	2.9%	0.6%
Union Township	1,176	472	40.1%	97.5%	2.5%	0.4%
Vineland City	1,375	617	44.9%	97.7%	2.3%	0.5%
Washington Township	1,086	294	27.1%	99.7%	0.3%	0.0%
Wayne Township	1,284	567	44.2%	99.3%	0.7%	0.2%
West New York Town	1,174	591	50.3%	99.2%	0.9%	0.5%
West Orange Township	1,191	452	38.0%	96.5%	3.5%	0.7%
Woodbridge Township	2,495	748	30.0%	99.2%	0.8%	0.3%
Total	102,930	40,665	39.5%	96.4%	2.8%	0.8%
*U.S. Census 2000 - 1 and 2 year olds						

Table 13

**CHILDREN WITH BLOOD TEST RESULTS REPORTED IN FY 2002
BY BLOOD LEAD LEVEL
AND MUNICIPALITY OF RESIDENCE
FOR MUNICIPALITIES WITH POPULATION > 35,000**

MUNICIPALITY	Total Children Tested	Number <10	Number >=10	Number >=20	Percent >=10	Percent >=20
Atlantic City	1127	1106	21	1	1.9%	0.1%
Bayonne City	762	749	13	2	1.7%	0.3%
Belleville Township	809	800	9	1	1.1%	0.1%
Berkeley Township	278	277	1	0	0.4%	0
Bloomfield Township	871	848	23	4	2.6%	0.5%
Brick Township	730	726	4	0	0.6%	0
Bridgewater Township	559	559	0	0	0	0
Camden City	3238	3104	134	19	4.1%	0.6%
Cherry Hill Township	491	486	5	1	1.0%	0.2%
Clifton City	1413	1380	33	10	2.3%	0.7%
Dover Township	870	867	3	1	0.3%	0.1%
East Brunswick	548	548	0	0	0	0
East Orange City	2767	2485	282	61	10.2%	2.2%
Edison Township	1433	1427	6	2	0.4%	0.1%
Elizabeth City	4131	4000	131	32	3.2%	0.8%
Evesham Township	368	365	3	2	0.8%	0.5%
Ewing Township	368	358	10	1	2.7%	0.3%
Fort Lee Boro	342	342	0	0	0	0
Franklin Township	1021	1014	7	0	0.7%	0.0%
Gloucester Township	636	632	4	0	0.6%	0
Hackensack City	1008	995	13	4	1.3%	0.4%

MUNICIPALITY	Total Children Tested	Number <10	Number >=10	Number >=20	Percent >=10	Percent >=20
Hamilton Township	1252	1226	26	5	2.1%	0.4%
Hillsborough Township	432	430	2	0	0.5%	0
Hoboken City	431	426	5	1	1.2%	0.2%
Howell Township	568	564	4	1	0.7%	0.2%
Irvington Township	3075	2747	328	63	10.7%	2.0%
Jackson Township	498	495	3	1	0.6%	0.2%
Jersey City	6121	5939	182	32	3.0%	0.5%
Kearny Town	718	709	9	2	1.3%	0.3%
Lakewood Township	2316	2261	55	7	2.4%	0.3%
Linden City	672	661	11	5	1.6%	0.7%
Manchester Township	176	176	0	0	0%	0%
Marlboro Township	521	520	1	0	0.2%	0
Middletown Township	655	651	4	0	0.6%	0
Montclair Township	883	842	41	7	4.6%	0.8%
Mount Laurel Township	295	295	0	0	0	0
New Brunswick City	1718	1616	102	16	5.9%	0.9%
Newark City	13553	12285	1268	248	9.4%	1.8%
North Bergen Township	1363	1353	10	4	0.7%	0.3%
North Brunswick Township	520	516	4	0	0.8%	0
Old Bridge Township	994	989	5	0	0.5%	0
Parsippany-Troy Hills Township	548	546	2	0	0.4%	0
Passaic City	3854	3642	212	48	5.5%	1.2%
Paterson City	5330	4947	383	80	7.2%	1.5%
Pennsauken Township	454	444	10	1	2.2%	0.2%
Perth Amboy City	1583	1529	54	11	3.4%	0.7%

