



MARYLAND DEPARTMENT OF THE ENVIRONMENT

Lead Poisoning Prevention Program

Childhood Blood Lead Surveillance in Maryland

Annual Report 2010

August, 2011



MARYLAND CHILDHOOD LEAD REGISTRY

ANNUAL SURVEILLANCE REPORT 2010

EXECUTIVE SUMMARY

The Maryland Department of the Environment's statewide Childhood Lead Registry (CLR) performs childhood blood lead surveillance for Maryland. The CLR receives the reports of all blood lead tests done on Maryland children 0-18 years of age, and the CLR provides blood lead test results to the Department of Health and Mental Hygiene including Medicaid and local health departments as needed for case management and planning.

Since 1995, the CLR has released a comprehensive annual report on statewide childhood blood lead testing. This current report presents the childhood blood lead test results for calendar year 2010 (CY 2010). All numbers are based on blood lead testing (venous or capillary) on children. The CLR does not receive any reports on lead screening based on the lead risk assessment questionnaire. With few exceptions all numbers referred to children 0-72 months of age.

CY 2010 Surveillance Highlights:

- A total of 133,195 blood lead tests from 127,762 children 0-18 years were received and processed by the CLR in 2010, of which 119,989 tests were from 114,829 children 0-72 months. The overall blood lead testing for children 0-72 months for 2010 was 23.4%, one point increase from 2009 (22.4%).
- The highest testing rates for children 0-72 months were found in Baltimore City (34.0%) followed by Caroline County (33.7%), Dorchester County (33.0%), and Somerset and Wicomico Counties (32.8, and 32.3% respectively).
- The highest testing rates for children 0-35 months were found in Caroline County (56.2%), Somerset county (52.3%), Dorchester County (48.8%), and Talbot County (48.1%). Statewide, the testing rate for this age group for 2010 was 32.7%, one point more than 2009 (31.6%).
- Close to 90% of addresses were geocodable at the longitude, latitude level. The county assignment however is based on: 1) census tract as determined by geocoding, 2) child's zip code address, and 3) the original county name if it were included in the address information.
- In 2010, CLR received blood lead reports from 39 laboratories nationwide. Number of reports for the whole year varied from as low as 2 from one laboratory to more than 74,000 from another laboratory. More than 87% of reports, however are from three major laboratories. These and seven other laboratories sent their reports electronically (93%). The average reporting time, from the time sample is drawn to the time the result enters

the CLR database is about 6 days. The average time for elevated blood lead results (≥ 10 $\mu\text{g}/\text{dL}$) is approximately 30 hours.

- Out of 114,829 children 0-72 months tested for lead statewide in 2010, 531 (0.5%) were found to have blood lead level ≥ 10 $\mu\text{g}/\text{dL}$ (prevalent cases) of whom 399 had their very first EBL test (incident cases) in 2010.
- In 2010, 60.1% of the children statewide with the first venous EBL lived in other than pre-1950 residential rental dwelling units. In Baltimore City, 40.3% of the children with the first venous EBL lived in other than pre-1950 residential dwelling units.

Overview

Exposure to lead is still the most significant and widespread environmental hazards for children in Maryland. Children are at the greatest risk from birth to age six while their neurological systems are being developed. Exposure to lead can cause long-term neurological damage that may be associated with learning and behavioral problems and with decreased intelligence.

Terms and Definitions

There is no evidence of a blood lead level below which there are no health effects. The Centers for Disease Control and Prevention (CDC) concurs that the evidence shows that there is no threshold level for blood lead that can be considered “safe”. CDC’s current blood lead level of concern of 10 µg/dL is based on: 1) lack of successful clinical or public health interventions with BLLs below 10 µg/dL, 2) likelihood of misclassification errors due to uncertainty associated with laboratory testing at levels <10 µg/dL, and 3) the need to prioritize public health resources for children with BLL ≥10 µg/dL. Based on these facts, the CLR dropped the term “Lead Poisoning” as was initially defined: “a venous blood lead level ≥25 µg/dL” and later dropped the level to 20 µg/dL. Instead, to better reflect the extent of the work and to direct program activities to the “more at-risk” areas, from 2005 forward new terms ‘incidence’ and ‘prevalence’ with the following definitions were included in annual report.

EBL (Elevated Blood Lead level): A blood lead level ≥10 µg/dL, currently defined by CDC as “Level of Concern”. The highest venous test or, in the absence of venous test, the highest capillary test is the bases of determination. This definition may not necessarily match the criteria for the initiation of case management

Prevalence: Any child with an EBL for the calendar year is the basis of this selection. Prevalence reflects the existing load of children with EBL who may be new to the program or may have been carried-over from previous years (continuously or after some remission.)

Incidence: Any child with the very first EBL is basis of this selection. Incidence reflects the load of the children with EBL who may have never been tested for lead before or the result of all their previous blood lead tests were below 10 µg/dL. Incidence is a better indicator for primary prevention. It is expected that the expansion of primary prevention activities results in less

Sources of Childhood Lead Exposure

Lead paint dust from deteriorated lead paint or from renovation is the major source of exposure for children in Maryland. Out of estimated of 2,313,193 residential houses in Maryland 431,888 (18.7%) were built before 1950 and 947,450 (41.0%) between 1950-1979. (Source: US Census Bureau, American Community Survey, 2005-2009 American Community Survey 5-Year Estimates) A significant number of pre-1950 and 1950-1979 residential rental units have been made lead free. Untreated units in those groupings are highly likely and likely to have lead based paint respectively.

