



MARYLAND DEPARTMENT OF THE ENVIRONMENT

LEAD POISONING PREVENTION PROGRAM

Childhood Blood Lead Surveillance in Maryland

2000 Annual Report



October 2001

MARYLAND CHILDHOOD LEAD REGISTRY

2000 ANNUAL SURVEILLANCE REPORT

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 provides blood lead test results to local health departments as needed for case management and planning.

Since 1995, the registry 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 2000 (CY 2000). All numbers are based on blood lead testing on children. The CLR does not receive any reports on lead screening based on the risk questionnaire.

CY 2000 Surveillance Highlights:

Testing increased statewide, especially at ages 1 and 2. Testing of children at age 1 and 2, the age of greatest exposure risk, showed a slight increase statewide compared to 1999 from 27.5% of 1 year olds to 33.8%, and 17.3% to 21.6% of 2 year olds. Testing at age 1 and 2 for Baltimore City children became mandatory under Baltimore City ordinance in July 2000. Testing of Baltimore City children increased compared to 1999 from 56% of one year olds to 65.4% and 38.7% to 48.2% of 2 year olds. Most counties showed an increase in testing, especially in 1 and 2 year olds.

The number of children tested with elevated blood leads continues to decrease compared to 1999, but remains a significant problem. Children with blood lead levels above 10 µg/dL, CDC's level of concern, decreased to 3,402 or 4.6% of children tested statewide from 3,904 or 6.3% in 1999. Children with blood lead levels of 20 µg/dL and above, or "lead poisoning", decreased to 353 or 0.5% of children tested statewide from 555 or 0.9 % in 1999.

The residences of children with elevated blood lead levels continue to be disproportionately concentrated in Baltimore City and other areas of old housing and low income on the Eastern Shore and in Western Maryland. Of children tested in Baltimore City, 2,198 or 12.2% had blood lead levels of 10 µg/dL or more, and 266 or 1.5% had confirmed blood lead levels of 20 µg/dL or more.

OVERVIEW OF LEAD POISONING PREVENTION IN MARYLAND

LEAD POISONING IN MARYLAND

Lead is one of the most significant and widespread environmental hazards for children in Maryland. Children are at greatest risk from birth to age six while their neurological systems develop. Sustained exposure to lead can cause long-lasting neurological damage or death. Effects include learning disabilities, shortened attention span, irritability, and lowered IQ.

Lead paint dust from deteriorated lead paint or from renovation is the major source of exposure for children in Maryland. Most childhood exposure occurs through children's normal hand-to-mouth activity after contact with a source of leaded dust.

Most cases of childhood lead poisoning in Maryland are related to deteriorated or damaged residential lead paint, most commonly in old windows and porches. There are about 529,000 residential houses built before 1950 (95% likely to contain lead paint) and 976,000 houses built between 1950-1978 (75% likely to contain lead paint), based on the 1990 census. Data from the 2000 census for housing date of construction will be available June 2002.

Imported ceramics and parents' occupations or hobbies occasionally present exposure to lead dust or fumes. Water, air, and soil may provide low-level, "background" exposure but are rarely the cause of childhood lead poisoning.

The most effective prevention of childhood lead poisoning is to reduce or eliminate exposure. Maryland has several on-going efforts to reduce risk of children's lead exposure as well as and for early detection. These include:

- enforcing requirements for meeting a standard of care for lead hazard reduction in rental housing built before 1950;
- providing grants and loans for hazard reduction;
- supporting extensive, locally-based outreach programs to parents, health care providers, and property owners; and
- targeting highest risk areas for intensive outreach for blood lead testing for early detection and early intervention.

BLOOD LEAD TESTING IN MARYLAND

During CY2000, the following requirements and recommendations about blood lead testing were in effect:

- Mandatory testing of Baltimore City children at age 1 and 2 (Baltimore City Ordinance, June 30, 2000)
- Mandatory blood lead testing at age 1 and 2 of children enrolled in Medicaid (Federal Early Prevention Screening and Detection Treatment or "EPSDT" requirements)

