



MARYLAND DEPARTMENT OF THE ENVIRONMENT

Lead Poisoning Prevention Program

Childhood Blood Lead Surveillance in Maryland

Annual Report 2009

Number and percentage of children tested for lead (2001-2009), with Elevated Blood Lead (EBL), and Lead Poisoning (2001-2004), with Prevalence and Incidence Cases (2005-2009) by county of residence

Supplementary Data Tables: Supplement # 4



August, 2010

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
by jurisdiction: 2001-2010

Allegany County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	4,529	1,025	22.6	32	3.1	4	0.4
2002	4,618	1,183	25.6	29	2.5	2	0.2
2003	4,234	1,315	31.1	30	2.3	5	0.4
2004	4,747	1,329	28.0	24	1.8	3	0.2
				Prevalence Cases		Incidence Cases	
2005	4,821	1,037	21.5	32	3.1	25	2.4
2006	4,904	1,172	23.9	22	1.9	17	1.5
2007	4,957	1,231	24.8	12	1.0	11	0.9
2008	4,966	1,323	26.6	11	0.8	8	0.6
2009	5,007	1,371	27.4	15	1.1	13	0.9

Anne Arundel County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	39,998	5,221	13.1	40	0.8	3	0.1
2002	40,257	5,944	14.8	30	0.5	4	0.1
2003	40,844	5,029	12.3	20	0.4	1	0.0
2004	41,895	6,806	16.2	27	0.4	6	0.1
				Prevalence Cases		Incidence Cases	
2005	42,575	6,631	15.6	20	0.3	18	0.3
2006	43,306	6,422	14.8	20	0.3	16	0.2
2007	43,779	6,615	15.1	19	0.3	16	0.2
2008	44,090	6,817	15.5	7	0.1	6	0.1
2009	44,471	7,333	16.5	7	0.1	5	0.1

Baltimore County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	54,630	7,090	13.0	99	1.4	6	0.1
2002	55,444	10,499	18.9	148	1.4	12	0.1
2003	54,933	10,427	19.0	120	1.2	18	0.2
2004	57,205	14,947	26.1	108	0.7	10	0.1
				Prevalence Cases		Incidence Cases	
2005	58,150	14,505	24.9	110	0.8	84	0.6
2006	59,148	15,344	25.9	85	0.6	69	0.4
2007	59,794	16,255	27.2	62	0.4	52	0.3
2008	60,547	15,837	26.2	36	0.2	31	0.2
2009	61,053	16,139	26.4	28	0.2	21	0.1

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
by jurisdiction: 2001-2009

Baltimore City

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	50,380	21,231	42.1	2,027	9.5	230	1.1
2002	52,744	16,595	31.5	1,558	9.4	183	1.1
2003	51,892	18,242	35.2	1,166	6.4	160	0.9
2004	52,796	18,970	35.9	1,183	6.2	147	0.8
				Prevalence Cases		Incidence Cases	
2005	53,626	17,943	33.5	854	4.8	534	3.0
2006	54,547	18,363	33.7	843	4.6	573	3.1
2007	55,142	17,670	32.0	624	3.5	435	2.5
2008	55,959	18,623	33.3	468	2.5	302	1.6
2009	56,431	19,043	33.7	347	1.8	214	1.1

Calvert County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	6,222	785	12.6	8	1.0	1	0.1
2002	6,252	899	14.4	8	0.9	2	0.2
2003	6,209	682	11.0	2	0.3	0	0.0
2004	6,504	838	12.9	0	0.0	0	0.0
				Prevalence Cases		Incidence Cases	
2005	6,623	753	11.4	7	0.9	6	0.8
2006	6,737	749	11.1	9	1.2	9	1.2
2007	6,810	785	11.5	1	0.1	1	0.1
2008	6,864	768	11.2	0	0.0	0	0.0
2009	6,920	698	10.1	1	0.1	1	0.1

Caroline County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	2,275	513	22.5	39	7.6	4	0.8
2002	2,168	699	32.2	48	6.9	3	0.4
2003	2,270	796	35.1	14	1.8	3	0.4
2004	2,379	794	33.4	17	2.1	1	0.1
				Prevalence Cases		Incidence Cases	
2005	2,422	849	35.1	11	1.3	10	1.2
2006	2,463	893	36.3	7	0.8	3	0.3
2007	2,490	856	34.4	8	0.9	5	0.6
2008	2,497	852	34.1	7	0.8	3	0.4
2009	2,516	839	33.3	7	0.8	5	0.6