Water, air, and soil, may provide low-level, “background” exposure, but rarely may cause childhood lead poisoning.

Imported products, parental occupations, hobbies, and imported traditional medicines occasionally may cause lead exposure among children.

In-utero exposure to lead may affect fetal development. This can be of more significance among certain subgroup populations who may be more at risk of environmental lead exposure.

exposure and fewer new cases. The old cases, because of the extent and severity of the past exposure may remain internally exposed and continue to have EBL for months or even years.

Statistical Report

In calendar year 2010, a total of 114,829 children 0-72 months were tested for lead exposure statewide. Table One provides a summary of statewide statistics of blood lead testing in 2010.

Table One
Calendar Year (CY) 2010 Statistical Report¹

Item	Number	Percent (%)
All Children		
Number of tests	133,195	
Number of children	127,762	
Children 0-72 Months		
Number of tests	119,989	
Number of children	114,829	100.0
Age		
Under One	11,842	10.3
One Year	38,815	33.8
Two Years	31,150	27.1
Three Years	12,965	11.3
Four Years	12,159	10.6
Five Years	7,898	6.9
Sex		
Female	56,054	48.8
Male	58,050	50.6
Undetermined	725	0.6
Highest Blood Lead Level (µg/dL)		
≤4	110,792	96.5
5-9	3,506	3.1
10-14	349	0.3
15-19	88	0.1
≥20	94	0.1
Mean BLL (Geometric mean)	1.45	
Blood Specimen		
Capillary	17,318	15.1
Venous	84,532	73.6
Undetermined ²	12,979	11.3

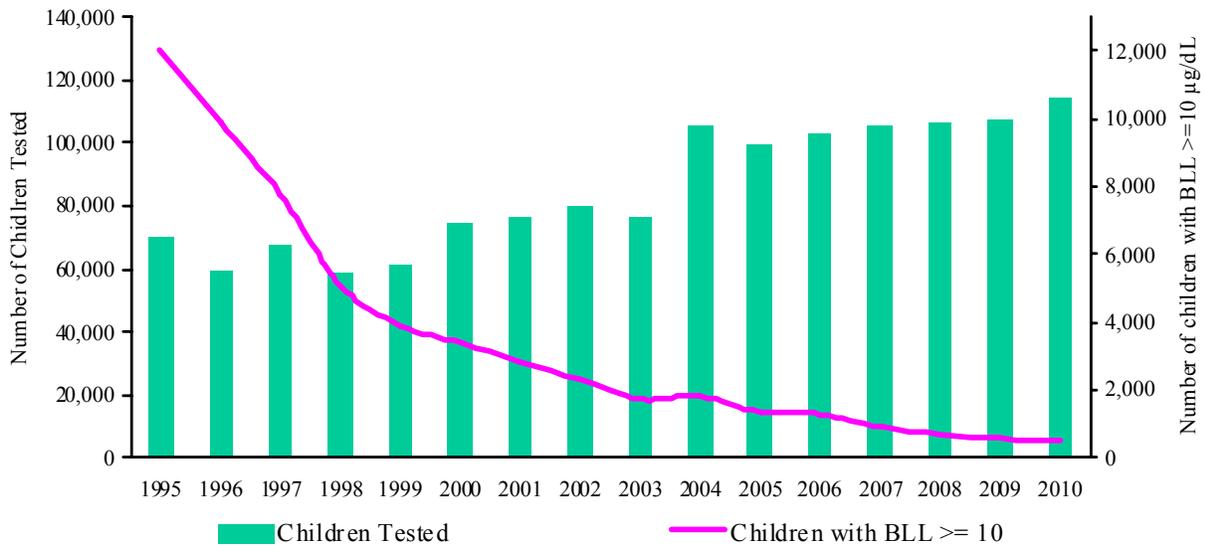
1. For detailed analysis and breakdown of numbers refer to Supplementary Data Tables 1-5.

2. In supplementary data tables blood tests with sample type unknown were counted as capillary.

Findings

Childhood lead exposure further declined in 2010 (Figure One). While total number of blood lead testing increased by 7,413 (6.9%), total number of children with elevated blood lead level dropped by 3.9%. It is of interest to notice that number of incident cases increased by 20 cases compared to 2009. The increase may be because of significant increase in number of blood lead testing which necessarily increases the likelihood of identifying children with elevated blood lead level. The other explanation may be because of small increase in number testing of children ages two (2) and three (3) years old who are more likely to have elevated blood lead level than other age groups.

Figure One
Number of Children 0-72 Months Tested for Lead and Number Reported to Have Blood Lead Level $\geq 10 \mu\text{g/dL}$: 1995-2010



The drop in both the extent and the severity of lead poisoning continued from 2009 to 2010 (Figure Two).