- Mandatory evidence of screening within 30 days of entry into daycare for children aged 0 to 6 years with either a blood lead test or risk assessment questionnaire (Maryland Family Law Article 5-556.1)
- Mandatory testing of children by age 12 months and by age 24 months living in a high risk area (Maryland Health General Article 18-106, high risk areas designated January 2000)
- Recommendations for medical and public health follow-up based on CDC guidance in "Preventing Lead Poisoning in Young Children" and "Screening Young Children for Lead Poisoning, Guidance for State and Local Public Health Officials"

In Maryland, most blood lead testing is ordered by a child's primary care provider. Blood lead specimens are obtained on site at the health care provider office, or more often, performed off-site at a private laboratory center. Some local health departments make free or low-cost testing available at the health department. Testing through the health care provider is generally preferred so that medical follow-up is integrated with the child's overall health care. Public health follow-up through local health departments is facilitated by MDE reporting to local health departments for all children with blood lead levels of 15 mcg/dL or more regardless of the site of the testing.

The CLR receives reports of blood lead tests only. Currently there is no means to estimate of the number of children whose risk of lead exposure may have been evaluated by health care providers with the use of the risk assessment questionnaire. With the passing of HB 1221 in 2000 Legislative Session, risk assessment questionnaires will be required under regulations for all children who do not reside in an at-risk area.

LABORATORY REPORTING OF TEST RESULTS

Laboratories are required by Environment Article 6-303 to report all blood lead test results on all children 0 -18 years residing in Maryland to the Maryland Childhood Lead Registry. Amendments to this law in the legislative session of 2000 and Baltimore City Ordinance 20 in July 2000 added the requirement for reporting all Baltimore City test results to Baltimore City Health Department.

Completeness of reporting of required demographics such as child's address or date of birth has deteriorated over the past several years. In 2000, 35% of children's test results had incomplete address and were assigned to zip code according to the zip code of the health care provider office. In the early 1990's, the Maryland Department of Health and Mental Hygiene (DHMH) Laboratory performed almost 90% of the analysis of blood lead tests and provided 80 – 100% complete addresses. By 2000, reporting from the DHMH lab decreased to 5 % as analysis shifted to private laboratories certified by the DHMH, with a concurrent decrease in completeness of reporting. MDE, DHMH, and the Baltimore City Health Department continue to work with private laboratories to improve compliance with reporting requirements.

MEDICAL AND PUBLIC HEALTH CASE MANAGEMENT

Recommended clinical and public health interventions are tied to different blood lead levels. These are summarized in Table 1. Interventions are based on Maryland statute, state regulations, policy, and guidance documents from the Centers for Disease Control and Prevention. (CDC)

ASSUMPTIONS AND DEFINITIONS USED FOR THIS ANNUAL REPORT

Child: In Maryland, blood lead test results are reported on children 0 - 18 years. Different groups within that range get more intensive analysis. 0 - 6 years has been the focus of CDC's attention for several years. One and two year olds are the focus of EPSDT testing under Medicaid. Children's age is identified as appropriate for each table.

County and zip code assignment: Zip code assignment of a child is based on the child's address when available. If the child's address is incomplete, zip code assignment is based on the county and zip code of the health care provider who ordered the blood lead test. Zip codes which cross county borders are assigned to the county in which most of the zip code is located.

Elevated blood lead (EBL): Any blood lead level greater than or equal to 10 µg/dL. This includes both capillary (finger stick) and venous blood lead tests.

Lead poisoning: is a confirmed venous blood lead level greater than or equal to 20 µg/dL.

Incidence of EBL: “New” cases of EBL. This was not calculated for CY 2000, as the higher proportion of incomplete addresses for children in CY 2000 made accurate comparison with CY1999 difficult.

Prevalence of EBL: Both old and new cases, or all children with EBL in CY2000. Elevated blood lead can often extend beyond one year. This is especially likely to occur if the child is not relocated to a safe environment so that exposure continues at the original location or begins at a new hazardous location. Children often have sustained elevations for several months to years due to continued exposure and slow reduction in blood.

Population estimates: Population data for children aged 0 –18 are obtained from the US Department of Commerce, Bureau of Census 2000 data.

Testing: Blood lead testing by capillary (finger stick) or venous blood test measures lead in blood.

2000 STATEWIDE BLOOD LEAD TESTING PERFORMANCE

The following tables show what testing is occurring statewide.

Table 2, " Children 0-6 Years Old By Jurisdiction in 2000" shows a statewide and county breakout of children tested for blood lead as reported to the Childhood Lead Registry. The table shows numbers of children with elevated blood lead levels of 10 µg/dL or more, and children with lead poisoning of 20 µg/dL or more.