MUNICIPALITY	Total Children Tested	Number <10	Number >=10	Number >=20	Percent >=10	Percent >=20
Piscataway Township	804	797	7	0	0.9%	0
Plainfield City	1614	1525	89	19	5.5%	1.2%
Sayreville Boro	606	603	3	0	0.5%	0
South Brunswick Township	718	714	4	1	0.6%	0.1%
Teaneck Township	673	662	11	2	1.6%	0.3%
Trenton City	3063	2825	238	29	7.8%	0.9%
Union City	2230	2191	39	9	1.7%	0.4%
Union Township	979	961	18	6	1.8%	0.6%
Vineland City	1198	1167	31	5	2.6%	0.4%
Washington Township	437	436	1	0	0.2%	0
Wayne Township	739	733	6	2	0.8%	0.3%
West New York Town	1796	1778	18	6	1.0%	0.3%
West Orange Township	873	844	29	4	3.3%	0.5%
Woodbridge Township	1313	1302	11	2	0.8%	0.2%
TOTAL	89343	85415	3928	758	4.4%	0.8%

Appendix 2

**ENVIRONMENTAL INVESTIGATION STATUS
BY LOCAL HEALTH DEPARTMENT JURISDICTION
FY2002**

ENVIRONMENTAL INVESTIGATION STATUS BY LOCAL HEALTH DEPARTMENT - FY2002												
	EBL REPORTS SENT	INVEST. NOT REQUIRED	INVEST. REQUIRED	INVEST. REQUIRED	INVEST. PENDING	INVEST. COMPLETED	% INVEST. COMPLETED	LEAD HAZARDS FOUND	% LEAD HAZARDS FOUND	ABATEMENT PENDING	ABATEMENT COMPLETED	% ABATEMENT COMPLETED
LOCAL HEALTH DEPARTMENT												
MONTCLAIR HEALTH DEPARTMENT	10	3	7	3	4	57%	4	100%	3	1	25%	
NEWARK DEPARTMENT OF HEALTH	233	54	179	83	96	54%	69	72%	55	14	20%	
WEST CALDWELL HEALTH DEPARTMENT	1	0	1	0	1	100%	1	100%	1	0	0%	
WEST ORANGE HEALTH DEPARTMENT	21	3	18	1	17	94%	12	71%	5	7	58%	
GLOUCESTER COUNTY												
GLOUCESTER COUNTY DEPARTMENT OF HEALTH	4	1	3	0	3	100%	3	100%	2	1	33%	
HUDSON COUNTY												
BAYONNE DEPARTMENT OF HEALTH	2	0	2	0	2	100%	2	100%	1	1	50%	
HOBOKEN HEALTH DEPARTMENT	1	1	0	0	0	.	0	.	0	0	.	
JERSEY CITY DIVISION OF HEALTH	23	4	19	6	13	68%	9	69%	4	5	56%	
KEARNY DEPARTMENT OF HEALTH	1	0	1	0	1	100%	1	100%	0	1	100%	
NORTH BERGEN HEALTH DEPARTMENT	10	2	8	1	7	88%	5	71%	2	3	60%	
WEST NEW YORK HEALTH DEPARTMENT	5	3	2	1	1	50%	1	100%	0	1	100%	
HUNTERDON COUNTY												
HUNTERDON COUNTY DEPARTMENT OF HEALTH	3	1	2	0	2	100%	2	100%	2	0	0%	
MERCER COUNTY												
EWING TOWNSHIP HEALTH DEPARTMENT	1	0	1	1	0	0%	0	.	0	0	.	
HAMILTON TOWNSHIP DIVISION OF HEALTH	5	2	3	2	1	33%	1	100%	1	0	0%	
LAWRENCE TOWNSHIP HEALTH DEPARTMENT	2	0	2	1	1	50%	0	0%	0	0	.	
CITY OF TRENTON DEPT OF HEALTH & HUMAN SERVICES	29	9	20	3	17	85%	13	77%	11	2	15%	
MIDDLESEX COUNTY												
MIDDLESEX COUNTY PUBLIC HEALTH DEPARTMENT	33	8	25	9	16	64%	9	56%	2	7	78%	
EDISON DEPARTMENT OF HEALTH & HUMAN RESOURCES	2	0	2	2	0	0%	0	.	0	0	.	
SOUTH BRUNSWICK HEALTH DEPARTMENT	1	1	0	0	0	.	0	.	0	0	.	
WOODBRIIDGE TOWNSHIP DEPT OF HEALTH & HUMAN SERV	3	1	2	0	2	100%	0	0%	0	0	.	
MONMOUTH COUNTY												
MONMOUTH COUNTY HEALTH DEPARTMENT	11	2	9	3	6	67%	6	100%	3	3	50%	
MONMOUTH COUNTY REGIONAL HEALTH COMMISSION NO.1	1	0	1	0	1	100%	1	100%	1	0	0%	
FREEHOLD AREA HEALTH DEPARTMENT	2	1	1	0	1	100%	1	100%	0	1	100%	

