State of Illinois
Illinois Department of Public Health

Illinois Lead Program and Healthy Homes 2010 Annual Surveillance Report

January 2012

Illinois Department of PUBLIC HEALTH

Illinois Department of PUBLIC HEALTH

Pat Quinn, Governor

525-535 West Jefferson Street • Springfield, Illinois 62761-0001 • www.idph.state.il.us

Dear Colleagues:

The Illinois Department of Public Health is pleased to present the 2010 annual surveillance report on childhood lead poisoning prevention and healthy home initiatives within the state. In accordance with the U.S. Centers for Disease Control and Prevention (CDC), the Illinois Lead Program is adopting a holistic approach to addressing other housing related health hazards.

The goal of the healthy home initiative, a novel concept to the program, is to identify, eliminate or mitigate health and safety issues in the home environment. In addition to lead, this report also addresses asthma triggers and radon exposure.

The Illinois Lead Program is committed to the Healthy People goal of eliminating elevated lead levels in children. Illinois still has the highest percentage of lead poisoned children in the nation. In 2010 alone, approximately 1,237 newly confirmed cases of lead poisoning of 10 micrograms per deciliter or greater were identified in the state. In 2010, case management services were provided to 2,635 lead poisoned children and 2,756 inspections were performed at dwellings and common play areas. Deteriorating paint is the primary source of lead poisoning and about 2 million Illinois pre-1978 housing units are estimated to have lead-based paint. The irreversible health effects of lead include learning disabilities and behavior problems.

This report is intended to serve as a standard reference for legislators, community-based organizations, city, state and federal agencies, as well as health researchers who seek information on childhood lead poisoning and healthy homes initiatives in Illinois.

As we work together diligently to prevent childhood lead poisoning and other housing related health hazards, the Illinois Lead Program looks forward to a continued collaboration with local health departments, its advisory council and other partners at the federal, state and local levels.

Sincerely,

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To report the results of all blood lead tests or
for more information about the elimination of childhood lead poisoning, contact the
Illinois Lead Program at 866-909-3572 or 217-782-3517 or visit
http://www.idph.state.il.us/envhealth/ehforms.htm#lead
The deaf/hard of hearing may dial 800-547-0466.

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List of Abbreviations and Symbols in Report

BRFSS	Behavioral Risk Factor Surveillance System
CDC	U.S. Centers for Disease Control and Prevention
CNT	Center for Neighborhood Technology
Department	Illinois Department of Public Health
EBLLs	Elevated Blood Lead Levels
EI	Environmental Investigations
IEMA	Illinois Emergency Management Agency
ESHD	East Side Health District
HHLPPP	Healthy Homes and Lead Poisoning Prevention Program
IDPH	Illinois Department of Public Health
ILP	Illinois Lead Program
IQ	Intelligence quotient
NHIS	National Health Interview Survey
NHV	Nurse Home Visit
pCi/L	Picocuries per Liter
Program	Illinois Lead Program
RDPs	Radon and Radon Decay Products
RRP	Renovation, Repair and Paint
STELLAR	Systematic Tracking of Elevated Lead Levels and Remediation
U.S.EPA	United States Environmental Protection Agency
µg/dL	Micrograms of lead per deciliter of blood
YTS	Youth Tobacco Survey
≥	Greater than or equal to
<	Less than

Lead Poisoning

Lead poisoning is one of the most prevalent yet preventable environmental health hazards that can affect any family, regardless of race or socioeconomic status. It can irreversibly affect a child's ability to think, learn and behave. Lead poisoning affects the brain and nervous system and has been linked to reduced IQ, behavioral problems, juvenile delinquency and low national achievement test scores.

Problem: Illinois is still one of the states in the nation with the highest number of lead poisoned children[1]. In 2010 alone, there were 3,356 Illinois children with elevated levels of 10 micrograms of lead per deciliter of blood. In addition, 17,739 Illinois children tested exhibited blood lead levels of 6-9 micrograms per deciliter. Research indicates that there is no safe level of lead in the body. The major source of lead poisoning is lead-based paint common in pre-1978 housing units. There more than 3.6 million pre-1978 housing units in Illinois and about 2 million are estimated to contain lead-based paint.

Mission: The mission of the Illinois Department of Public Health, Illinois Lead Program (ILP) is to eliminate the incidence of childhood lead poisoning and also address other housing related health hazards. Illinois law requires that all blood lead results on children 15 years of age or younger be reported to the Department. The vast majority of blood lead tests (93 percent in 2010) were performed on children younger than 6 years of age. Since 1993, the program has successfully addressed childhood lead poisoning, overseeing the delivery of services to Illinois children with elevated blood lead levels and fostering programs and partnerships to reduce exposures to lead.

Goal: The goal of ILP is to:

- Prevent childhood lead poisoning through community education and public awareness campaigns
- Identify lead poisoned children and provide prompt interventions to reduce blood lead levels and improve health and developmental outcomes.

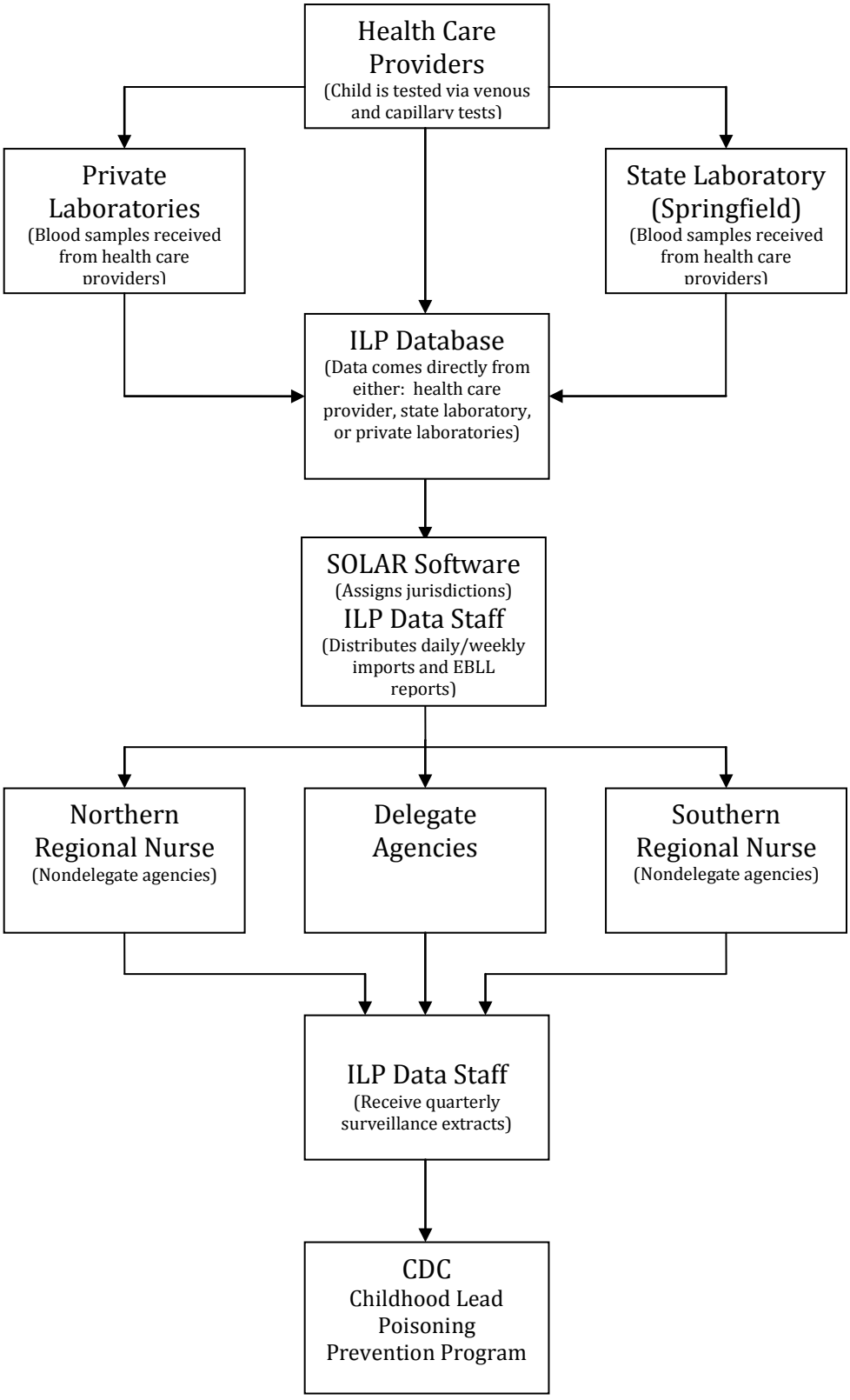
Scope: The scope of the ILP surveillance is to:

- Estimate the extent of elevated blood-lead levels among Illinois children
- Assess the follow-up of children with elevated blood-lead levels
- Identify potential sources of lead exposure and other housing related health hazards
- Help allocate resources for lead poisoning prevention activities
- Provide information for education and policy

[1] CDC National Surveillance Data downloaded on September 1, 2010

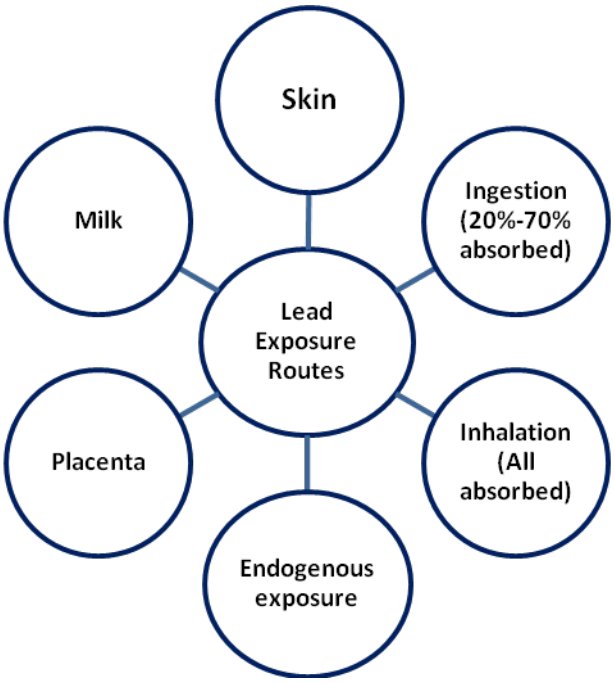
Illinois Childhood Blood Lead Data Flow Chart

Figure 1: Blood Lead Data Flow Chart



How Lead Enters the Body

Figure 2: Pathways for Lead Exposure



Everyone is exposed to lead but the pathway for lead to enter children's bodies is often different for adults. Deteriorating lead-based paint is the primary source of lead poisoning.

Children are most likely to ingest lead dust through their hand-to-mouth activities. There is also evidence that children may ingest lead from the mother's breast milk.

Adults who disturb the surface of building components that contain lead may inhale lead dust. If the adult fails to wash their hands, or, if food or food-contact surfaces are in the work area, adults may ingest lead when smoking, eating or drinking. Adults who work with lead-containing products may inhale lead dust and some lead may get in the body through the skin. Unborn babies may absorb lead from the placenta of pregnant women who have been exposed to lead.

For more information on sources and how lead gets into the body go to:

http://www.atsdr.cdc.gov/csem/csem.asp?csem=7&po=6

http://www.epa.gov/lead/pubs/leadpdfe.pdf

Illinois Statistics on Childhood Lead Poisoning for Calendar Year 2010

Table 1: Illinois Summary Statistics on Childhood Lead Poisoning for Calendar Year 2010

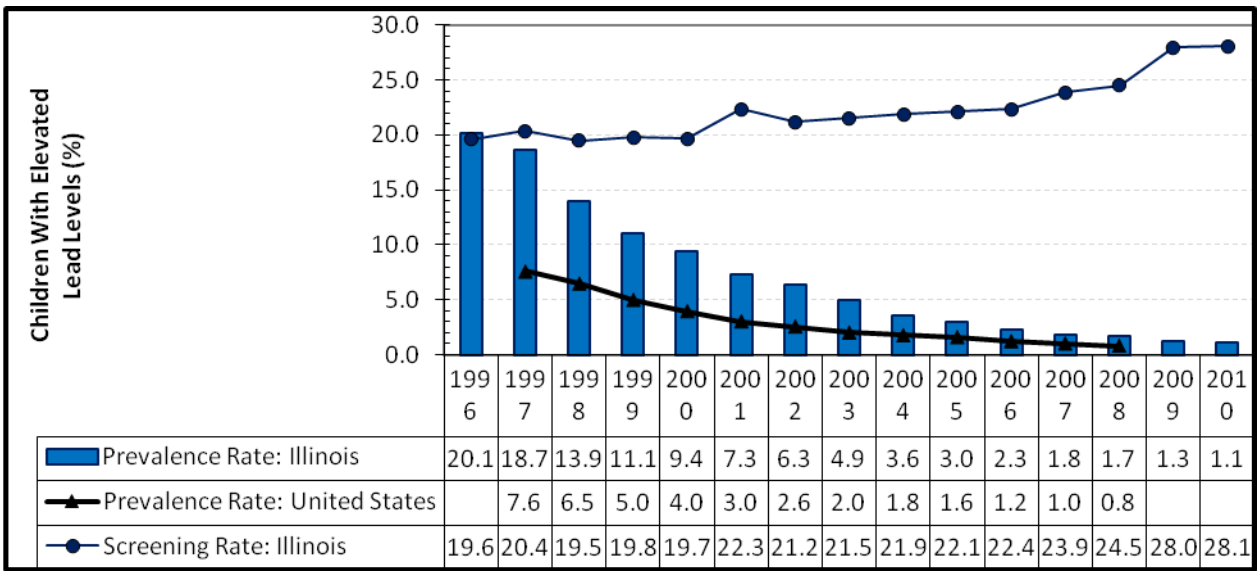
Characteristics	Total Children Tested		Elevated Blood Lead Levels of 10 Micrograms per Deciliter or Greater (%)
	Number (N)	Percentage (%)	
Total number of children tested	300,290	29.9[b]	1.1
Total number of blood lead tests[a]	336,334		
Blood Lead Levels in Micrograms per Deciliter (µg/dL)			
10 or greater	**3,356**	**1.1**	
≤4	258,041	85.9	[a] Data includes multiple tests per child [b] The 2010 CENSUS estimated population of Illinois children younger than 6 years of age was 1,005,860
5-9	38,893	13.0	
10-14	2,011	0.7	
15-19	682	0.2	
20-24	277	0.1	
25 or greater	386	0.1	
Age (years)			
Younger than 1	38,279	12.7	0.6
1	70,313	23.4	1.1
2	50,945	17.0	1.5
3	44,224	14.7	1.3
4	41,078	13.7	0.8
5	33,125	11.0	0.7
6 and older	22,326	7.4	1.0
Gender			
Female	143,362	47.7	1.0
Male	149,867	49.9	1.2
Undetermined	7,061	2.4	1.1
Medicaid/Non-Medicaid			
Medicaid			1.6
Non-Medicaid			1.3
Blood Specimen Type			
Capillary	105,260	35.1	0.8
Venous	195,030	64.9	1.2
Laboratories Reporting Results	157	100	1.1

Source: Illinois Lead Program Surveillance Data, 2010, CENSUS 2010

Illinois Childhood Lead Poisoning and Screening Rates: 1996 - 2010

Despite the increase in testing and the decline in lead poisoning rates, the percentage of Illinois children with elevated lead levels exceeds the national estimate across the years (Figure 3). In 2010, about 3,356 children were identified in Illinois with elevated lead levels. Based on 2008 data from the CDC, 0.8 percent of children in the United States have elevated lead levels compared to 2.2 percent in Illinois in the same year[2].