Table 3 "Age-Specific Blood Lead Testing by Jurisdiction: Five- Year Data 1996 – 2000" shows blood lead testing of children aged 0-72 months in one year groups over five years.

Table 4 "Blood Lead Testing Among Children 6-17 Years of Age" shows the age and blood lead level distribution for testing in Maryland children aged 7 - 18 years.

Key points on statewide testing

Overall testing increased in 2000. The number and percentage of children aged 0-6 years that received blood lead testing increased compared to 1999.

Testing increased in Baltimore City. This is especially important due to the higher risk of exposure experienced by many Baltimore City children.

Testing in one and two year olds shows an increase in 2000 compared to 1999. This shows responds to new testing requirements and outreach to parents and providers.

STATEWIDE BLOOD LEAD LEVEL TRENDS OVER TIME

Table 5 "Childhood Blood Lead Surveillance in Maryland: 1993 – 2000 Summary Children 0-72 months", shows summary results for eight years at the State, Baltimore City, and Counties levels.

Table 6 "Number and Percentage of Children 0-72 Months with Elevated Blood Lead Level and Poisoning: 1996-2000" shows a summary of children with elevated blood lead levels at different levels that trigger different interventions. The interventions are summarized in Table 1, the chart of public health case management functions.

Key Observations on elevated blood lead levels statewide

Prevalence of children with elevated blood leads is decreased compared to 1999. Children tested with blood lead levels above 10 µg/dL, CDC's level of concern, decreased to 3,402 or 4.6% of children tested statewide. Children with confirmed venous blood lead levels of 20 µg/dL and above, or "lead poisoning", decreased to 353 or 0.5% of children tested statewide.

Prevalence of children with elevated blood lead levels continues to be disproportionately concentrated in Baltimore City and other areas with both old housing and low income on the Eastern Shore and Western Maryland. Of children tested in Baltimore City, 2,198 or 12.2% had blood lead levels of 10 µg/dL or more, and 266 or 1.5% had confirmed blood lead levels of 20 µg/dL or more.

Decreased prevalence may be the result of decreased exposure Much of the decline in blood lead levels or case identification is the result of several years of lead poisoning prevention efforts. Increased enforcement of the state law “Reduction of Lead Risk in Housing”, increased awareness by parents and property owners of the hazards of lead poisoning, improved maintenance and prevention of lead exposure, and moving away from older housing into more recently built city or suburban housing, and outreach and education to families and health care providers all contribute to fewer lead poisoning cases.

CY 2000 SUMMARY Maryland continues to make progress in reducing lead poisoning in young children. Both the total numbers of children with elevated blood lead levels, and statewide average blood lead levels decreased in 2000. However, lead exposure and lead poisoning continue to occur in significant numbers. Over 3,400 children had blood lead levels above the Centers for Disease Control's level of concern, and 353 children had confirmed lead poisoning. Blood lead testing needs to increase, especially in at-risk areas, to assure that children most likely to have elevated blood lead levels are identified early.

**Maryland Childhood Lead Poisoning Prevention Program
Protocol for Prevention, Intervention and Case Management
Table 1**