Figure Two
Blood Lead Distribution of Children 0-72 Months Tested for Lead in 2009 and 2010

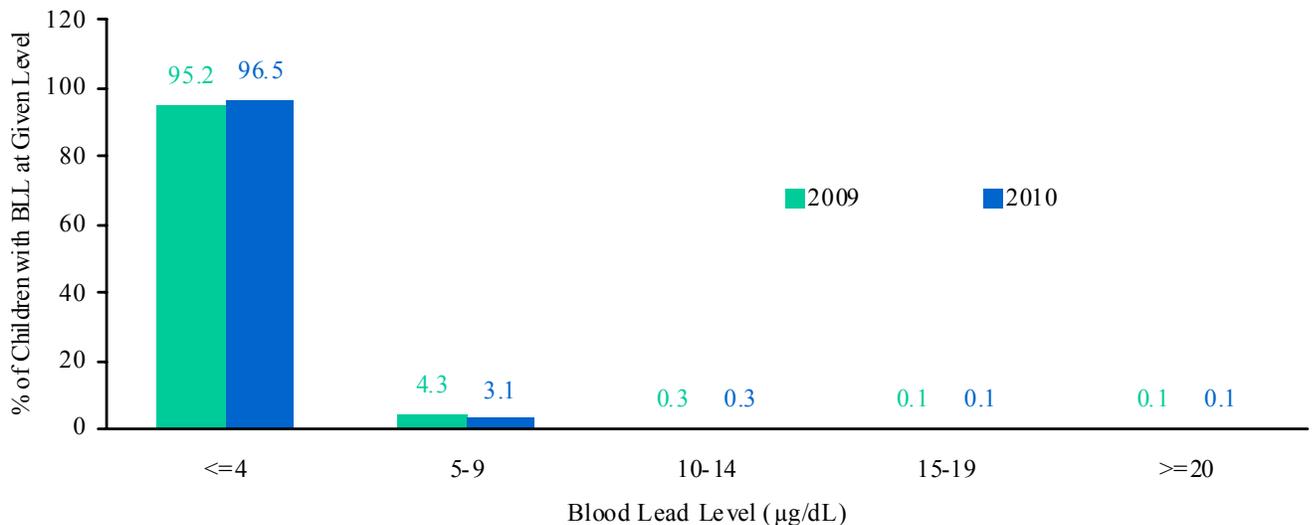


Table Two provides the breakdown of blood lead testing and the status of children with respect to lead exposure by jurisdiction in 2010.

Table Two
Blood Lead Testing of Children 0-72 Months by Jurisdiction in 2010

County	Population of Children ¹	Children Tested		Number of Children with Blood Lead Level ≥ 10 $\mu\text{g}/\text{dL}$					
				Old Cases ²		New (Incident) Cases ³		Total (Prevalent) Cases ⁴	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Allegany	5,141	1,332	25.9	3	0.2	7	0.5	10	0.8
Anne Arundel	45,643	7,982	17.5	2	0.0	12	0.2	14	0.2
Baltimore	62,670	16,732	26.7	9	0.1	25	0.1	34	0.2
Baltimore City	57,937	19,702	34.0	85	0.4	229	1.2	314	1.6
Calvert	7,103	717	10.1	0	0.0	1	0.1	1	0.1
Caroline	2,584	870	33.7	3	0.3	6	0.7	9	1.0
Carroll	14,356	1,368	9.5	1	0.1	6	0.4	7	0.5
Cecil	8,245	1,302	15.8	1	0.1	0	0.0	1	0.1
Charles	12,418	2,042	16.4	0	0.0	2	0.1	2	0.1
Dorchester	2,346	774	33.0	1	0.1	4	0.5	5	0.6
Frederick	19,859	3,147	15.8	1	0.0	8	0.3	9	0.3
Garrett	2,555	517	20.2	0	0.0	1	0.2	1	0.2
Harford	21,745	3,176	14.6	0	0.0	8	0.3	8	0.3
Howard	25,645	2,631	10.3	1	0.0	2	0.1	3	0.1
Kent	1,286	277	21.5	0	0.0	2	0.7	2	0.7
Montgomery	83,089	20,961	25.2	4	0.0	26	0.1	30	0.1
Prince George's	80,358	21,595	26.9	11	0.1	42	0.2	53	0.2
Queen Anne's	3,709	573	15.4	2	0.3	2	0.3	4	0.7
Saint Mary's	8,847	1,659	18.8	0	0.0	0	0.0	0	0.0
Somerset	1,575	517	32.8	0	0.0	1	0.2	1	0.2
Talbot	2,482	692	27.9	1	0.1	2	0.3	3	0.4
Washington	11,503	2,544	22.1	3	0.1	6	0.2	9	0.4
Wicomico	7,246	2,342	32.3	4	0.2	5	0.2	9	0.4
Worcester	3,259	900	27.6	0	0.0	2	0.2	2	0.2
County Unknown		477		0		0		0	
Statewide	491,598	114,829	23.4	132	0.1	399	0.3	531	0.5

1. Adapted from the Census Bureau: "State Interim Population Projections by Age and Sex: 2000-2030" <http://www.census.gov/population/www/projections/projectionsagesex.html>.
2. Children with a history of an EBL (blood lead level ≥ 10 $\mu\text{g}/\text{dL}$). These children may have carried over from 2009 or had an EBL test in previous years.
3. Children with the very first EBL in 2010. These children were either not tested in the past or their blood lead levels were below 10 $\mu\text{g}/\text{dL}$. This definition may not necessarily match the criteria for the initiation of case management.
4. All children with at least one blood lead test ≥ 10 $\mu\text{g}/\text{dL}$ in 2010. The selection is based on the highest venous or the highest capillary in the absence of any venous test.

Appendix A provides number of children by age groups of 0-35 months and 36-72 months, and Appendix B provides summary results for the past eight (8) years at the State, Baltimore City

and Counties levels. For detailed breakdown of blood lead data the reader is referred to supplementary data tables: Supplements 1-5.