Figure 3: Screening and Lead Poisoning Rates From 1996 – 2010



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Prevalence Rate: Illinois	20.1	18.7	13.9	11.1	9.4	7.3	6.3	4.9	3.6	3.0	2.3	1.8	1.7	1.3	1.1
Prevalence Rate: United States		7.6	6.5	5.0	4.0	3.0	2.6	2.0	1.8	1.6	1.2	1.0	0.8		
Screening Rate: Illinois	19.6	20.4	19.5	19.8	19.7	22.3	21.2	21.5	21.9	22.1	22.4	23.9	24.5	28.0	28.1

Source: Illinois Lead Program Surveillance Data, 1996-2010

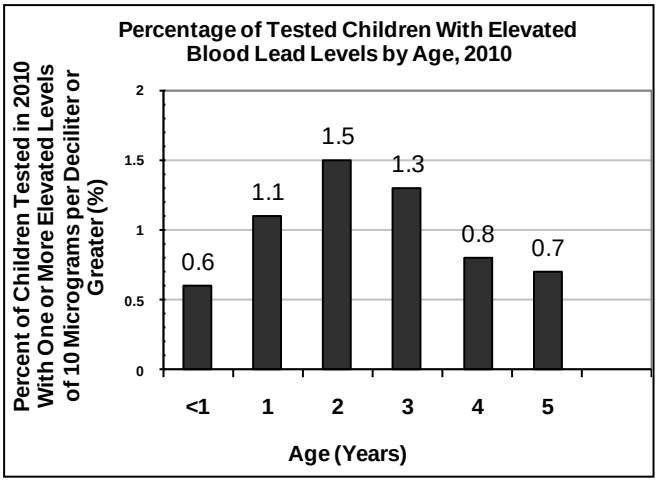
[2]The United States average is based on the data reported by the CDC at: http://www.cdc.gov/nceh/lead/data/national.htm

Lead screening rate refers to the total number of children younger than 6 years (72 months) of age tested for blood lead levels divided by total number of children younger than 72 months of age, based on U.S. census data. The testing rate for blood lead poisoning has remained fairly constant with a slight increase from 19.6 percent in 1996 to 28.1 percent in 2010. Nationally, CDC reported a 14 percent testing rate for 2008 compared to a 24.5 percent testing rate in Illinois in 2008.

Lead poisoning rate refers to the total number of children younger than 72 months of age with elevated lead levels of 10 micrograms per deciliter divided by total number of children younger than 72 months of age tested for blood lead. The significant decrease in blood lead poisoning rate in Illinois children from 20 percent in 1996 to 1.1 percent in 2010 is a public health success story.

Blood Lead Levels by Age: Age at Which Children Should be Tested

Figure 4: Elevated Blood Lead Levels by Age in 2010



Source: Illinois Lead Program Surveillance Data, 2010

Figure 4 indicates that Illinois children between the ages of 1 and 3 are at highest risk for lead poisoning. Illinois law requires physicians to screen children 6 months through 6 years of age who live in high risk areas for lead poisoning. Before attending a licensed daycare, kindergarten or school, Illinois law also requires parents or legal guardians to provide a statement from a physician or health care provider that the child has been assessed for lead risk, if residing in a low risk area, or screened for pediatric blood lead poisoning, if living in a high risk area. The Illinois Department of Public Health, the American Academy of Pediatrics and the CDC recommends that children be tested for lead poisoning at 1 and 2 years of age.

Figure 5: Elevated Blood Lead Levels by Age from 1996 – 2010

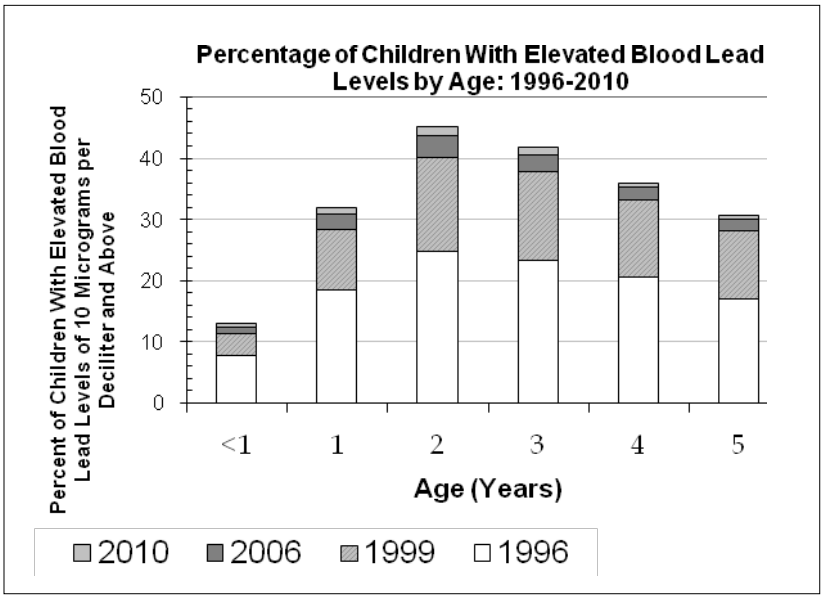


Figure 5 shows that although the number of children with elevated lead levels has steadily declined across time, children 2 and 3 years of age still have the highest levels of lead irrespective of the year of age of exposure.

Source: Illinois Lead Program Surveillance Data, 1996-2010

Distribution of Elevated Blood Lead Levels and Adverse Effects

Figure 6: Childhood Blood Lead Levels in 2010

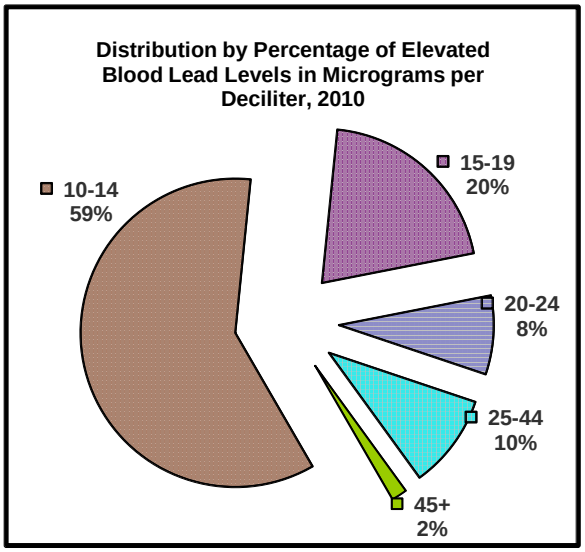


Figure 6 shows that 59 percent of lead poisoned children in Illinois have moderate lead levels between 10 and 14 micrograms per deciliter. Moderate levels may result in constipation, abdominal pain, poor appetite, or anemia. High levels of lead in the body can lead to vomiting, irritability, lethargy, seizures and even death.

Source: Illinois Lead Program Surveillance Data,

Table 2: Blood Lead Levels by Year From 1996 - 2010

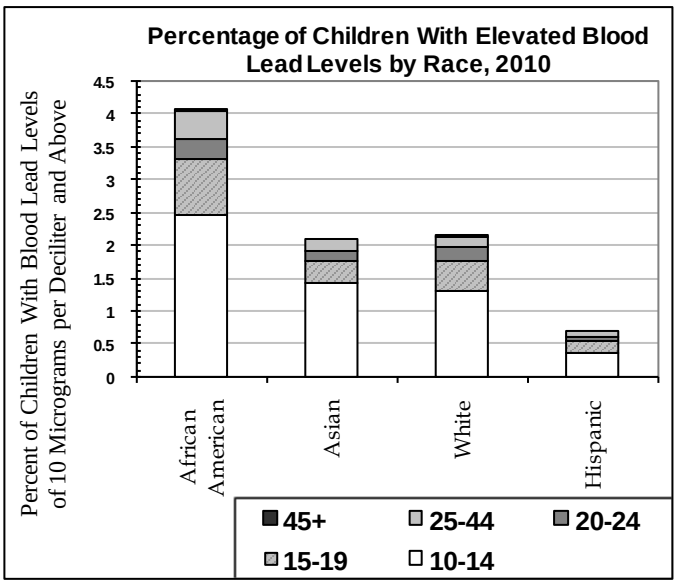
Year	Total Number of Children Tested	Elevated Blood Lead Levels as Percentage of Illinois Children Tested by Year and Levels: 1996 – 2010					
		5-9 µg/dL	10-14 µg/dL	15-19 µg/dL	20-24 µg/dL	25-44 µg/dL	45+ µg/dL
1996	235,290	38.3	11.8	4.7	1.8	1.7	0.19
1997	245,093	37.3	11.1	4.3	1.7	1.5	0.19
1998	234,417	35.1	8.8	2.8	1.1	1.0	0.14
1999	239,571	32.7	7.2	2.2	0.8	0.8	0.10
2000	244,442	31.7	6.1	1.9	0.8	0.6	0.08
2001	277,788	29.4	4.7	1.5	0.6	0.5	0.07
2002	263,069	28.5	4.1	1.3	0.5	0.4	0.06
2003	267,997	25.2	3.2	1.0	0.4	0.3	0.05
2004	272,757	22.7	2.4	0.7	0.2	0.2	0.03
2005	275,108	21.6	2.0	0.6	0.2	0.2	0.03
2006	278,078	19.9	1.6	0.4	0.2	0.2	0.03
2007	296,998	16.2	1.1	0.3	0.2	0.2	0.03
2008	304,807	14.6	1.0	0.3	0.1	0.2	0.03
2009	297,227	13.8	0.7	0.2	0.1	0.1	0.02
2010	300,290	13.1	0.7	0.2	0.1	0.1	<0.01

The number of children with severe levels of blood lead has decreased with time (Table 2). In 2010, 55 children (<0.01 percent) had lead levels of 45 micrograms per deciliter and higher compared to 445 children in 1996 (0.19 percent). It usually takes about 24 months for half of the blood lead levels of more than 25 micrograms per deciliter to drop to 10 micrograms per deciliter[1].