Blood Lead Level	Local Health Department	Health Care Provider	Statewide Law Enforcement(2)
< 9 µg/dL	Anything above zero indicates some exposure or contact with lead. No Community Health Nurse case management services are indicated.	<ul style="list-style-type: none"> • General education about lead and lead poisoning • Assessment for Risk Assessment Questionnaire at all routine child health visits • Repeat blood lead level according to protocol 	Footnote 2
10 – 14 µg/dL	This is the CDC level of concern. No Community Health Nurse case management services are provided (unless resources allow).	<p>As above plus</p> <ul style="list-style-type: none"> • Educate to decrease exposure • Track blood lead levels according to CDC protocol 	
15 – 19 µg/dL	<p>If capillary test, coordinate with provider and guardian to validate with a venous blood lead level within 1 month.</p> <p>If venous test</p> <ul style="list-style-type: none"> • Make telephone contact • Make home visit (if resources available) • Provide educational materials to family (mail or in person) • Send Official Notice of Elevated Blood Lead, when applicable, to Tenant and Rental Property Owner • Coordinate with the provider and guardian for follow-up activities, such as housing and follow-up blood tests <p>If two consecutive venous tests between 15–19 µg/dL at least 90 days of each other, treat as next level.</p>	<p>As above plus</p> <ul style="list-style-type: none"> • Evaluate for iron deficiency • Take environmental history 	<p>As in footnote 2, plus MDE enforcement of Lead Risk in Housing law, subsections on</p> <ul style="list-style-type: none"> • Notice of Elevated Blood Lead
20 – 44 µg/dL	<p>If capillary test, coordinate validation of level with a venous blood lead level within 1 week</p> <p>If venous test.</p> <ul style="list-style-type: none"> • Contact and make a home visit in coordination with the Environmental Lead Sanitarian who will complete an environmental investigation within 10 working days • Discuss with the health care provider possible referral to tertiary care centers specializing in management of childhood lead poisoning • Provide appropriate referrals to other agencies (Social Services, Housing, etc.) 	<p>As above plus</p> <ul style="list-style-type: none"> • Complete medical/nutritional history and physical examination • Obtain developmental / psychological evaluation • Consider chelation consultation 	<p>As above, plus MDE and local health department enforcement of</p> <ul style="list-style-type: none"> • Notice of Violations • Lead Risk in Housing law, subsections on Qualified Offer
≥ 45 µg/dL	If capillary, contact provider within 2 working days. Inform provider to mark all specimens STAT (Highest Priority) and request immediate processing and report from laboratory. If venous, contact provider within 1 working day. Same as above.	<p>As above plus</p> <ul style="list-style-type: none"> • Consult with lead specialist • Perform urgent chelation 	
> 70 µg/dL	Contact the health care provider within 24 hours. If capillary, confirm the result immediately with a STAT venous test. If venous, verify hospitalization as a medical emergency. Same as above.	Hospitalize: Medical emergency:	

1) Maryland Department of the Environment (MDE) Protocol, based on Centers for Disease Control and Prevention (CDC) protocol
 2) Environment Article §6-8, “Reduction of Lead Risk in Housing” subsections on Rental Property Registration, Risk Reduction Treatments at Turnover and Notice of Defect are ongoing primary prevention activities not triggered by blood lead levels.

MARYLAND DEPARTMENT OF THE ENVIRONMENT
Lead Poisoning Prevention Program: Childhood Lead Registry
Blood Lead Testing of Children 0-72 Months Old by Jurisdiction in 2000

Table 2

County	Population of Children 0-72 Months ¹	Children Tested ²		Children with Elevated Blood Lead Level ³		Children with Lead Poisoning ⁴	
		Number	Percent	Number	Percent	Number	Percent
Allegany	4,529	1,069	23.6	37	3.5	1	0.1
Anne Arundel	39,998	4,893	12.2	51	1.0	3	0.1
Baltimore	54,630	7,882	14.4	143	1.8	16	0.2
Baltimore City	50,380	18,033	35.8	2,198	12.2	266	1.5
Calvert	6,222	625	10.0	5	0.8	0	0.0
Caroline	2,275	387	17.0	34	8.8	3	0.8
Carroll	12,376	1,182	9.6	22	1.9	3	0.3
Cecil	7,212	1,337	18.5	16	1.2	2	0.1
Charles	10,533	414	3.9	3	0.7	1	0.2
Dorchester	2,011	394	19.6	51	12.9	1	0.3
Frederick	17,072	1,550	9.1	19	1.2	0	0.0
Garrett	2,222	287	12.9	6	2.1	0	0.0
Harford	19,138	1,384	7.2	20	1.4	1	0.1
Howard	22,252	1,083	4.9	15	1.4	1	0.1
Kent	1,094	408	37.3	13	3.2	0	0.0
Montgomery	72,419	10,646	14.7	74	0.7	12	0.1
Prince George's	70,191	12,792	18.2	153	1.2	29	0.2
Queen Anne's	3,163	326	10.3	11	3.4	1	0.3
Saint Mary's	7,652	817	10.7	10	1.2	0	0.0
Somerset	1,441	349	24.2	25	7.2	5	1.4
Talbot	2,148	288	13.4	19	6.6	0	0.0
Washington	9,784	1,558	15.9	21	1.3	0	0.0
Wicomico	6,424	1,035	16.1	81	7.8	3	0.3
Worcester	2,773	504	18.2	27	5.4	3	0.6
County Unknown ⁵		5,273		357		2	
Statewide	427,939	74,516	17.4	3,402	4.6	353	0.5