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Number and percentage of children 0-72 months with Elevated Blood Lead level and Lead Poisoning
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Carroll County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	12,376	970	7.8	17	1.8	0	0.0
2002	11,888	978	8.2	10	1.0	1	0.1
2003	11,801	1,040	8.8	14	1.3	2	0.2
2004	12,938	1,323	10.2	13	1.0	1	0.1
				Prevalence Cases		Incidence Cases	
2005	13,173	1,460	11.1	5	0.3	3	0.2
2006	13,400	1,378	10.3	7	0.5	5	0.4
2007	13,546	1,404	10.4	3	0.2	2	0.1
2008	13,872	1,343	9.7	8	0.6	7	0.5
2009	13,988	1,342	9.6	7	0.5	6	0.4

Cecil County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	7,212	964	13.4	8	0.8	2	0.2
2002	7,104	1,018	14.3	9	0.9	2	0.2
2003	7,127	959	13.5	9	0.9	2	0.2
2004	7,548	1,073	14.2	6	0.6	0	0.0
				Prevalence Cases		Incidence Cases	
2005	7,677	1,046	13.6	7	0.7	6	0.6
2006	7,808	1,058	13.5	6	0.6	6	0.6
2007	7,894	1,186	15.0	6	0.5	4	0.3
2008	7,965	1,265	15.9	6	0.5	4	0.3
2009	8,030	1,212	15.1	4	0.3	2	0.2

Charles County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	10,533	1,597	15.2	10	0.6	1	0.1
2002	10,812	1,790	16.6	8	0.4	0	0.0
2003	11,023	1,391	12.6	2	0.1	0	0.0
2004	11,019	2,040	18.5	9	0.4	1	0.0
				Prevalence Cases		Incidence Cases	
2005	11,212	1,811	16.2	7	0.4	6	0.3
2006	11,404	1,919	16.8	1	0.1	1	0.1
2007	11,529	1,999	17.3	1	0.1	1	0.1
2008	12,001	2,032	16.9	1	0.0	1	0.0
2009	12,101	1,836	15.2	4	0.2	4	0.2

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Dorchester County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	2,011	248	17.3	44	12.6	5	1.4
2002	1,902	513	27.0	36	7.0	5	1.0
2003	1,952	540	27.7	26	4.8	5	0.9
2004	2,106	629	29.9	17	2.7	1	0.2
				Prevalence Cases		Incidence Cases	
2005	2,141	609	28.5	11	1.8	8	1.3
2006	2,177	684	31.4	11	1.6	8	1.2
2007	2,201	676	30.7	9	1.3	7	1.0
2008	2,266	680	30.0	9	1.3	5	0.7
2009	2,287	730	31.9	3	0.4	2	0.3

Frederick County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	17,075	1,335	7.8	14	1.0	1	0.1
2002	17,434	1,584	9.1	22	1.4	2	0.1
2003	17,641	1,630	9.2	16	1.0	2	0.1
2004	17,865	2,796	15.7	22	0.8	2	0.1
				Prevalence Cases		Incidence Cases	
2005	18,172	3,019	16.6	14	0.5	11	0.4
2006	18,484	3,108	16.8	10	0.3	7	0.2
2007	18,686	3,465	18.5	10	0.3	10	0.3
2008	19,184	3,376	17.6	16	0.5	13	0.4
2009	19,349	3,181	16.4	11	0.3	7	0.2

Garrett County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	2,222	283	12.7	4	1.4	0	0.0
2002	2,046	297	14.5	3	1.0	0	0.0
2003	2,020	429	21.2	3	0.7	0	0.0
2004	2,323	563	24.2	7	1.2	3	0.5
				Prevalence Cases		Incidence Cases	
2005	2,365	532	22.5	4	0.8	3	0.6
2006	2,406	495	20.6	5	1.0	3	0.6
2007	2,432	541	22.2	2	0.4	2	0.4
2008	2,468	479	19.4	2	0.4	1	0.2
2009	2,490	473	19.0	2	0.4	2	0.4

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Harford County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	19,138	1,924	10.1	16	0.8	1	0.1
2002	18,530	2,216	12.0	26	1.2	2	0.1
2003	18,482	2,674	14.5	19	0.7	2	0.1
2004	20,032	3,170	15.8	24	0.8	3	0.1
				Prevalence Cases		Incidence Cases	
2005	20,371	2,939	14.4	17	0.6	14	0.5
2006	20,721	3,041	14.7	15	0.5	14	0.5
2007	20,947	3,346	16.0	6	0.2	5	0.1
2008	21,005	3,258	15.5	5	0.2	5	0.2
2009	21,180	3,184	15.0	2	0.1	2	0.1