Source: Illinois Lead Program Surveillance Data, 1996-2010,
[1]Roberts et al. J. Clin Tox 2001

Lead Poisoning, Race and Ethnicity

Figure 7: Childhood Blood Lead Levels by Race and Ethnicity in 2010



Source: Illinois Lead Program Surveillance Data, 2010

Collection of race and ethnicity data remains a challenge. Of the 300,290 children tested for blood lead poisoning, racial and ethnicity status were available for only 23 percent of them. Of the 15,645 known African-American children and 30,080 white children tested for lead poisoning in 2010, 4.1 percent and 2.2 percent respectively were lead poisoned. Of the 1,185 known Asian children tested, 2 percent were lead poisoned. About 0.7 percent known cases of Hispanic children exhibited elevated levels of lead (Figure 7).

Figure 8: Childhood Blood Lead Levels by Race and Ethnicity from 1996 - 2010

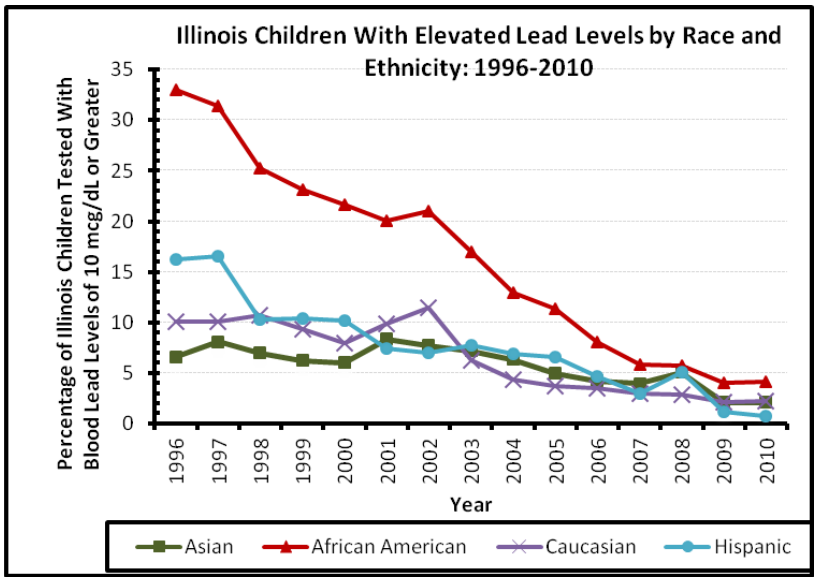


Figure 8 demonstrates the difference in lead poisoning by race and ethnicity across time. The remarkable disparity in lead poisoned children is cause for concern. Efforts to continue the elimination of the preventable causes of lead poisoning among children of all races is highly recommended.

Lead Screening Activities in Illinois, Chicago and the United States: 2007-2010

Table 3: Lead Screening Activities in Illinois, Chicago and United States: 2007 - 2010

	2007		2008		2009		2010	
Illinois								
Total number of children tested	296,998	24%	304,807	25%	297,227	28%	300,290	30%
Results 5-9 µg/dL	48,102	16%	44,445	15%	40,947	14%	38,893	13%
Results 6-9 µg/dL	17,739	6%	5,391	2%	11,192	4%	9,320	3%
Lead poisoning rate (≥ 10 µg/dL)	5,270	1.8%	5,126	1.7%	3,720	1.30%	3,356	1.10%
Illinois Excluding Chicago								
Total number of children tested	191,210		188,643		180,855		198,324	
Results 5-9 µg/dL	21,207	11%	16,428	9%	14,679	8%	17,397	9%
Results 6-9 µg/dL	9,553	5%	543	0%	6,656	4%	5,801	3%
Lead poisoning rate (≥ 10 µg/dL)	2,643	1%	2,820	1%	2,103	1%	2,079	1%
Chicago								
Total number of children tested	105,788		116,164		116,372		101,966	
Results 5-9 µg/dL	26,895	25%	28,017	24%	26,268	23%	21,496	21%
Results 6-9 µg/dL	8,186	8%	5,934	5%	4,536	4%	3,519	3%
Lead poisoning rate (≥ 10 µg/dL)	2,627	2%	2,306	2.0%	1,617	1.4%	1,277	1.3%
United States[1]								
Total number of children tested	3,136,843	13	3,449,062	14				
Lead poisoning rate (≥ 10 µg/dL)	31,524	1.0%	28,717	0.8%				

Source: Illinois Lead Program Surveillance Data, 2006-2010 and Centers for Disease Control and Prevention (CDC) Blood Lead Surveillance Data, 2007-2008; Note 1Only 2008 CDC lead data is available at this time

Data in Table 3 includes capillary and venous tests for all children whose blood lead results were reported to the Department. Blood lead test results were reported for children 15 years of age or younger with 92 percent from children 6 years of age and younger.

Table 3 also includes tests results obtained with LeadCare II, a portable desk top blood lead analyzer. Please be advised that some laboratories have a limit of blood lead detection of 5 micrograms per deciliter of blood. This differential may disproportionately inflate the number of children with blood lead levels of 5-9 micrograms per deciliter.

Due to strict data reporting requirements, Illinois data with missing core address fields are often under-reported nationally

Population of Children, Number Tested, and Blood Lead Levels by County: 2009-2010

