



Colorado Department
of Public Health
and Environment



Childhood Lead Poisoning in Colorado

A review of January 1996-December 2002

Lead Poisoning Prevention Program, 4300 Cherry Creek Dr. S., Denver CO 80246-1530

303-692-2700

Published June 2003

Blood Lead Screening Rates Increase

Since the year 2000, overall blood lead screening rates in Colorado have increased. The Lead Poisoning Prevention Program wishes to thank health care providers who understand the importance of testing Medicaid eligible children and other high risk children at ages 12 months AND 24 months, or between 3 and 6 years old, if they haven't been tested. You are important in the elimination of childhood lead poisoning, a

preventable environmental condition affecting young children nationwide.

Overall, the prevalence rate in Colorado for children tested between 6 months to 6 years of age with lead levels at or above 10 ug/dL is 2.5% for 1996-2002.

Recent studies have shown that lower levels of lead poisoning can cause learning and developmental delays. In Colorado, 9.2% of children tested have lead levels between 6-9.9 ug/dL.



Special points of interest:

- © Blood lead screening rates in Colorado have increased 42 % since 2001.
- © Statewide cumulative (1996-2002) prevalence rate for children 6 months to 6 years old with lead levels ≥ 10 ug/dL is 2.5%.
- © In October 2002, the Lead Poisoning Prevention Program's outreach activities during Lead Poisoning Prevention Week reached more than 30,000 children statewide.
- © Visit the Lead Program's Web Page for information and links at <http://www.cdph.state.co.us/dc/Lead/leadhom.asp>

Low Blood Lead Levels Impair Intelligence



Scientists from three institutions have found lead may be harmful at

very low blood concentrations.

The study by researchers from Cornell University, Cincinnati Children's Hospital Medical Center, and the University of Rochester School of Medicine appeared in the New England

Journal of Medicine, April 17, 2003.

Richard Canfield of the Division of Nutritional Sciences at Cornell

University stated that in the sample of children studied, most damage to intellectual functioning occurs at blood lead concentrations below 10 ug/dL.

The current threshold defining an elevated blood lead level is 10ug/dL.

Under this definition, it is believed more than one in 50 children in the US between one and five years old is adversely affected by lead.

This new study may imply that there is no threshold for adverse health effects to lead exposure, and, unfortunately, many more children are affected than previously thought.

Inside this issue:

Rescreening Guidelines	2
Magnets	2
Surveillance Data	3
County Screening Data	3
Toys with Lead	4

Lead Rescreening Guidelines suggested by CDC

Recommended Schedule for Obtaining a Confirmatory Venous Sample

Screening Test result (ug/dL)	Perform a confirmation test within:
10-19	3 months
20-44	1 week– 1 month
45-59	48 hours
60-69	24 hours
>70	Immediately

Schedule for Follow-up Blood Lead Testing

Venous blood lead level (ug/dL)	Early follow-up (first 2-4 tests after identification)	Late follow-up (after BLL begins to decline)
10-14	3 months	6-9 months
15-19	1-3 months	3-6 months
20-24	1-3 months	1-3 months
25-44	2 weeks– 1 month	1 months
>45	ASAP	Chelation with subsequent follow-up



Magnets with Lead Screening Schedule Available

As you may know, Colorado's Blood Lead Screening Plan includes testing Medicaid-eligible children for lead poisoning at 12 AND 24 months of age or between 3 and 6 years of age, if not done previously. It also includes testing children in Child Health Plan Plus, Colorado Resident Discount Program, or those living in zip codes 80216, 80203, 80204, or 80205.

The State's Lead Based Paint Program has magnets available to remind parents and providers to test children at 12 and 24 months of age. These magnets

also include the current immunization schedule. The magnets have been distributed to nurses throughout the state via the nurse family partnership program and local health departments.

Call 303-692-3261 for more information about these magnets.

Colorado Department of Public Health & Environment
1-800-886-7689 Ext. 2700

Pre-1978 homes may contain lead-based paint. For a list of certified lead inspectors call 1-800-886-7689, ext. 3100.