Howard County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	22,252	1,348	6.1	13	1.0	0	0.0
2002	22,090	1,796	8.1	16	0.9	2	0.1
2003	22,193	1,688	7.6	8	0.5	2	0.1
2004	23,278	2,338	10.0	13	0.6	1	0.0
				Prevalence Cases		Incidence Cases	
2005	23,686	2,273	9.6	7	0.3	4	0.2
2006	24,092	2,188	9.1	8	0.4	6	0.3
2007	24,355	2,334	9.6	3	0.1	2	0.1
2008	24,777	2,493	10.1	5	0.2	4	0.2
2009	24,990	2,503	10.0	1	0.0	1	0.0

Kent County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	1,091	299	27.3	2	0.7	0	0.0
2002	1,095	149	13.6	1	0.7	0	0.0
2003	1,041	157	15.1	3	1.9	0	0.0
2004	1,144	208	18.2	6	2.9	4	1.9
				Prevalence Cases		Incidence Cases	
2005	1,164	172	14.8	2	1.2	2	1.2
2006	1,184	257	21.7	4	1.6	4	1.6
2007	1,197	334	27.9	2	0.6	1	0.3
2008	1,242	303	24.4	5	1.7	3	1.0
2009	1,253	323	25.8	2	0.6	0	0.0

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Montgomery County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	72,419	12,148	16.8	66	0.5	3	0.0
2002	75,588	12,082	16.0	61	0.5	8	0.1
2003	76,648	10,163	13.3	53	0.5	9	0.1
2004	75,867	15,934	21.0	81	0.5	12	0.1
				Prevalence Cases		Incidence Cases	
2005	77,085	16,353	21.2	65	0.4	55	0.3
2006	78,408	17,411	22.2	53	0.3	48	0.3
2007	79,264	18,274	23.1	35	0.2	31	0.2
2008	80,262	18,587	23.2	36	0.2	25	0.1
2009	80,950	18,200	22.5	25	0.1	20	0.1

Prince George's County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	70,191	13,735	19.6	100	0.7	7	0.1
2002	73,365	14,930	20.4	98	0.7	10	0.1
2003	73,788	12,426	16.8	77	0.6	7	0.1
2004	73,498	19,785	26.9	87	0.4	16	0.1
				Prevalence Cases		Incidence Cases	
2005	74,714	17,906	24.0	68	0.4	61	0.3
2006	75,996	18,561	24.4	71	0.4	66	0.4
2007	76,826	18,071	23.5	38	0.2	35	0.2
2008	77,625	18,732	24.1	41	0.2	33	0.2
2990	78,279	19,594	25.0	50	0.3	45	0.2

Queen Anne's County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	3,163	312	9.9	7	2.2	0	0.0
2002	3,079	444	14.4	7	1.6	1	0.2
2003	3,123	495	15.8	5	1.0	2	0.4
2004	3,312	453	13.7	4	0.9	0	0.0
				Prevalence Cases		Incidence Cases	
2005	3,367	484	14.4	0	0.0	0	0.0
2006	3,425	659	19.2	4	0.6	4	0.6
2007	3,462	703	20.3	4	0.6	2	0.3
2008	3,583	594	16.6	1	0.2	1	0.2
2009	3,614	607	16.8	4	0.7	4	0.7

MARYLAND DEPARTMENT OF THE ENVIRONMENT

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Number and percentage of children 0-72 months with Elevated Blood Lead level and Lead Poisoning
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Saint Mary's County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	7,652	1,046	13.7	11	1.1	0	0.0
2002	7,533	1,059	14.1	10	0.9	0	0.0
2003	7,827	903	11.5	9	1.0	0	0.0
2004	8,006	1,390	17.4	2	0.1	0	0.0
				Prevalence Cases		Incidence Cases	
2005	8,145	1,381	17.0	10	0.7	9	0.7
2006	8,285	1,517	18.3	11	0.7	11	0.7
2007	8,375	1,468	17.5	2	0.1	1	0.1
2008	8,548	1,517	17.7	4	0.3	3	0.2
2009	8,618	1,527	17.7	4	0.3	3	0.2

Somerset County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	1,441	539	37.4	48	8.9	2	0.4
2002	1,461	512	35.0	21	4.1	0	0.0
2003	1,457	544	37.3	18	3.3	5	0.9
2004	1,508	477	31.6	10	2.1	3	0.6
				Prevalence Cases		Incidence Cases	
2005	1,534	488	31.8	8	1.6	3	0.6
2006	1,560	506	32.4	9	1.8	5	1.0
2007	1,577	529	33.5	2	0.4	2	0.4
2008	1,521	522	34.3	2	0.4	2	0.4
2009	1,533	497	32.4	4	0.8	3	0.6