ENVIRONMENTAL INVESTIGATION STATUS BY LOCAL HEALTH DEPARTMENT - FY2002												
	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	
LOCAL HEALTH DEPARTMENT												
LONG BRANCH DEPARTMENT OF HEALTH	1	0	1	1	0	0%	0	.	0	0	.	
MATAWAN REGIONAL DEPARTMENT OF HEALTH	1	0	1	1	0	0%	0	.	0	0	.	
HAZLET-ABERDEEN HEALTH DEPARTMENT	1	0	1	1	0	0%	0	.	0	0	.	
RED BANK HEALTH DEPARTMENT	1	1	0	0	0	.	0	.	0	0	.	
MORRIS COUNTY												
DENVILLE DIVISION OF HEALTH	1	0	1	0	1	100%	0	0%	0	0	.	
DOVER HEALTH DEPARTMENT	2	1	1	1	0	0%	0	.	0	0	.	
LINCOLN PARK HEALTH DEPARTMENT	1	0	1	0	1	100%	0	0%	0	0	.	
MADISON BORO BOARD OF HEALTH	2	0	2	2	0	0%	0	.	0	0	.	
MORRISTOWN DIVISION OF HEALTH	1	0	1	0	1	100%	0	0%	0	0	.	
PARSIPPANY HEALTH DEPARTMENT	1	0	1	0	1	100%	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	1	0	0	0	.	0	.	0	0	.	
OCEAN COUNTY												
OCEAN COUNTY HEALTH DEPARTMENT	11	1	10	4	6	60%	4	67%	2	2	50%	
PASSAIC COUNTY												
CLIFTON BOARD OF HEALTH	11	1	10	0	10	100%	7	70%	2	5	71%	
PASSAIC CITY HEALTH DEPARTMENT	39	10	29	7	22	76%	20	91%	11	9	45%	
PATERSON DIVISION OF HEALTH	67	16	51	3	48	94%	33	69%	18	15	46%	
WEST MILFORD TOWNSHIP HEALTH DEPARTMENT	1	0	1	1	0	0%	0	.	0	0	.	
SALEM COUNTY												
SALEM COUNTY DEPARTMENT OF HEALTH	6	2	4	2	2	50%	2	100%	2	0	0%	
SOMERSET COUNTY												
SOMERSET COUNTY HEALTH DEPARTMENT	1	0	1	1	0	0%	0	.	0	0	.	
SOMERVILLE HEALTH DEPARTMENT	1	0	1	0	1	100%	1	100%	0	1	100%	
SUSSEX COUNTY												
SUSSEX COUNTY DEPT HEALTH, PUBLIC SAFETY & SR. SERV	1	0	1	0	1	100%	1	100%	1	0	0%	
UNION COUNTY												
TOWNSHIP OF CRANFORD DEPARTMENT OF HEALTH	2	0	2	0	2	100%	1	50%	1	0	0%	
ELIZABETH DEPARTMENT OF HEALTH & HUMAN SERVICES	32	2	30	7	23	77%	15	65%	6	9	60%	