Table 4: Population of Children, Number Tested and Blood Lead Levels: 2009-2010

Illinois/County / Delegate Agency	2010 Population Younger than 6 Years of Age	2009 Total Tested	2009 5-9 µg/dL	2009 10-14 µg/dL	2009 15-19 µg/dL	2009 20-24 µg/dL	2009 25+ µg/dL	2010 Total Tested	2010 5-9 µg/dL	2010 10-14 µg/dL	2010 15-19 µg/dL	2010 20-24 µg/dL	2010 25+ µg/dL
Illinois	1,005,860	297,227	40,947	2,298	732	293	336	300,290	38,893	2,011	682	277	386
Adams	5,103	678	71	18	7	0	2	682	73	14	4	2	
Alexander	686	134	17	3	1	0	1	154	14	3	1	2	0
Bond	1,145	317	48	2	1	2	0	310	28	1	0	0	0
Boone	4,560	1,071	86	4	2	2	1	941	137	3	0	0	1
Brown	369	77	6	2	0	1	0	93	9	1	1	0	0
Bureau	2,450	361	36	2	1	0	1	440	36	6	0	0	1
Calhoun	325	71	8	1	0	0	0	56	2	0	0	0	1
Carroll	889	273	55	1	1	1	0	292	34	4	1	0	0
Cass	1,119	424	42	10	2	0	0	498	58	4	1	1	1
Champaign	13,769	2,646	102	12	3	0	3	2,912	72	4	3	0	0
Christian	2,523	696	41	9	4	2	1	595	33	6	2	2	1
Clark	1,129	260	17	0	0	0	0	238	22	1	1	0	1
Clay	1,028	286	43	5	1	0	1	284	42	1	1	0	0
Clinton	2,674	435	22	1	0	0	0	402	9	3	0	0	0
Coles	3,364	792	76	14	4	0	1	835	84	12	4	1	2
Cook w/o Chicago	189,286	47,757	4,417	226	82	30	47	56,754	4,652	210	68	38	42
Chicago	220,028	116,372	26,268	996	312	124	185	101,966	21,496	757	264	92	164
Crawford	1,224	246	13	3	0	1	0	241	15	3	1	1	0
Cumberland	883	187	17	2	0	1	1	164	18	0	0	1	0
DeKalb	7,958	1,103	82	8	1	1	5	1,248	56	4	2	1	1
DeWitt	1,162	278	36	4	1	0	1	255	35	7	1	0	0
Douglas	1,696	319	29	4	1	0	1	338	21	4	1	2	0
DuPage	69,179	8,335	383	11	7	5	3	8,936	223	17	8	2	3
Edgar	1,307	232	23	2	3	1	0	231	16	6	1	0	0
Edwards	458	99	7	1	1	0	0	119	6	1	3	0	0
Effingham	2,734	837	39	6	0	0	0	733	45	4	1	2	1
Fayette	1,559	455	37	2	1	0	1	364	16	3	0	1	0
Ford	994	92	5	1	2	0	0	152	23	3	2	0	0
Franklin	2,831	484	40	3	0	1	0	420	25	5	3	0	1
Fulton	2,349	368	47	5	1	0	1	479	53	10	1	1	2
Gallatin	404	124	6	0	0	0	0	139	7	1	0	1	0
Greene	961	367	28	2	1	2	0	349	24	5	2	0	0
Grundy	4,374	465	17	3	1	0	0	517	19	1	0	0	0
Hamilton	593	125	9	1	0	0	0	142	10	3	3	0	0
Hancock	1,339	361	49	10	2	0	0	364	32	6	2	1	1
Hardin	276	44	3	0	0	0	0	33	1	0	1	0	1
Henderson	416	128	19	0	1	0	0	127	14	1	0	0	0

Illinois/County / Delegate Agency	2010 Population Younger than 6 Years of Age	Total Tested	2009					Total Tested	2010				
			5-9	10-14	15-19	20-24	25+		5-9	10-14	15-19	20-24	25+
			µg/dL						µg/dL				
Henry	3,672	1,020	155	7	2	2	3	1,017	123	10	5	2	2
Iroquois	1,994	307	28	4	1	0	0	411	51	2	2	0	1
Jackson	3,690	1,025	39	3	2	1	0	1,049	50	1	1	0	0
Jasper	684	111	4	1	0	0	0	111	5	0	0	0	0
Jefferson	2,890	532	22	2	0	0	0	542	33	3	1	0	2
Jersey	1,589	468	32	0	1	0	0	425	29	2	0	1	0
Jo Daviess	1,433	149	20	1	1	1	0	134	8	2	1	0	0
Johnson	695	132	8	0	0	0	0	80	2	1	0	0	0
Kane	48,441	12,181	937	127	31	19	14	13,635	838	82	32	7	18
Kankakee	9,228	2,650	198	16	4	0	2	2,475	170	22	3	2	4
Kendall	12,306	832	23	5	0	0	0	983	21	6	3	0	0
Knox	3,397	1,080	165	20	8	6	3	1,038	175	16	9	5	2
Lake	57,283	11,380	331	17	13	5	2	11,480	221	24	7	7	3
LaSalle	8,057	1,348	291	20	4	1	4	1,215	182	23	5	3	2
Lawrence	1,071	338	27	3	2	1	0	349	22	4	2	1	1
Lee	2,459	207	9	6	0	1	1	443	21	4	4	0	2
Livingston	2,658	890	131	17	5	2	1	797	96	12	1	1	1
Logan	1,921	403	37	4	0	2	2	387	31	6	0	0	1
McDonough	1,808	390	43	9	1	1	0	393	27	3	4	1	1
McHenry	24,338	2,596	96	7	2	1	0	2,737	74	6	2	1	3
McLean	12,866	2,558	199	10	9	0	2	2,669	313	12	2	3	1
Macon	8,347	3,170	424	56	16	3	6	3,379	260	32	13	8	7
Macoupin	3,420	776	51	10	2	2	4	707	37	7	1	2	0
Madison	19,708	4,115	351	34	4	2	6	4,188	241	33	6	7	6
Marion	3,036	947	73	2	0	2	1	789	70	3	0	0	0
Marshall	801	259	39	2	2	2	0	235	33	11	2	1	0
Mason	925	370	36	2	0	0	0	291	30	4	2	1	0
Massac	1,167	198	7	1	0	0	0	222	8	1	1	1	0
Menard	880	174	10	1	0	0	0	154	12	3	0	0	0
Mercer	1,150	339	58	3	2	0	0	322	45	4	2	0	0
Monroe	2,361	253	9	0	0	0	0	438	20	2	0	0	0
Montgomery	2,054	560	52	5	0	1	0	533	49	3	0	0	1
Morgan	2,359	744	61	13	2	0	3	650	68	8	4	1	1
Moultrie	1,199	122	4	1	2	0	2	190	26	5	0	1	0
Ogle	3,833	465	33	1	1	0	2	593	52	1	4	2	1
Peoria	15,146	2,765	488	102	39	12	10	2,789	576	100	56	17	22
Perry	1,435	457	31	6	2	0	0	412	30	2	1	0	0
Piatt	1,113	179	5	3	1	0	0	209	18	1	0	0	0
Pike	1,211	341	28	5	1	2	0	323	42	4	2	2	0
Pope	249	40	0	0	0	0	0	25	0	0	0	0	0
Pulaski	457	144	11	0	0	0	0	96	5	4	0	0	0
Putnam	370	54	7	1	1	0	0	54	2	0	0	0	0
Randolph	2,085	441	25	4	0	0	0	466	33	3	2	1	0
Richland	1,202	278	18	1	0	0	0	257	15	1	0	0	0

Illinois/County / Delegate Agency	2010 Population Younger than 6 Years of Age	Total Tested	2009					Total Tested	2010				
			5-9	10-14	15-19	20-24	25+		5-9	10-14	15-19	20-24	25+
			µg/dL						µg/dL				
Rock island	11,307	4,113	719	84	25	10	10	4,428	616	69	19	7	12
St. Clair w/o ESHD	16,554	3,138	157	19	2	2	0	3,457	104	9	4	2	3
ESHD[1]	5,669	4,566	482	38	19	3	7	4,523	466	45	14	4	5
Saline	1,766	681	47	2	0	0	0	679	37	3	1	0	0
Sangamon	15,083	3,093	246	35	11	7	5	3,321	261	42	15	9	5
Schuyler	483	147	8	0	0	1	0	128	13	3	1	0	0
Scott	390	95	9	1	0	0	0	110	3	1	0	0	0
Shelby	1,554	291	18	5	1	1	0	301	35	3	1	0	0
Stark	393	109	18	4	0	1	0	124	20	3	0	0	0
Stephenson	3,379	1,278	240	24	10	4	4	1,358	178	37	9	5	2
Tazewell	10,404	1,832	219	12	4	5	2	1,711	160	17	4	4	6
Union	1,241	433	25	3	1	0	1	400	19	8	4	2	1
Vermilion	6,561	1,151	88	15	8	1	2	1,368	64	6	5	2	3
Wabash	886	225	44	3	4	0	2	260	22	6	1	1	0
Warren	1,248	363	39	5	2	0	0	377	38	6	1	0	0
Washington	1,024	174	9	3	1	0	1	207	17	4	0	1	0
Wayne	1,245	344	23	2	0	0	0	349	21	1	1	0	0
White	1,045	331	26	1	1	0	0	338	22	3	0	0	0
Whiteside	4,228	1,375	95	13	4	2	1	1,331	70	10	2	0	3
Will	59,747	6,933	293	20	7	2	3	8,094	277	20	6	5	0
Williamson	4,859	556	29	1	2	0	0	507	22	2	0	0	1
Winnebago	23,591	6,101	570	72	21	10	9	6,478	953	60	17	7	19
Woodford	3,071	388	37	3	1	0	0	363	42	1	2	0	0
Egyptian[2]	3,215	1,136	79	3	1	0	0	1,156	66	7	1	1	0
Evanston	5,179	1,681	158	4	1	0	1	1,760	116	5	2	1	1
Non DA[3]	92,214	11,848	873	57	20	11	10	12,711	595	67	27	9	9
Oak Park	4,083	1,050	128	11	6	0	2	1,110	94	8	1	2	3
Skokie	4,222	24,338	805	48	19	10	8	1,117	519	50	16	9	5
Southern Seven[4]	4,771	1,125	71	7	2	0	2	1,010	49	17	7	5	2
Stickney	499	98	16	1	0	0	0	138	21	0	0	0	0
Unidentified		14,423	646	27	3	1	2	17,580	3,809	65	13	0	15