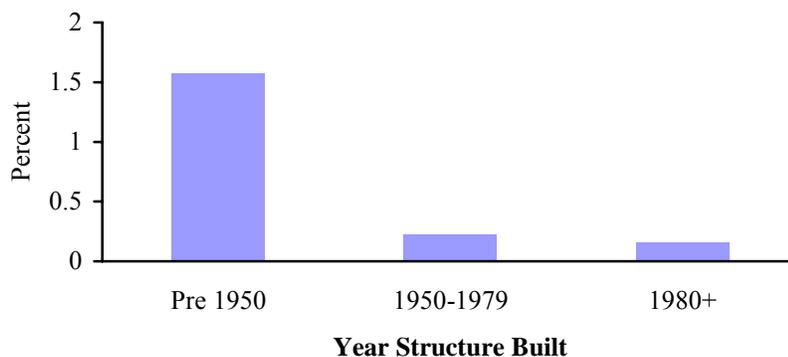
Statewide activities to reduce (eliminate) childhood lead poisoning

The State Elimination Plan calls for zero new cases of EBL by 2010. The plan focuses on primary prevention (removal and elimination of lead hazards) while maintaining well-established secondary prevention (identifying children who may be at risk of lead exposure) and tertiary prevention (case management of children exposed to lead) efforts in the state.

Primary Prevention: Much of the decline in blood lead levels is the result of implementation and enforcement of Maryland’s “Reduction of Lead Risk in Housing” law. The law requires each pre-1950 rental dwelling to be issued a Full Risk Reduction certificate at tenant turnover. In 2001, at least 50% of the owner's affected properties were required to be in compliance with the Full Risk Reduction Standard, 100% compliance was required in 2006. Effective October 1, 2004, the law requires rent court judges and local housing registry officials to not accept cases and applications from pre-1950 rental property owners who can not present lead certificates that indicate that their rental properties are in compliance with the Reduction of Lead Risk in Housing law.

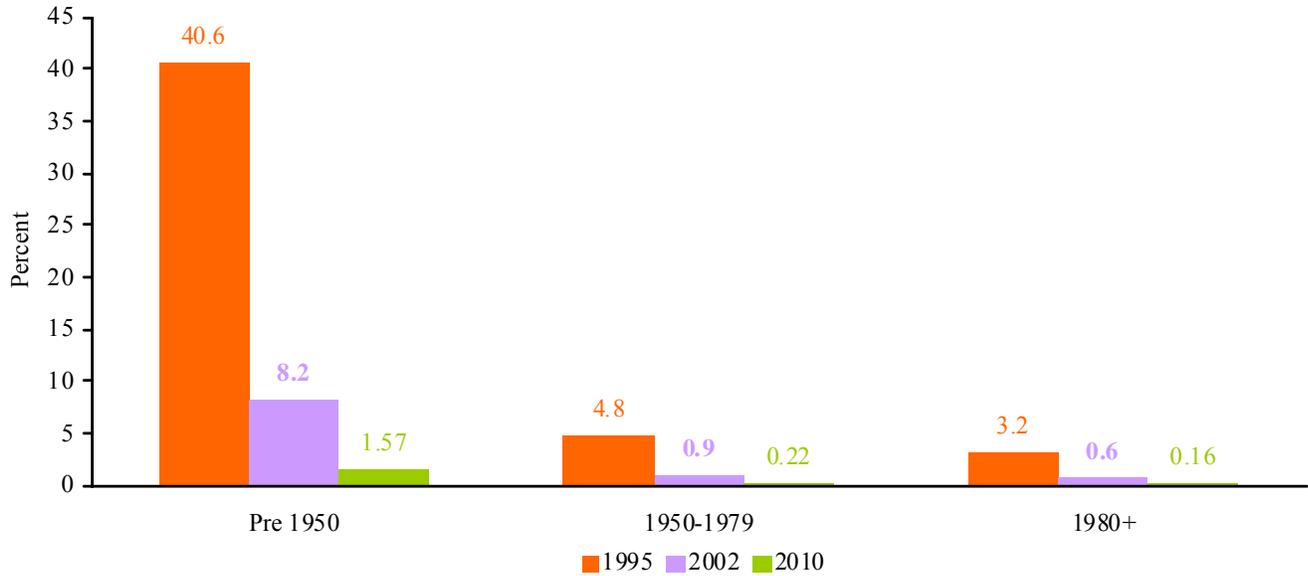
Children living in pre-1950 housing units are much more likely to have EBL (Figure Three).

Figure Three
Percent of Children 0-72 Months with Blood Lead Level $\geq 10 \mu\text{g/dL}$ and Age of the Housing