ENVIRONMENTAL INVESTIGATION STATUS BY LOCAL HEALTH DEPARTMENT - FY2002												
LOCAL HEALTH DEPARTMENT	EBL REPORTS SENT	INVEST. NOT REQUIRED	INVEST. REQUIRED	INVEST. REQUIRED	INVEST. PENDING	INVEST. COMPLETED	% INVEST. COMPLETED	LEAD HAZARDS FOUND	% LEAD HAZARDS FOUND	ABATEMENT PENDING	ABATEMENT COMPLETED	% ABATEMENT COMPLETED
LINDEN BOARD OF HEALTH	7	0	7	5	2	29%	1	50%	0	1	100%	
CITY OF PLAINFIELD HEALTH DEPARTMENT	17	1	16	1	15	94%	13	87%	9	4	31%	
RAHWAY HEALTH DEPARTMENT	4	0	4	2	2	50%	2	100%	2	0	0%	
SUMMIT HEALTH DEPARTMENT	1	0	1	0	1	100%	0	0%	0	0	0%	
TOWNSHIP OF UNION DEPARTMENT OF HEALTH	6	1	5	0	5	100%	4	80%	4	0	0%	
WESTFIELD REGIONAL HEALTH DEPARTMENT	6	1	5	1	4	80%	4	100%	0	4	100%	
WARREN COUNTY												
WARREN COUNTY HEALTH DEPARTMENT	3	0	3	1	2	67%	2	100%	2	0	0%	
Statewide Totals	867	188	679	197	482	71%	362	75%	229	133	37%	

Appendix 3

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. Because their neurological system and organs are still developing, lead is particularly hazardous to children between six months and six years of age. 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 in which children play;
- tap water;
- food stored in lead soldered cans or improperly glazed pottery; and
- traditional folk remedies and cosmetics containing lead.

Because lead-based paint and other lead-containing substances are present throughout the environment in New Jersey, all children in the State are at risk. 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, chipped, 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.

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 banned for residential use in New Jersey in 1971, and nationwide in 1978. These bans have effectively reduced the risk of lead exposure for children who live in houses built after 1978, but any house built before 1978 still may 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. (See Table 15)

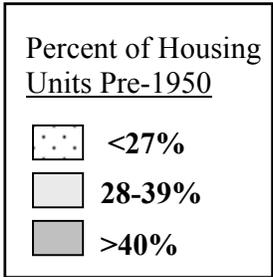
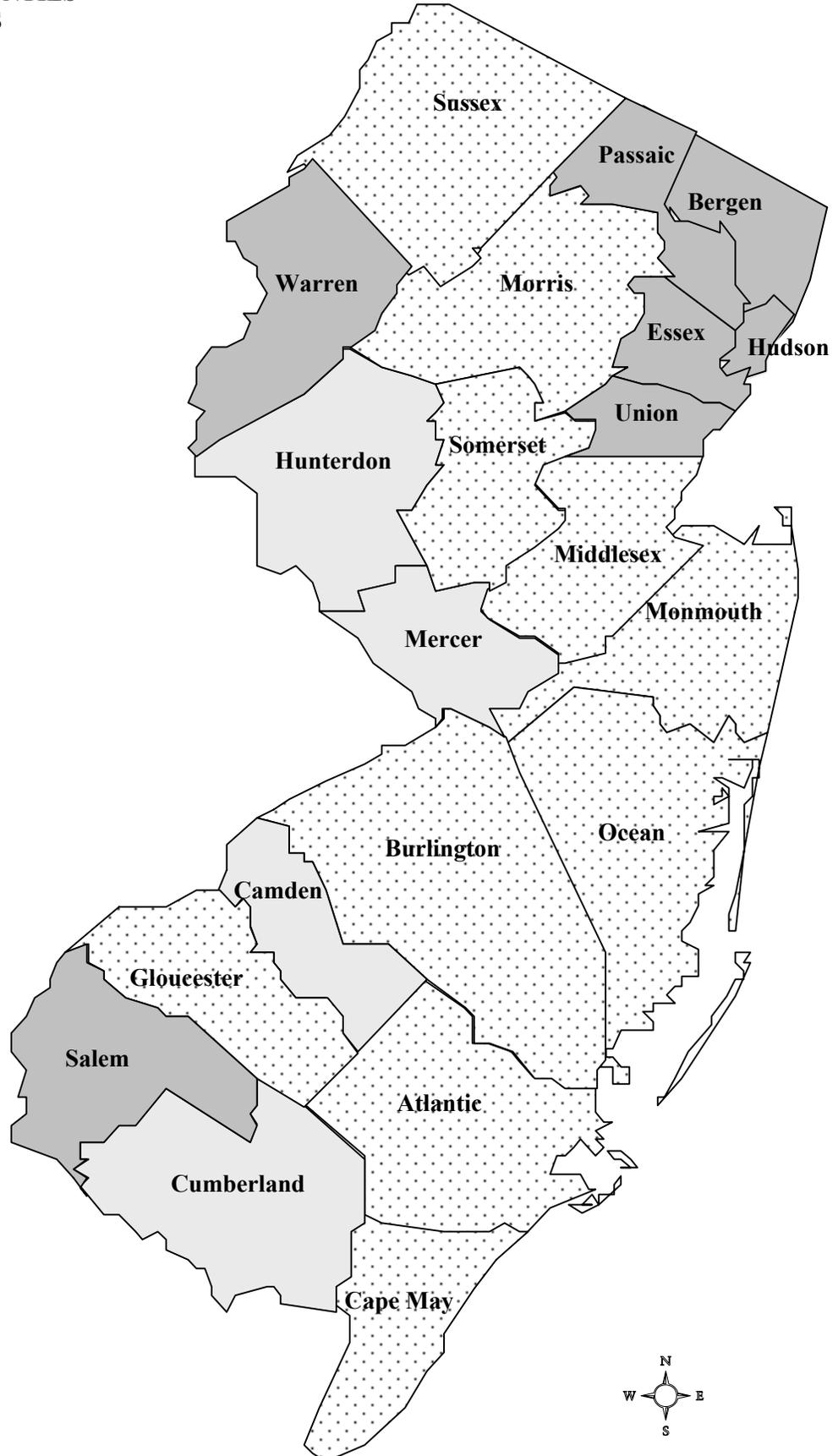
Table 15