1. US Census Bureau, Census 2000 population count.
2. Reports with missing or wrong date of birth were assumed to be from children under six (6) years of age and were counted as such.
3. Defined as venous or capillary blood lead level ≥ 10 $\mu\text{g}/\text{dL}$.
4. Defined as venous blood lead level ≥ 20 $\mu\text{g}/\text{dL}$.
5. Reports with no address or mismatch address were assumed to be from Maryland children with exact address unknown.

MARYLAND DEPARTMENT OF THE ENVIRONMENT
Lead Poisoning Prevention Program: Childhood Lead Registry
State-wide Age-Specific Blood Lead Testing
Table 3

Age Group	1996			1997			1998			1999			2000		
	Population of Children	Number Tested	Percent Tested	Population of Children	Number Tested	Percent Tested	Population of Children	Number Tested	Percent Tested	Population of Children	Number Tested	Percent Tested	Population of Children	Number Tested	Percent Tested
Under One	69,188	10,516	15.2	69,214	9,981	14.4	68,230	8,121	11.9	69,852	9,687	13.9	69,647	9,486	13.6
1 Year	68,886	16,603	24.1	67,909	17,373	25.6	67,750	15,870	23.4	68,706	18,894	27.5	70,265	23,741	33.8
2 Year	70,206	10,830	15.4	68,417	12,699	18.6	67,731	10,743	15.9	68,734	11,881	17.3	69,306	15,000	21.6
3 Year	71,344	7,173	10.1	69,652	9,772	14.0	69,064	7,966	11.5	68,702	7,917	11.5	71,154	9,424	13.2
4 Year	74,910	6,956	9.3	71,756	9,123	12.7	71,287	7,821	11.0	70,864	7,527	10.6	73,021	8,383	11.5
5 Year	76,622	4,558	5.9	74,249	5,656	7.6	72,423	5,034	7.0	72,054	4,619	6.4	74,546	5,353	7.2
Age Unknown		3,110			1,365			3,030			1,004			3,129	
Total	431,156	59,746	13.9	421,197	65,969	15.7	416,485	58,585	14.1	418,912	61,529	14.7	427,939	74,516	17.4

Statewide

Notes and definitions:

1. Populations for 1996-1999 are based on annual age (single year)- sex specific estimate for states and counties by the US Bureau of Census. Population for 2000 is from US Census Bureau 2000 population count.
2. Number of screening is based on the highest venous or the highest capillary blood lead test that the Childhood Lead Registry (CLR) received from laboratories for a given child in 1996-2000. For each calendar year, each child is counted only once. Over the year, however a child may have been counted more than once.
3. Blood lead reports with no or inaccurate date of birth were assumed to be from children under six (6) years of age with exact age unknown, and were counted as such.
4. For information on age specific elevated blood lead level (EBL) refer to the supplementary data tables of the CLR Annual Reports for each calendar year.

Maryland Department of the Environment
Lead Poisoning Prevention Program: Childhood Lead Registry
Blood Lead Testing Among Children 6-17 Years of Age Statewide
(As reported to Childhood Lead Registry for 01/01/2000-12/31/2000)
Table 4

Age (Year)	Population	Children tested		Children with Elevated Blood Lead*		Children with Lead Poisoning**	
		Number	Percent	Number	Percent	Number	Percent
6 Years	75,472	3,190	4.2	190	6.0	10	0.3
7 Years	78,537	1,901	2.4	99	5.2	11	0.6
8 Years	80,380	1,382	1.7	89	6.4	8	0.6
9 Years	82,383	1,199	1.5	49	4.1	4	0.3
>=10 Yrs.	680,208	4,024	0.6	77	1.9	9	0.2
Total	996,980	11,696	1.2	504	4.3	42	0.4

* Blood lead level ≥ 10 $\mu\text{g/dL}$.