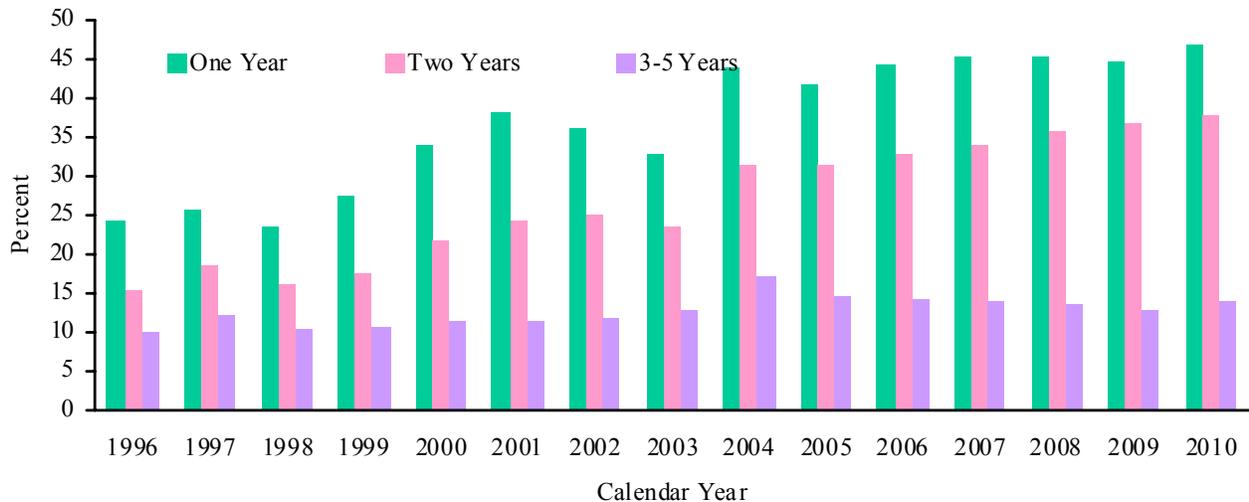
The severity of exposure in such housing, however declined significantly over the years (Figure Four).

Figure Four
Percent of Children 0-72 Months with Blood Lead Level ≥ 10 $\mu\text{g/dL}$ and Age of the Housing (1995-2010)



Secondary Prevention: The second element of the Elimination Plan is to identify children who may be at risk of lead exposure, so that preventive action can be implemented. Children age one and two, because of their mouthing behavior are most likely to be exposed to lead. To that end, State of Maryland requires that children at ages one and two years be tested. The percentage of one and two year old children tested for lead has increased substantially since 2004 (Figure Five).

Figure Five
Percent of Children One and Two Years Old Tested for Lead vs. Children of Other Ages



State laws and regulations with impact on childhood lead poisoning

- ✓ Requirements to perform lead hazard reduction at each turnover in rental housing built before 1950. [Environment Article (EA) §6-8]
- ✓ Outreach programs to parents, health care providers, and property owners, especially in at-risk areas. [EA§ 6-8, Health Article §18-106]

Furthermore, children living in “at-risk” areas, areas with high proportion of pre 1950 housing units are more likely to be exposed to lead than children living in other areas. State has a targeted plan that identifies “at-risk areas.” Universal blood lead testing applies to Baltimore City children (City Ordinance 20 effective July 2000). Table Three presents blood lead testing in the At-risk and Not At-risk areas of the state. At-risk area includes Baltimore city, and Caroline, Dorchester, Frederick, Garrett, Somerset, Talbot, Washington, and Wicomico counties

**Table Three
Blood Lead Testing in At-Risk and Not At-Risk areas in 2010**

Area	Population	Children Tested		Children with BLL \geq 10 μ g/dL		Status of Cases of EBL			
		Number	Percent	Number	Percent	Old Cases		New Cases	
						Number	Percent	Number	Percent
At-Risk	105,605	30,413	28.8	357	1.2	97	0.3	260	0.9
Not At-Risk	385,993	84,416	21.9	174	0.2	35	0.0	139	0.2
Statewide	491,598	114,829	23.4	531	0.5	132	0.1	399	0.3

Another group of children at risk of lead poisoning are children on Medical Assistance programs. Upon memorandum of understanding between MDE Lead Program and the office of Medicaid Administration of the Maryland Department of Health and Mental Hygiene (DHMH), childhood blood lead data is provided, on quarterly and annual basis, to Medicaid program to be matched with the list of children on Medical Assistance Program. The Medicaid Program prepares and distributes the reports of blood lead testing of children under Medicaid program for the state and local jurisdictions. For information and access to the reports refer to the office of Medicaid Administration at DHMH.

Another group of children who may be at risk of lead exposure are immigrant and asylum children. To determine lead exposure in these children and to fulfill one of the CDC grant requirement, the Lead Program made an agreement with the DHMH Office of Immigrant Health for the exchange of data. Based on this agreement, the Lead Program receives, on biannual basis, records of refugee and migrant children who settled in Maryland. The records are then matched with CLR records to determine the blood lead test status of these children. The outcome of matching is provided to the Office of Immigrant Health for proper follow up. For calendar year 2010, the list of migrant and asylum children included 637 records of which 277 were matched with childhood lead registry data. Of 277 matched children 133 were under age six at the time of arrival of whom 109 had blood lead test. Table Four presents comparison of blood lead level between migrants/asylum children and the statewide childhood blood lead level

Table Four
Blood Lead Level of Migrant/Asylum Children vs. Statewide Childhood Blood lead Level

Blood Lead Lead ($\mu\text{g}/\text{dL}$)	Refugee/Asylum Children		Statewide data	
	Number	Percent	Number	Percent
≤ 4	80	73.4	110,792	96.5
5-9	27	24.8	3,506	3.1
≥ 10	2	1.8	531	0.4
Total	109	100.0	114,829	100.0

It has to be noted that the differences in spelling, alternate use of last name, first name, and middle name for either of these, and error in date of birth do not allow an exact and complete matching.

Identifying Children with Lead Exposure

The critical issue in childhood lead poisoning is early detection. Because there are no specific clinical symptoms, a blood lead test is the most reliable technique to identify children with elevated blood lead levels. If there is any suspicion that a child is exposed to lead, a health care provider should do a blood lead test.