LEAD HURTS KIDS™

Lead Screening and Recommended Immunization Schedule

	12 months	15 months	18 months	24 months
Lead Screening (Blood Lead)	Make sure to ask your child's doctor for a lead test			
Child Health Plan Plus (CHIP) Screening (EPID)				2-4 Yearly 6-18 Every Three Years
DTaP 1-3				
DTaP 4				
Polio 4				
MM2				
MM2-IPV				
MM2-IPV 8-13mo				
MM2-IPV 18-24mo				
MM2-IPV 24-36mo				
MM2-IPV 36-48mo				
MM2-IPV 48-60mo				
MM2-IPV 60-72mo				
MM2-IPV 72-84mo				
MM2-IPV 84-96mo				
MM2-IPV 96-108mo				
MM2-IPV 108-120mo				
MM2-IPV 120-132mo				
MM2-IPV 132-144mo				
MM2-IPV 144-156mo				
MM2-IPV 156-168mo				
MM2-IPV 168-180mo				
MM2-IPV 180-192mo				
MM2-IPV 192-204mo				
MM2-IPV 204-216mo				
MM2-IPV 216-228mo				
MM2-IPV 228-240mo				
MM2-IPV 240-252mo				
MM2-IPV 252-264mo				
MM2-IPV 264-276mo				
MM2-IPV 276-288mo				
MM2-IPV 288-300mo				
MM2-IPV 300-312mo				
MM2-IPV 312-324mo				
MM2-IPV 324-336mo				
MM2-IPV 336-348mo				
MM2-IPV 348-360mo				
MM2-IPV 360-372mo				
MM2-IPV 372-384mo				
MM2-IPV 384-396mo				
MM2-IPV 396-408mo				
MM2-IPV 408-420mo				
MM2-IPV 420-432mo				
MM2-IPV 432-444mo				
MM2-IPV 444-456mo				
MM2-IPV 456-468mo				
MM2-IPV 468-480mo				
MM2-IPV 480-492mo				
MM2-IPV 492-504mo				
MM2-IPV 504-516mo				
MM2-IPV 516-528mo				
MM2-IPV 528-540mo				
MM2-IPV 540-552mo				
MM2-IPV 552-564mo				
MM2-IPV 564-576mo				
MM2-IPV 576-588mo				
MM2-IPV 588-600mo				
MM2-IPV 600-612mo				
MM2-IPV 612-624mo				
MM2-IPV 624-636mo				
MM2-IPV 636-648mo				
MM2-IPV 648-660mo				
MM2-IPV 660-672mo				
MM2-IPV 672-684mo				
MM2-IPV 684-696mo				
MM2-IPV 696-708mo				
MM2-IPV 708-720mo				
MM2-IPV 720-732mo				
MM2-IPV 732-744mo				
MM2-IPV 744-756mo				
MM2-IPV 756-768mo				
MM2-IPV 768-780mo				
MM2-IPV 780-792mo				
MM2-IPV 792-804mo				
MM2-IPV 804-816mo				
MM2-IPV 816-828mo				
MM2-IPV 828-840mo				
MM2-IPV 840-852mo				
MM2-IPV 852-864mo				
MM2-IPV 864-876mo				
MM2-IPV 876-888mo				
MM2-IPV 888-900mo				
MM2-IPV 900-912mo				
MM2-IPV 912-924mo				
MM2-IPV 924-936mo				
MM2-IPV 936-948mo				
MM2-IPV 948-960mo				
MM2-IPV 960-972mo				
MM2-IPV 972-984mo				
MM2-IPV 984-996mo				
MM2-IPV 996-1008mo				

The Lead Poisoning Prevention Program

© Copyright 2002 National Coalition for Lead-Based Risk - Charlotte, NC USA

Job # 40084-1 - Quantity 11500

Testing Data By County 1996-2002

This data is analyzed by county of the physician who ordered the lead test. The Surveillance Program receives patient addresses only on those whose levels are elevated ($\geq 10 \mu\text{g/dL}$). Labs are required to report on levels $\geq 10 \mu\text{g/dL}$.

*Note counties with fewer than 10 tests are not listed, but their numbers are counted in the totals section. Yearly totals may vary from previous reports due to late reporting and elimination of multiple reports.