**Venous blood lead level ≥ 20 $\mu\text{g/dL}$.

MARYLAND DEPARTMENT OF THE ENVIRONMENT
Childhood Blood Lead Surveillance in Maryland: 1993-2000
Children Aged 0-72 Months
Table 5

Calendar Year		Population of Children	Number of Children Tested		Children with Elevated Blood Lead		Children with Lead Poisoning	
			Number	Percent	Number	Percent	Number	Percent
1993								
	City	69,434	38,030	54.8	12,908	33.9	1,850	4.9
	Counties	381,753	22,882	6.0	1,638	7.2	54	0.2
	Total	451,187	60,912	13.5	14,546	23.9	1,904	3.1
1994								
	City	65,255	32,620	50.0	9,168	28.1	1,635	5.0
	Counties	384,720	19,771	5.1	1,209	6.1	156	0.8
	Total	452,975	52,391	11.6	10,377	19.8	1,791	3.4
1995								
	City	65,958	38,794	58.8	10,258	26.4	1,633	4.2
	Counties	383,210	25,600	6.7	1,327	5.2	199	0.8
	Total	449,168	64,394	14.3	11,585	18.0	1,832	2.8
1996								
	City	63,508	29,630	46.7	7,816	26.4	1,646	5.6
	Counties	380,757	27,006	7.1	1,264	4.7	160	0.6
	Unknown		3,110		804		24	
	Total	444,265	59,746	13.4	9,884	16.5	1,830	3.1
1997								
	City	60,099	21,423	35.6	5,983	27.9	1030	4.8
	Counties	371,057	44,546	12.0	1654	3.7	202	0.5
	Unknown		1,149		126		1	
	Total	431,156	67,118	15.6	7,763	11.6	1233	1.8
1998								
	City	56,967	17,753	31.2	3,949	22.2	669	3.8
	Counties	364,230	40,164	11.0	1,082	2.7	103	0.3
	Unknown		668		37		0	
	Total	421,197	58,585	13.9	5,068	8.7	772	1.3
1999								
	City	55,401	17,414	31.4	2,902	16.7	446	2.6
	Counties	363,511	43,524	12.0	925	2.1	102	0.2
	Unknown		591		77		7	
	Total	418,912	61,529	14.7	3,904	6.3	555	0.9
2000								
	City	50,380	18,033	35.8	2,198	12.2	266	1.5
	Counties	377,939	51,210	13.5	847	1.7	85	0.2
	Unknown		5,273		357		2	
	Total	427,939	74,516	17.4	3,402	4.6	353	0.5

Notes:

1. Population of children for 1993-1999 is based on US Census Bureau annual age-sex population estimate for state and counties. Population for 2000 is from US 2000 census data.
2. Elevated blood lead is defined as a venous or a capillary blood lead level ≥ 10 $\mu\text{g/dL}$.
3. Lead poisoning is defined as a venous blood lead level ≥ 20 $\mu\text{g/dL}$.
4. Lead/county assignment is based on zip code address. USPS zip code county file was used for the assignment. In the absence of a valid zip code, the jurisdiction was considered unknown.

MARYLAND DEPARTMENT OF THE ENVIRONMENT
Lead Poisoning Prevention Program: Childhood Lead Registry
Number and Percentage of Children 0-72 Months with Elevated Blood Lead Level and Lead
Poisoning Statewide : 1996-2000
Table 6

Calendar Year	Population	Children Tested		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
1996	450,948	59,746	13.2	9,884	16.5	1,830	3.1
1997	437,339	67,118	15.3	7,763	11.6	1,233	1.8
1998	421,197	58,585	13.9	5,068	8.6	772	1.3
1999	418,912	61,529	14.7	3,904	6.3	555	0.9
2000	427,939	74,516	17.4	3,402	4.6	353	0.5

1. Population of children for 1996-1999 was adapted from the US Census Bureau population estimate (1991-1999). For 2000, population is based on Census 2000 population count.
2. Elevated blood lead level (EBL) is defined as a venous or a capillary blood lead level ≥ 10 $\mu\text{g/dL}$.
3. Lead poisoning is defined as a venous blood lead level ≥ 20 $\mu\text{g/dL}$.
4. Reports with missing or wrong date of birth were assumed to be from children under six (6) years of age.
5. County assignment is based on child's residence address at the time of blood lead test. In the absence of child's address provider's zip code address was the basis of county assignment. Report with no address or mismatch address were assumed to be from Maryland children with county unknown.
6. Percentages ≤ 0.1 are rounded to 0.1.