Tertiary Prevention: Maryland’s Lead Poisoning Prevention Program has well-established case management guidance and environmental investigation protocols for follow-up of children with elevated blood lead level. As of February 24, 2006, one venous or two capillary blood lead tests $\geq 10 \mu\text{g}/\text{dL}$ trigger the Notice of EBL under the Reduction of Lead Risk in Housing Law. A venous blood lead test $\geq 10 \mu\text{g}/\text{dL}$ in Baltimore City or a venous blood lead test $\geq 15 \mu\text{g}/\text{dL}$ in Maryland counties initiates environmental investigation. Tables Six and Seven outline the State’s protocol for diagnostic and follow up blood lead testing.

Table Six
Blood Lead Diagnostic and Follow-Up: Confirmation of a Capillary Blood Lead Test

BLL ($\mu\text{g}/\text{dL}$)	Confirm with venous blood lead test within
≤ 9	Routine blood lead test according to protocol
10 – 19	3 months
20 – 44	1 week to 1 month*
45 – 59	48 hours
60-69	24 hours
≥ 70	Immediately as an emergency lab test

* The higher the BLL, the more urgent the need for confirmatory testing.

Table Seven
Blood Lead Diagnostic and Follow-Up: Follow-Up for Venous Blood Lead Testing¹

BLL (µg/dL) Venous	Early follow-up (First 2-4 tests after identification)	Late follow-up (After BLL begins to decline)
≤9	Routine blood lead test according to protocol	
10 - 14	3 months ²	6 – 9 months
15 - 19	1 - 3 months ²	3 – 6 months
20 - 24	1 - 3 months ²	1 – 3 months
25 - 44	2 weeks – 1 month	1 month
≥45	As soon as possible	Chelation with subsequent follow-up

1. Seasonal variation of BLLs exists and may be more apparent in colder climate areas. Greater exposure in the summer months may necessitate more frequent follow-up.
2. Some case managers or health care providers may choose to repeat blood lead tests on all new patients within a month to ensure that their BLL level is not rising more quickly than anticipated.

Tables adapted from: *Centers for Disease Control and Prevention. Managing Elevated Blood Lead Levels Among Children: Recommendations from the Advisory Committee on Childhood Lead Poisoning Prevention. Atlanta: CDC, 2002.*

Data Quality

The CLR is maintained in the “Systematic Tracking of Elevated Lead Levels and Remediation” (STELLAR) surveillance system, obtained from CDC Lead Poisoning Prevention Program. CLR staff makes all efforts to further improve data quality with respect to completeness, timeliness, and accuracy. Staff keep daily track of laboratory reporting to make sure laboratories are reporting all blood lead tests no later than biweekly. The law requires blood lead results ≥20 µg/dL to be reported (fax) within 24 hours after result is known. However, upon CLR request, laboratories agreed to report (fax) the result of all blood lead test ≥10 µg/dL within 24 hours. For all blood lead tests ≥10 µg/dL, staff checks the completeness of data in particular with respect to child’s and guardian’s name, address, and telephone number.

In 2010, more than 93% of blood lead tests were reported to the registry electronically. The average reporting time, from the time sample is drawn to time the result enters the CLR database is approximately 6 days. The average time for elevated blood lead results (≥10 µg/dL) is approximately 30 hours. Table Eight provides the summary reports for completeness of data as required by law.

Table Eight
Completeness of Data for 2010

Item	% Complete
Child's name ¹	100.0
Date of Birth ¹	100.0
Sex/Gender	99.3
Race	51.8
Guardian's name	54.0
Sample type	88.4
Blood lead level	100.0
Address (geocoded)	89.0
Telephone Number ²	93.0

1. Reports with missing (wrong) name and/or date of birth are held by the program until they are corrected.
2. Quality control for telephone number started in 2009.

Migration into New System

While the staff continues to work with Stellar, work is underway to migrate data into the new CDC data processing package: “Healthy Housing and Lead Poisoning Surveillance System (HHLPSS)”. Because of the complexity of HHLPSS requirements, it does not fit well within current MDE IT establishment. On the other hand, the Maryland Department of Health and Mental Hygiene (DHMH) by the nature of its functionality has well established IT personnel and equipment to handle and process medical and health related reports. DHMH is in the process to centralize statewide reporting of all health related events including laboratory tests. To take advantage of DHMH facilities, and to speed up the process of migration into HHLPSS, the Lead Program at MDE has been coordinating with DHMH on this matter. The agreement is that the DHMH IT personnel will be in-charge of receiving, downloading, and maintaining all laboratory blood lead reporting at their physical location and the MDE Lead Program personnel will be responsible for the registry’s day to day operation, data quality control, data analyses, and data distribution. At the time of this writing, the agreement is close to be finalized and it is expected the migration into HHLPSS to be completed by the early 2012.

Blood Lead Laboratory Reporting Requirement

The amended law and regulations* of 2001 and 2002 require that:

1-The following child's demographic data should be included in each blood lead test reported:

- Date of Birth
- Sex
- Race
- Address
- Test date
- Sample type
- Blood lead level

2-Blood lead results ≥ 20 $\mu\text{g/dL}$ to be reported (fax) within 24 hours after result is known. All other results to be reported every two weeks.

3-Reporting format should comply with the format designed and provided by the Registry.

4-Data should be provided electronically.