Talbot County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	2,148	369	17.2	30	8.1	4	1.1
2002	2,173	441	20.3	19	4.3	4	0.9
2003	2,111	449	21.3	15	3.3	1	0.2
2004	2,244	488	21.7	6	1.2	0	0.0
				Prevalence Cases		Incidence Cases	
2005	2,286	573	25.1	2	0.3	2	0.3
2007	2,326	636	27.3	5	0.8	5	0.8
2007	2,351	702	29.9	4	0.6	3	0.4
2008	2,399	612	25.5	5	0.8	5	0.8
2009	2,417	675	27.9	4	0.6	3	0.4

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Washington County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	9,784	1,558	15.9	24	1.5	4	0.3
2002	9,552	1,500	15.7	19	1.3	4	0.3
2003	9,737	1,971	20.2	15	0.8	3	0.2
2004	10,252	3,029	29.5	39	1.3	10	0.3
				Prevalence Cases		Incidence Cases	
2005	10,414	3,235	31.1	21	0.6	18	0.6
2006	10,593	3,012	28.4	18	0.6	15	0.5
2007	10,709	3,064	28.6	8	0.3	6	0.2
2008	11,113	3,041	27.4	13	0.4	11	0.4
2009	11,207	3,006	26.8	9	0.3	9	0.3

Wicomico County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	6,424	1,463	22.8	134	9.2	6	0.4
2002	6,714	1,747	26.0	74	4.2	9	0.5
2003	6,594	2,031	30.8	50	2.5	7	0.3
2004	6,736	1,917	28.5	40	2.1	4	0.2
				Prevalence Cases		Incidence Cases	
2005	6,838	2,096	30.7	29	1.4	18	0.9
2006	6,955	2,440	35.1	22	0.9	16	0.7
2007	7,031	2,975	42.3	23	0.8	14	0.5
2008	6,998	2,420	34.6	20	0.8	13	0.5
2009	7,058	2,248	31.9	10	0.4	6	0.3

Worcester County

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	2,773	595	21.5	48	8.1	4	0.7
2002	2,968	542	18.3	34	6.3	4	0.7
2003	3,022	731	24.2	24	3.3	1	0.1
2004	2,904	675	23.2	11	1.6	2	0.3
				Prevalence Cases		Incidence Cases	
2005	2,952	696	23.6	6	0.9	3	0.4
2006	3,002	962	32.0	7	0.7	5	0.5
2007	3,035	947	31.2	7	0.7	5	0.5
2008	3,148	910	28.9	5	0.5	3	0.3
2009	3,177	850	26.8	2	0.2	1	0.1

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Number and percentage of children 0-72 months with Elevated Blood Lead level and Lead Poisoning
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County Unknown

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001		41		0		0	
2002		90		2		0	
2003		9		1		0	
2004		3,577		55		0	
				Prevalence Cases		Incidence Cases	
2005		357		14		13	
2006		199		21		20	
2007		278		1		1	
2008		69		0		0	
2009		5		0		0	

Statewide

Calendar Year	Population	Blood Lead Tests		Elevated Blood Lead		Lead Poisoning	
		Number	Percent	Number	Percent	Number	Percent
2001	427,939	76,742	17.9	2,841	3.7	288	0.4
2002	436,817	79,507	18.2	2,297	2.9	260	0.3
2003	437,968	76,721	17.5	1,719	2.2	237	0.3
2004	448,106	105,549	23.6	1,811	1.7	230	0.2
				Prevalence Cases		Incidence Cases	
2005	455,514	99,148	21.8	1,331	1.3	916	0.9
2006	463,331	102,974	22.2	1,274	1.2	936	0.9
2007	468,390	105,708	22.6	892	0.8	654	0.6
2008	474,900	106,453	22.4	713	0.7	489	0.5
2009	478,919	107,416	22.4	553	0.5	379	0.4

Terms and definitions

1. Population of children for 2001 is based on the Census 2000 population count. The Census Bureau had not released population estimate for 2001 when 2001 Annual Report was released. The 2002 and 2003 populations are adapted from the US Census Bureau five-year age-sex-county specific population estimate for 2002 and 2003. The 2004-2009 populations are adapted from US Census Bureau: "State Interim Population Projection by Age and Sex: 2000-2030".
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. From 2005 forward the term "Prevalence" is introduced based on number of children with blood lead level ≥ 10 $\mu\text{g/dL}$ who may have one or more EBL in the past, and term "Incidence" is introduced based on number of children with the very first EBL in that calendar year.
5. County assignment for 2001 is based on child's zip code address. In the absence of any information; the provider's zip code was the basis of county determination. For 2002 and 2003, the child's census tract was the first order of priority to assign county, followed by child's zip code address, and the provider's zip code address as the last. From 2004 forward county assignment is based on child's census tract or zip code of the address and reports with no child addresses were assumed to be from Maryland children with county unknown.