Number (and %) of Children Tested 6-72 Months Old 1996-2002

Physician County	<10 $\mu\text{g/dL}$	10-14.9 $\mu\text{g/dL}$ (%)	$\geq 15 \mu\text{g/dL}$ (%)	1996-2002 Total
Adams	591	14 (2.3)	6 (1.0)	611
Alamosa	335	3 (0.9)	1 (0.3)	339
Arapahoe	2,689	41 (1.5)	21 (0.8)	2,751
Boulder	686	20 (2.8)	6 (0.8)	712
Broomfield	112	0	0	112
Chaffee	55	0	0	55
Cheyenne	18	1 (7.7)	0	19
Conejos	13	0	0	13
Delta	63	2 (3.1)	0	65
Denver	22,586	400 (1.7)	218 (0.9)	23,204
Douglas	84	1 (1.2)	1 (1.2)	85
Eagle	32	0	0	32
El Paso	2,531	14 (0.5)	16 (0.6)	2,561
Fremont	452	6 (1.3)	2 (0.4)	460
Garfield	658	7 (1.0)	3 (0.4)	668
Jefferson	1257	18 (1.4)	6 (0.5)	1,281
Kit Carson	27	2 (6.9)	0	29
Lake	1,060	47 (4.1)	37 (3.2)	1,144
La Plata	242	3 (1.2)	2 (0.8)	247
Larimer	2,172	16 (0.7)	9 (0.4)	2,197
Las Animas	180	2 (1.1)	2 (1.1)	184
Lincoln	32	1 (2.9)	1 (2.9)	34
Logan	124	2 (1.6)	1 (0.8)	127
Mesa	820	15 (1.8)	3 (0.4)	838
Moffat	30	2 (6.2)	0	32
Montezuma	290	3 (1.0)	1 (0.3)	294
Montrose	242	0	1 (0.4)	243
Morgan	280	5 (1.7)	3 (1.0)	288
Otero	225	0	0	225
Pitkin	15	0	0	15
Pueblo	1,174	25 (2.0)	18 (1.5)	1,217
Rio Blanco	15	0	0	15
Rio Grande	71	1 (1.4)	1 (1.4)	73
Routt	35	0	0	35
Saguache	142	1 (0.7)	0	143
Summit	49	0	1 (2.0)	50
Weld	2,926	57 (1.9)	26 (0.9)	3,009
Totals	42,392	715 (1.6)	387 (0.9)	43,494

Analysis Methods for County Data

If more than one lead test is reported for a single child, only one blood test is counted using the following criteria:

- 1) the highest venous test in a timeframe; or
- 2) if no venous tests are available, the 2nd of two capillary tests within 12 weeks; or
- 3) if none of the tests in the specified date range follow within 12 weeks of a prior test, then the first capillary within the timeframe, if only capillary tests were performed.

For the period 1996-2002, a total of 43,494 children had lead tests in the state. 1,102 of these children (2.5%) had lead levels $\geq 10 \mu\text{g/dL}$. 3,985 of these children (9.2%) had lower lead levels, 6-9.9 $\mu\text{g/dL}$.

The statewide estimate of Medicaid one and two year olds eligible for lead testing each year is 37,000. In 2002 8,611 children 1-2 years old (12-35 months) had lead tests.

Number of Children (6-72 months old) Screened by Provider County in the Most Populous Counties

County	Est. 2001 Pop. 1-6 years based on 2000 estimates	No. children screened 2002	No. children screened 2001	No. children screened 2000	No. children screened 1999	*No. housing units with high risk of lead hazards
Adams	37,141	82	113	44	40	640
Arapahoe	41,783	970	487	197	148	420
Boulder	21,643	218	77	97	45	1,200
Denver	45,596	5,848	4,363	3,935	2091	12,000
El Paso	47,853	761	523	341	131	1,700
Jefferson	40,265	530	255	162	92	720
Larimer	19,080	819	614	93	123	1,200
Mesa	9,079	378	235	55	11	990
Pueblo	11,762	232	216	191	159	3,000
Weld	18,032	508	410	415	280	1,800

*Number of housing units built before 1950 occupied by a low income family in an area. Source: www.scorecard.org.

Did you know?

Finger sticks are an acceptable method of blood collection for blood lead screening.

**Lead Poisoning Prevalence by Year
For Children 6-72 Months Old**

Year	State prevalence (%) of elevated blood lead levels (*Prevalence denominator includes only children tested)	No. tested (% change from previous year)
1996	3.9	5,579
1997	3.1	4,583 (-18%)
1998	3.0	3,720 (-19%)
1999	2.5	3,469 (-7%)
2000	1.9	6,094 (+75%)
2001	2.0	8,252 (+35%)
2002	2.2	11,797(+42%)

Toys Recently Identified by the Lead Poisoning Prevention Program Found to Contain Low Lead Levels



These toys were found to contain low levels of lead identified by X-ray Florescence and laboratory analysis using atomic absorption. While the risk of a young child getting lead poisoning from playing with one of these toys is presumed to be small, the Lead Poisoning Prevention Program was concerned that toys contain any lead. Unfortunately, no standard for lead in toys currently exists, and toys are not recalled unless the surface is painted and has a lead level over 5000 ppm, the standard used for lead in paint.

Important Phone Numbers

Lead Poisoning Prevention Program 800-886-7689

Mishelle Macias 303-692-2622

Patricia Ennis 303-692-2789

Drew Hodgson 303-692-2768

Eydie Bell 303-692-2755

Lead Certification and Training 303-692-3164

**Rocky Mountain Poison and Drug Center 303-739-1123
or 800-332-3073**

State Medicaid Program 303-866-5532 or 303-866-3861

Pediatric Environmental Health Specialty Unit 1-877-800-5554

Colorado Department of Public Health and Environment

4300 Cherry Creek Drive South

DCEED LP3A3

Denver CO 80246-1530

303-692-2700 or 800-886-7689

DCEED LP3 3642