Source: Illinois Lead Program Surveillance Data, 2009-2010, Illinois Center for Health Statistic and CENSUS 2010

[1]ESHD or East Side Health District includes the cities of Alorton, Brooklyn, Cahokia, Centreville, East St. Louis, Lovejoy, National Stock Yards, Sauget, Washington Park and Fairmont City.
[2]Egyptian Counties: Saline, Galatine and White
[3]Non-DA or Nondelegate agencies include the counties of Jo Daviess, Ogle, DuPage, Lee, Grundy, Brown, Hancock, Marshall, Putnam and LaSalle
[4]Southern Seven Counties: Alexander, Hardin, Johnson, Massac, Pope, Pulaski and Union

Note: The total number of children tested or screened on Tables 3 and 4 for 2009 and 2010 are the actual numbers reported to the Department. The children tested in 2010 were 15 years of age or younger with 92 percent from children 6 years of age and younger. These numbers include children tested for the first time, as well as those being retested. If a child had multiple tests, the highest venous result was selected. If there was no venous test, the highest capillary result was selected. Please be advised that some laboratories have a limit of blood lead detection of 5 micrograms per deciliter of blood. This differential may disproportionately inflate the number of children with blood lead levels of 5-9 micrograms per deciliter.

It is challenging to separate blood lead tests results of Evanston, Oak Park and Skokie from the city of Chicago due to population growth, physical expansion and job location. Egyptian and Southern Seven delegate agencies test a lot of children in their surrounding counties too.

Housing Units and Elevated Blood Lead Levels

Table 5: Housing Units and Lead Poisoned Children Tested for the First Time in 2010

Illinois/County/ City/ Delegate Agencies	Housing Units[a]				Children Tested for the First Time in 2010[c]	Children With Elevated Blood Lead Levels (EBLLs) of 10 Micrograms per Deciliter[c]		
	Total	Occupied	Vacant	Pre1978 Estimates (%)[b]		Capillary	Venous	Total EBLLS
Illinois	5,296,715	4,836,972	459,743	70	176,514	525	1,237	1,762
Adams	29,842	27,375	2,467	76	541	1	10	11
Alexander	4,006	3,329	677	80	121	0	4	4
Bond	7,089	6,427	662	67	231	0	0	0
Boone	19,970	18,505	1,465	52	642	2	2	4
Brown	2,462	2,099	363	76	74	0	0	0
Bureau	15,720	14,262	1,458	82	394	2	5	7
Calhoun	2,835	2,085	750	65	44	0	0	0
Carroll	8,437	6,622	1,815	76	199	1	2	3
Cass	5,836	5,270	566	80	314	0	2	2
Champaign	8,7569	80,665	6,904	59	2,379	5	1	6
Christian	15,563	14,055	1,508	76	412	2	1	3
Clark	7,772	6,782	990	73	152	0	2	2
Clay	6,404	5,697	707	69	192	2	0	2
Clinton	15,311	14,005	1,305	63	273	0	0	0
Coles	23,425	21,463	1,962	66	654	8	8	16
Cook w/o Chicago	986,022	920,796	65,226	74	31,787	31	119	150
Chicago	1,194,337	1,045,560	146,777	85	56,501	75	590	665
Crawford	8,661	7,763	898	73	174	3	1	4
Cumberland	4,874	4,377	497	64	117	1	0	1
DeKalb	41,079	38,484	2,595	57	985	0	3	3
DeWitt	7,521	6,811	710	77	146	3	2	5
Douglas	8,390	7,720	670	74	273	2	2	4
DuPage	356,179	337,132	19,047	57	6,493	7	11	18
Edgar	8,803	7,839	964	79	204	1	4	5
Edwards	3,187	2,840	347	76	83	1	3	4
Effingham	14,570	13,515	1,055	63	557	5	3	8
Fayette	9,302	8,311	991	74	227	0	0	0
Ford	6,282	5,676	606	86	135	3	0	3
Franklin	18,525	16,617	1,908	75	320	4	3	7
Fulton	16,195	14,536	1,659	83	404	6	5	11
Gallatin	2,746	2,403	343	74	90	1	1	2
Greene	6,389	5,570	819	78	191	3	2	5
Grundy	19,996	18,546	1,450	51	424	0	0	0
Hamilton	4,104	3,489	615	72	111	1	2	3
Hancock	9,274	8,040	1,234	79	264	4	4	8
Hardin	2,488	1,915	573	74	25	0	2	2
Henderson	3,827	3,149	678	76	91	0	1	1
Henry	22,161	20,373	1,788	80	728	5	6	11
Iroquois	13,452	11,956	1,496	79	355	4	1	5

Illinois/County/ City/ Delegate Agencies	Housing Units[a]				Children Tested for the First Time in 2010[c]	Children With Elevated Blood Lead Levels (EBLLs) of 10 Micrograms per Deciliter[c]		
	Total	Occupied	Vacant	Pre1978 Estimates (%)[b]		Capillary	Venous	Total EBLLS
Jackson	28,578	25,538	3,040	65	718	1	0	1
Jasper	4,345	3,940	405	70	89	0	0	0
Jefferson	16,954	15,365	1,589	63	428	0	4	4
Jersey	9,848	8,828	1,020	65	301	0	1	1
Jo Daviess	13,574	9,753	3,821	64	107	0	1	1
Johnson	5,598	4,584	1,014	53	66	0	1	1
Kane	182,047	170,479	11,568	53	7,918	26	39	65
Kankakee	45,246	41,511	37,511	66	1,781	4	14	18
Kendall	40,321	38,022	2,299	32	790	1	5	6
Knox	24,077	21,535	2,542	84	746	10	10	20
Lake	260,310	241,712	18,598	51	7,462	1	24	25
LaSalle	49,978	45,347	4,631	74	1,000	8	15	23
Lawrence	6,936	6,130	806	78	253	2	1	3
Lee	15,049	13,758	1,291	79	354	0	7	7
Livingston	15,895	14,613	1,282	77	452	7	0	7
Logan	12,107	11,070	1,037	81	330	3	2	5
McDonough	14,419	13,057	1,362	75	297	2	2	4
McHenry	116,040	109,199	6,841	42	1,953	5	4	9
McLean	69,656	65,104	4,552	55	1,774	6	4	10
Macon	50,475	45,855	4,620	79	1,654	9	16	25
Macoupin	21,584	19,381	2,203	70	507	4	1	5
Madison	117,106	108,094	9,012	69	3,038	9	21	30
Marion	18,296	16,148	2,148	69	528	0	1	1
Marshall	5,914	5,161	753	81	176	5	3	8
Mason	7,077	6,079	998	80	195	3	2	5
Massac	7,113	6,362	751	66	185	1	2	3
Menard	5,654	5,140	514	66	112	2	0	2
Mercer	7,358	6,734	624	76	219	0	3	3
Monroe	13,392	12,589	803	44	319	1	0	1
Montgomery	13,080	11,652	1,428	75	385	1	0	1
Morgan	15,515	14,104	1,411	76	372	5	3	8
Moultrie	6,260	5,758	502	75	163	1	2	3
Ogle	22,561	20,856	1,705	68	454	2	4	6
Peoria	83,034	75,793	7,241	80	1,900	66	39	105
Perry	9,426	8,335	1,091	72	268	2	0	2
Piatt	7,269	6,782	487	72	150	0	1	1
Pike	7,951	6,639	1,312	80	225	1	2	3
Pope	2,491	1,829	662	60	22	0	0	0
Pulaski	3,155	2,642	513	71	73	3	1	4
Putnam	3,074	2,509	565	69	44	0	0	0
Randolph	13,707	12,314	1,393	69	319	1	2	3
Richland	7,513	6,726	787	71	197	0	1	1
Rock island	65,756	61,303	4,453	83	2,591	28	31	59
St. Clair w/o ESHD	92,010	84,709	7,292	58	2,199	4	5	9