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 3

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



Appendix 4

NJDHSS Childhood Lead Poisoning 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. 26:2-137.5.b). The regulations establishing the requirement for reporting of all blood lead tests were adopted on April 6, 1998 (30 NJR 1310(c)), and became effective on July 1, 1999. Prior to July 1999, reporting was required only of elevated test results.

During FY 2002, laboratories were able to report blood lead test results to the DHSS on paper forms or electronically. Programming work is underway to enable laboratories to transmit files of blood lead tests results via secure Internet file transfer.

All reported blood lead tests are entered into a computer database. 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 more than 800,000 blood lead test results on more than 650,000 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 (≥ 20 ug/dL). The DHSS then notifies local health departments of children with elevated blood lead reported in their jurisdictions. This is currently done through issuing a Lead Poisoning Environmental Intervention Report. 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 12 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.

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 27,000 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.

Creation of Report Tables

Testing for Lead Poisoning

An analysis database was created, based upon all blood lead test results that were reported to the New Jersey Department of Health and Senior Services prior to August 1, 2002, in which the analysis date was within FY2002. Blood lead test results were reported in either electronic or hardcopy format. All hardcopy reports were initially entered into a temporary database. All the reports were then batch loaded into the Childhood Lead Poisoning Prevention Surveillance System (CLPPSS) for processing. During processing, the new records were matched to existing child and address records.

All new address records were processed by CLPPSS and, if possible, standardized into US Postal Services format and geocoded with county, municipal, and census block level data. If addresses could not be standardized, then the reported address was retained and geocoded as unknown. This process for the FY2002 report resulted in more addresses being coded as unknown than in past reports because addresses were matched to individual street addresses. In previous reports, addresses were only coded to the county level based upon zip code.

For those records missing date of birth, age was assigned as unknown. An attempt was made to count each child only once by creating a unique identifier based upon the child's full name and date of birth. If more than one result was reported for a child, then highest result for each child that had a standardized address was selected. If all results for a child were associated with addresses that could not be standardized, then the highest result was selected. It was not possible to specifically identify the number of screening tests because the reason for testing was not reported. In assigning test results to a blood lead level group, if the result was reported as "<" some value, then the result was assigned to a group as if the "<" sign was not reported. For example, a result reported as "<3" was processed as if the value was 3 and therefore assigned to the "< 10 ug/dL" group.

U.S. Census 2000 data was used when reporting the total number of children by age group within a specific geographic area. When performing analyses for children aged 6 through 29 months of age, the denominator used was children aged 1 through 2 years because the U.S. Census 2000 tables did not report age in months. This provided 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 were selected from the environmental portion of the database. Environmental records were 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 FY2002, actually occurred during FY2002. That is, the date for any activity completed after June 30, 2002 was set to missing and, therefore, not counted within this report. Activities counted within this section of the report was based upon records updated on August 23, 2002. It should be noted that because of the dynamic nature of the database, that comparison with previous years reports may result in small discrepancies because of added, deleted, updated, and corrected records.