* EA §6-303, Blood lead test reporting (COMAR 26.02.01, Blood lead test reporting)

Appendix A
Blood Lead Testing of Children 0-72 Months by Major Age Group and Jurisdiction in 2010

	Population of Children	Children Tested		Children with Blood Lead Level ≥ 10 $\mu\text{g/dL}$					
				Old Cases		New (Incident) Cases		Total (Prevalent) Cases	
				Number	Percent	Number	Percent	Number	Percent
Allegany County									
0-35 Months	2,643	1,127	42.6	2	0.2	7	0.6	9	0.8
36-72 Months	2,498	205	8.2	1	0.5	0	0.0	1	0.5
Total	5,141	1,332	25.9	3	0.2	7	0.5	10	0.8
Anne Arundel County									
0-35 Months	23,473	5,948	25.3	1	0.0	12	0.2	13	0.2
36-72 Months	22,170	2,034	9.2	1	0.0	0	0.0	1	0.0
Total	45,643	7,982	17.5	2	0.0	12	0.2	14	0.2
Baltimore County									
0-35 Months	31,125	12,828	41.2	3	0.0	17	0.1	20	0.2
36-72 Months	31,545	3,904	12.4	6	0.2	8	0.2	14	0.4
Total	62,670	16,732	26.7	9	0.1	25	0.1	34	0.2
Baltimore City									
0-35 Months	30,251	14,213	47.0	24	0.2	189	1.3	213	1.5
36-72 Months	27,686	5,489	19.8	61	1.1	40	0.7	101	1.8
Total	57,937	19,702	34.0	85	0.4	229	1.2	314	1.6
Calvert County									
0-35 Months	3,434	574	16.7	0	0.0	1	0.2	1	0.2
36-72 Months	3,669	143	3.9	0	0.0	0	0.0	0	0.0
Total	7,103	717	10.1	0	0.0	1	0.1	1	0.1
Caroline County									
0-35 Months	1,274	716	56.2	1	0.1	6	0.8	7	1.0
36-72 Months	1,310	154	11.8	2	1.3	0	0.0	2	1.3
Total	2,584	870	33.7	3	0.3	6	0.7	9	1.0
Carroll County									
0-35 Months	7,004	1,011	14.4	0	0.0	4	0.4	4	0.4
36-72 Months	7,352	357	4.9	1	0.3	2	0.6	3	0.8
Total	14,356	1,368	9.5	1	0.1	6	0.4	7	0.5
Cecil County									
0-35 Months	4,301	905	21.0	0	0.0	0	0.0	0	0.0
36-72 Months	3,944	397	10.1	1	0.3	0	0.0	1	0.3
Total	8,245	1,302	15.8	1	0.1	0	0.0	1	0.1

Appendix A
Blood Lead Testing of Children 0-72 Months by Major Age Group and Jurisdiction in 2010

	Population of Children	Children Tested		Children with Blood Lead Level ≥ 10 $\mu\text{g/dL}$						
				Old Cases		New (Incident) Cases		Total (Prevalent) Cases		
				Number	Percent	Number	Percent	Number	Percent	Number
Charles County										
0-35 Months	5,896	1,494	25.3	0	0.0	2	0.1	2	0.1	
36-72 Months	6,522	548	8.4	0	0.0	0	0.0	0	0.0	
Total	12,418	2,042	16.4	0	0.0	2	0.1	2	0.1	
Dorchester County										
0-35 Months	1,183	578	48.8	0	0.0	4	0.7	4	0.7	
36-72 Months	1,163	196	16.9	1	0.5	0	0.0	1	0.5	
Total	2,346	774	33.0	1	0.1	4	0.5	5	0.6	
Frederick County										
0-35 Months	10,042	2,213	22.0	1	0.0	5	0.2	6	0.3	
36-72 Months	9,817	934	9.5	0	0.0	3	0.3	3	0.3	
Total	19,859	3,147	15.8	1	0.0	8	0.3	9	0.3	
Garrett County										
0-35 Months	1,373	360	26.2	0	0.0	1	0.3	1	0.3	
36-72 Months	1,182	157	13.3	0	0.0	0	0.0	0	0.0	
Total	2,555	517	20.2	0	0.0	1	0.2	1	0.2	
Harford County										
0-35 Months	11,186	2,288	20.5	0	0.0	8	0.3	8	0.3	
36-72 Months	10,559	888	8.4	0	0.0	0	0.0	0	0.0	
Total	21,745	3,176	14.6	0	0.0	8	0.3	8	0.3	
Howard County										
0-35 Months	12,845	1,794	14.0	1	0.1	2	0.1	3	0.2	
36-72 Months	12,800	837	6.5	0	0.0	0	0.0	0	0.0	
Total	25,645	2,631	10.3	1	0.0	2	0.1	3	0.1	
Kent County										
0-35 Months	676	223	33.0	0	0.0	0	0.0	0	0.0	
36-72 Months	610	54	8.9	0	0.0	2	3.7	2	3.7	
Total	1,286	277	21.5	0	0.0	2	0.7	2	0.7	
Montgomery County										
0-35 Months	42,922	14,586	34.0	1	0.0	14	0.1	15	0.1	
36-72 Months	40,167	6,375	15.9	3	0.0	12	0.2	15	0.2	
Total	83,089	20,961	25.2	4	0.0	26	0.1	30	0.1	

Appendix A
Blood Lead Testing of Children 0-72 Months by Major Age Group and Jurisdiction in 2010