Illinois/County/ City/ Delegate Agencies	Housing Units[a]				Children Tested for the First Time in 2010[c]	Children With Elevated Blood Lead Levels (EBLLs) of 10 Micrograms per Deciliter[c]		
	Total	Occupied	Vacant	Pre1978 Estimates (%)[b]		Capillary	Venous	Total EBLLS
ESHD[1]	24,239	20,336	3,912	85	2,153	24	12	36
Saline	11,697	10,379	1,318	71	414	0	1	1
Sangamon	89,901	82,986	6,915	63	2,490	46	7	53
Schuyler	3,459	3,040	419	74	94	1	1	2
Scott	2,459	2,214	245	71	76	0	0	0
Shelby	10,396	9,216	1,180	77	209	0	2	2
Stark	2,674	2,425	249	87	93	2	0	2
Stephenson	22,081	19,845	2,236	76	880	4	24	28
Tazewell	57,516	54,146	3,370	75	1,262	12	5	17
Union	7,924	7,167	757	68	280	2	5	7
Vermilion	36,318	32,655	3,663	82	1,164	1	12	13
Wabash	5,585	5,012	573	73	189	1	3	4
Warren	7,682	6,918	764	85	265	0	5	5
Washington	6,534	5,926	608	72	153	1	1	2
Wayne	7,975	7,102	873	69	209	0	2	2
White	7,181	6,313	868	75	213	0	1	1
Whiteside	25,770	23,740	2,030	80	841	0	6	6
Will	237,501	225,256	12,245	43	5,830	5	18	23
Williamson	30,359	27,421	2,938	62	404	1	0	1
Winnebago	125,965	115,501	10,464	68	4,054	15	48	63
Woodford	15,145	14,276	869	68	275	2	1	3
Egyptian[2]	21,624	19,095	2,529	73	717	1	3	4
Evanston	33,181	30,047	3,134	87	1,211	2	3	5
Non DA[3]	501,888	466,350	35,538	133	9,481	26	46	72
Oak Park	24,519	22,670	1,849	92	730	4	6	10
Skokie	25,066	23,531	1,535	89	683	0	1	1
Southern Seven[4]	32,775	27,828	4,947	67	772	6	15	21
Stickney	3,000	2,826	174	81	83	0	0	0
Unidentified					4,545	1	7	8

Source: [a]U.S. Census Bureau, 2010 Census Redistricting Data (Public Law 94-171) Summary File Tables P1 and H1; [b]Pre-1978 housing unit was estimated from U.S. Census Bureau, 2005-2009 American Community Survey Five-Year Estimate B25034. YEAR STRUCTURE BUILT - Universe: HOUSING UNITS; [c]Illinois Lead Program Surveillance Data 2010; [d] likely underestimated; [1,2,3,4] See below Table 4.

Table 5 shows 1,762 reports of children with lead poisoning identified for the first time in 2010. Of those reports, 1,237 were venous confirmed.

Figure 9: Confirmed New Cases of Lead Poisoned Children Identified in 2010

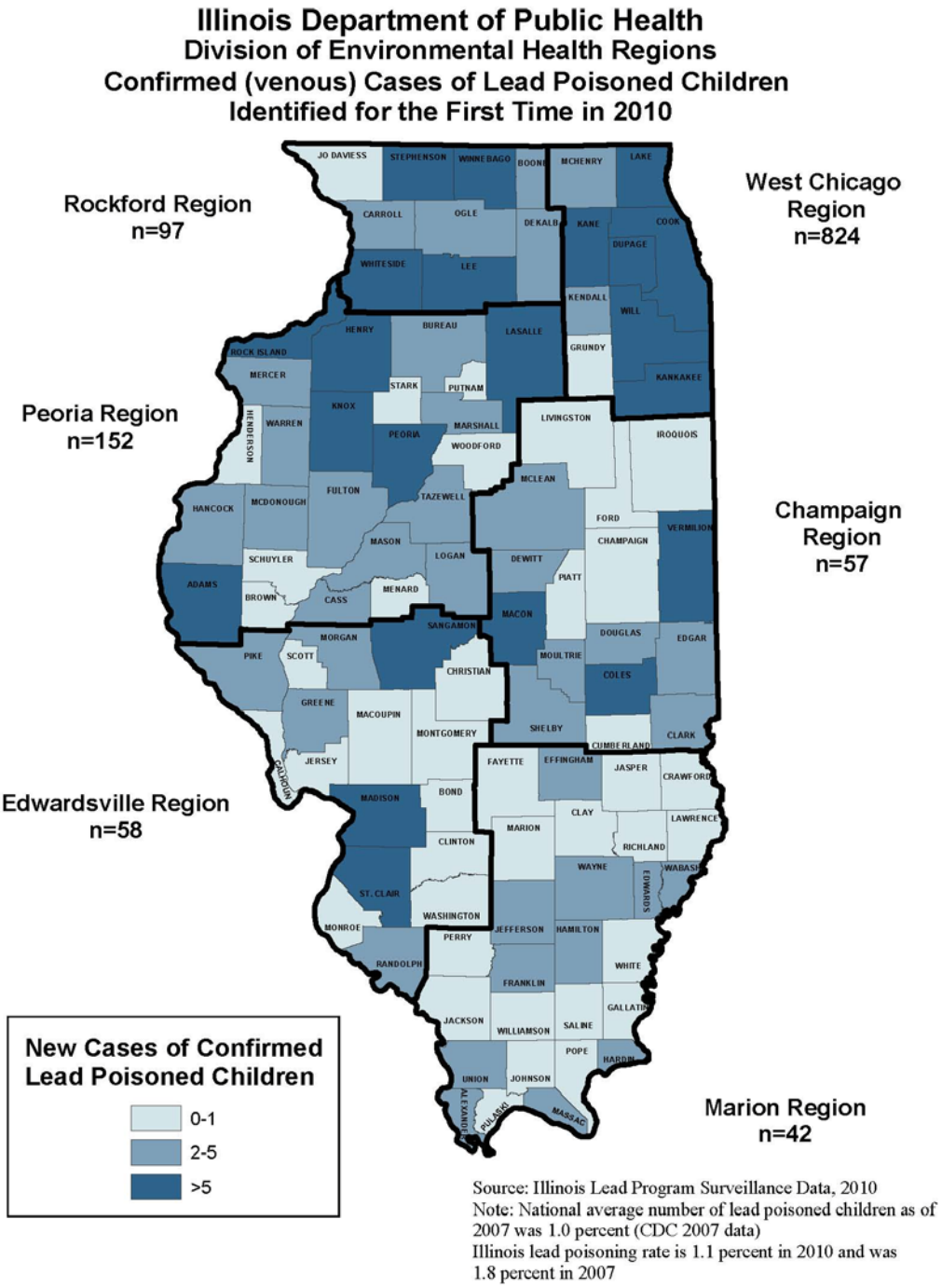
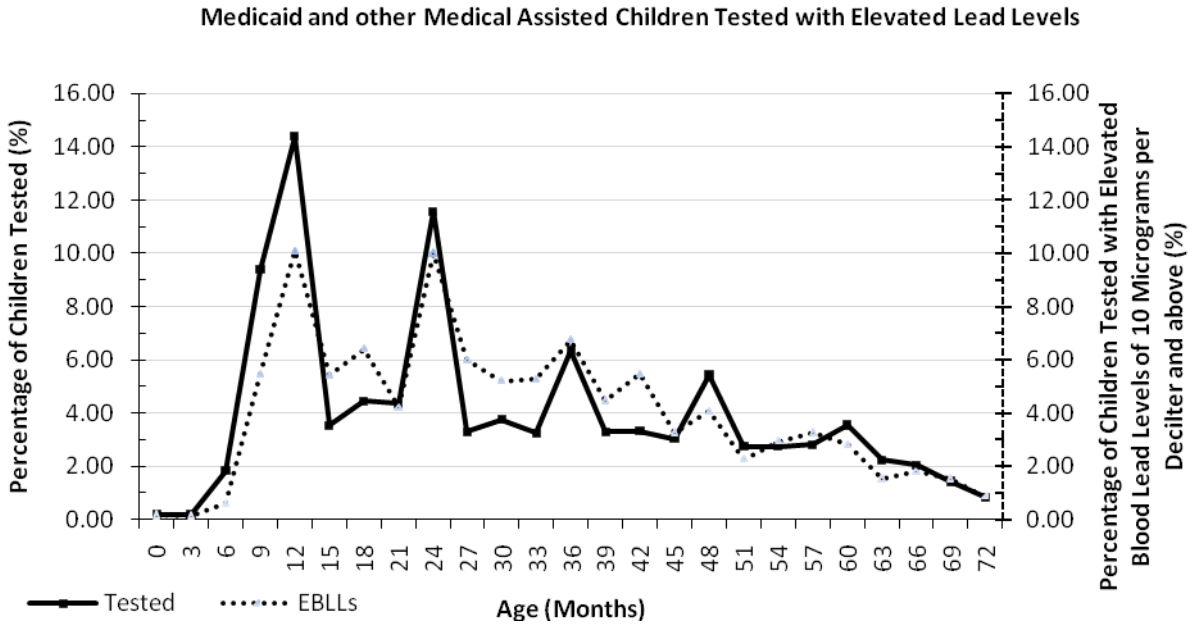