	Population of Children	Children Tested		Children with Blood Lead Level ≥ 10 $\mu\text{g}/\text{dL}$					
				Old Cases		New (Incident) Cases		Total (Prevalent) Cases	
				Number	Percent	Number	Percent	Number	Percent
Prince George's County									
0-35 Months	41,186	13,634	33.1	5	0.0	29	0.2	34	0.2
36-72 Months	39,172	7,961	20.3	6	0.1	13	0.2	19	0.2
Total	80,358	21,595	26.9	11	0.1	42	0.2	53	0.2
Queen Anne's County									
0-35 Months	1,897	456	24.0	2	0.4	2	0.4	4	0.9
36-72 Months	1,812	117	6.5	0	0.0	0	0.0	0	0.0
Total	3,709	573	15.4	2	0.3	2	0.3	4	0.7
Saint Mary's County									
0-35 Months	4,382	1,416	32.3	0	0.0	0	0.0	0	0.0
36-72 Months	4,465	243	5.4	0	0.0	0	0.0	0	0.0
Total	8,847	1,659	18.8	0	0.0	0	0.0	0	0.0
Somerset County									
0-35 Months	790	413	52.3	0	0.0	1	0.2	1	0.2
36-72 Months	784	104	13.3	0	0.0	0	0.0	0	0.0
Total	1,575	517	32.8	0	0.0	1	0.2	1	0.2
Talbot County									
0-35 Months	1,208	581	48.1	1	0.2	2	0.3	3	0.5
36-72 Months	1,274	111	8.7	0	0.0	0	0.0	0	0.0
Total	2,482	692	27.9	1	0.1	2	0.3	3	0.4
Washington County									
0-35 Months	5,865	1,704	29.1	0	0.0	4	0.2	4	0.2
36-72 Months	5,638	840	14.9	3	0.4	2	0.2	5	0.6
Total	11,503	2,544	22.1	3	0.1	6	0.2	9	0.4
Wicomico County									
0-35 Months	3,816	1,768	46.3	1	0.1	5	0.3	6	0.3
36-72 Months	3,430	574	16.7	3	0.5	0	0.0	3	0.5
Total	7,246	2,342	32.3	4	0.2	5	0.2	9	0.4
Worcester County									
0-35 Months	1,734	631	36.4	0	0.0	2	0.3	2	0.3
36-72 Months	1,525	269	17.6	0	0.0	0	0.0	0	0.0
Total	3,259	900	27.6	0	0.0	2	0.2	2	0.2

Appendix A
Blood Lead Testing of Children 0-72 Months by Major Age Group and Jurisdiction in 2010

	Population of Children	Children Tested		Children with Blood Lead Level ≥ 10 $\mu\text{g/dL}$					
				Old Cases		New (Incident) Cases		Total (Prevalent) Cases	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
County Unknown									
0-35 Months		346		0		0		0	
36-72 Months		131		0		0		0	
Total		477		0		0		0	
Statewide									
0-35 Months	250,506	81,807	32.7	43	0.1	317	0.4	360	0.4
36-72 Months	241,092	33,022	13.7	89	0.3	82	0.2	171	0.5
Total	491,598	114,829	23.4	132	0.1	399	0.3	531	0.5

Appendix B
Blood Lead Testing of Children 0-72 Months: 2003-2010

Calendar Year		Population	<u>Blood Lead Tests</u>		<u>BLL ≥10 µg/dL</u>		<u>Lead Poisoning</u>	
			Number	Percent	Number	Percent	Number	Percent
2003	Baltimore City	51,892	18,242	35.2	1,166	6.4	160	0.9
	Counties	386,076	58,470	15.1	552	0.9	77	0.1
	County Unknown		9		1		0	
	Statewide	437,968	76,721	17.5	1,719	2.2	237	0.3
2004	Baltimore City	52,796	18,970	35.9	1183	6.2	147	0.8
	Counties	395,310	83,002	21.0	573	0.7	83	0.1
	County Unknown		3,577		55			
	Statewide	448,106	105,549	23.6	1,811	1.7	230	0.2
2005	Baltimore City	53,626	17,943	33.5	854	4.8	534	3.0
	Counties	401,888	80,848	20.1	463	0.6	382	0.5
	County Unknown		357		14		0	
	Statewide	455,514	99,148	21.8	1,331	1.3	916	0.9
2006	Baltimore City	54,547	18,363	33.7	843	4.6	573	3.1
	Counties	408,784	84,611	20.7	431	0.5	363	0.4
	County Unknown		199		21		20	
	Statewide	463,331	102,974	22.2	1,274	1.2	936	0.9
2007	Baltimore City	55,142	17,670	32.0	624	3.5	435	2.5
	Counties	413,248	87,760	21.2	267	0.3	218	0.2
	County Unknown		278		1		1	
	Statewide	468,390	105,708	22.6	892	0.8	654	0.6
2008	Baltimore City	55,959	18,622	33.3	468	2.5	302	1.6
	Counties	418,941	87,830	21.0	245	0.3	187	0.2
	County Unknown		69		0		0	
	Statewide	474,900	106,452	22.4	713	0.7	489	0.5
2009	Baltimore City	56,431	19,043	33.7	347	1.8	214	1.1
	Counties	422,488	88,368	20.9	206	0.2	165	0.1
	County Unknown		5					
	Statewide	468,390	107,416	22.4	553	0.5	379	0.4
2010	Baltimore City	57,937	19,702	34.0	314	1.6	229	1.2
	Counties	433,661	94,650	21.8	217	0.2	170	0.2
	County Unknown		477		0		0	0.0
	Statewide	491,598	114,829	23.4	531	0.5	399	0.3