Figure 9 shows the known distribution of 1,230 venous confirmed cases of lead poisoned children identified in 2010 for the six environmental regional offices of the Illinois Department of Public Health. Venous confirmed case refers to a child with venous blood specimen ≥10 µg/dL.

All children enrolled in the Illinois Department of Healthcare and Family Services (HFS) medical assistance programs are required to receive a blood lead test at 10 months and 24 months of age. Children 24 months, through 7 years of age, should receive a blood lead test, if one has not already been done. Medical assistance program hereby refers to the authorized Social Security Acts of Title XIX (Medicaid) and the Children's Health Insurance Program (CHIP) that also covers All KIDS Health Insurance Act as administered by HFS.

http://www.hfs.illinois.gov/mch/screening.html

Figure 10: Children Eligible for Medicaid and Other Medical Assistance Tested for Blood Lead Poisoning and Proportion With Elevated Lead Levels (EBL) by Age in Months in 2010



Source: Illinois Department of Public Health – Illinois Lead Program Surveillance Data, 2010.

The more children tested the more chances of identifying new cases of lead poisoning. Figure 10 shows a correlation between testing and lead poisoning rates.

Table 6 shows the blood test results of Medicaid children and others who benefit from the medical assistance program of HFS compared to children ineligible to participate. Non eligible children either have private pay insurance or are uninsured. By law, all blood lead tests are must be reported to the Illinois Department of Public Health by health care providers and laboratories that perform blood lead

tests. Most of the counties with low testing rates of Medicaid children are nondelegate agencies or counties with no agreement with the Department to do lead case management. The limitations are that incomplete and inaccurate information provided at time of testing by the patient, parent, or health care provider may lead to under-reporting of results. Targeted screening and small numbers of children tested can inflate percentages of children with elevated lead levels. For instance, in 2010, a total of 3,321 children were tested for blood lead poisoning in Sangamon County and only 2.8 percent were reported as children eligible for medical assistance in the database. Of those 2.8 percent, 93.5 percent (87 children) exhibited elevated blood lead levels of 10 micrograms per deciliter. Sangamon County Health Center uses the in-office desk-top lead analyzer for blood lead screening enabling them to screen more children in the office.

NOTE: The data represented in Table 6 is a reflection of the required data fields (Medicaid is a required field) that were filled in and sent to the Department of Public Health.

Table 6: The 2010 Blood Lead Test Results of Children Eligible for Medical Assistance Compared to Ineligible Children

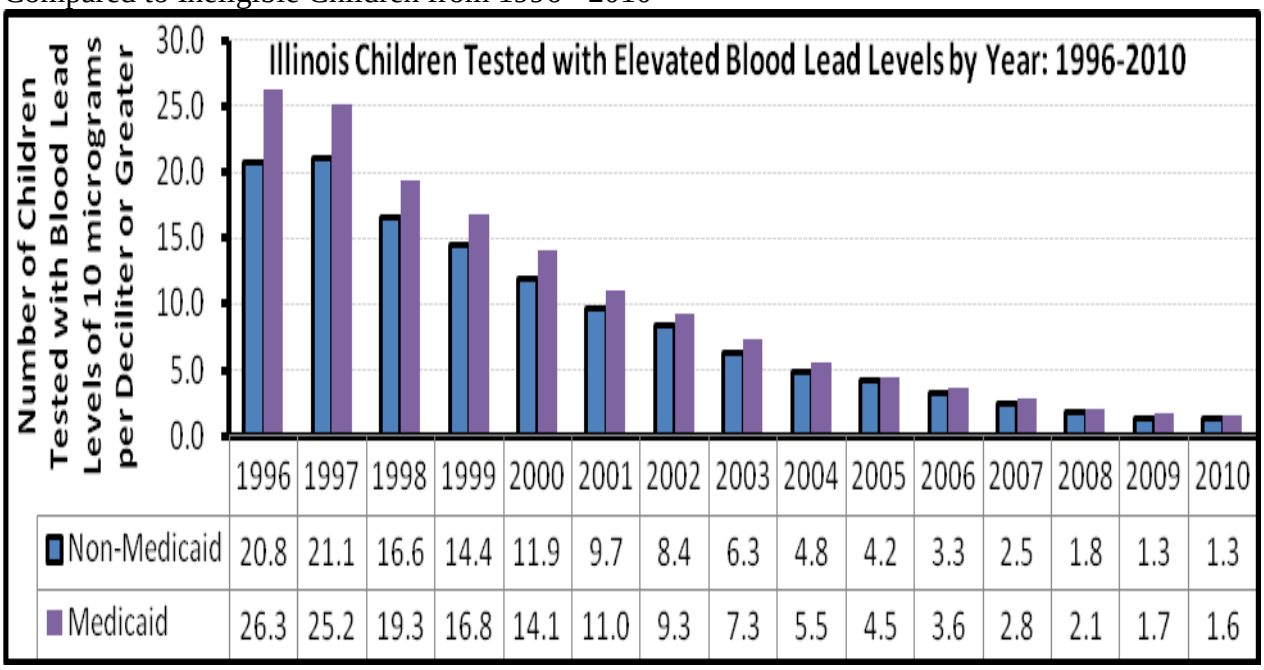
County	Total Number of Children Tested in 2010	Children Tested (%)		Children with Elevated Lead Levels (%)	
		Eligible for Medical Assistance Program	Ineligible for Medical Assistance	Eligible for Medical Assistance Program	Ineligible for Medical Assistance
Illinois	300,290			1.6	1.3
Adams	682	25.4	74.6	4.3	2.9
Alexander	154	54.8	45.2	3.5	2.8
Bond	310	79.5	20.5	0.4	0.0
Boone	941	30.4	69.6	1.1	0.2
Brown	93	44.2	55.8	4.8	0.0
Bureau	440	34.8	65.2	1.9	1.7
Calhoun	56	53.6	46.4	0.0	0.0
Carroll	292	22.1	77.9	13.4	0.8
Cass	498	78.6	21.4	0.5	1.9
Champaign	2,912	43.6	56.4	0.3	0.1
Christian	595	47.3	52.7	3.9	0.0
Clark	238	81.1	18.9	0.5	0.0
Clay	284	95.8	4.2	0.7	0.0
Clinton	402	60.5	39.5	0.0	1.9
Coles	835	55.8	44.2	3.0	0.5
Cook	158,720	15.1	84.9	2.0	0.8
Crawford	241	83.1	16.9	1.5	2.4
Cumberland	164	62.8	37.2	0.0	1.6
De Kalb	1248	29.1	70.9	0.8	1.0
De Witt	255	76.7	23.3	3.0	3.3
Douglas	338	54.7	45.3	1.1	4.5
Du Page	8,936	8.4	91.6	1.6	0.3
Edgar	231	57.7	42.3	2.9	2.0
Edwards	119	8.9	91.1	18.2	3.6
Effingham	733	89.6	10.4	1.1	1.3
Fayette	364	95.4	4.6	0.8	0.0
Ford	152	54.4	45.6	4.7	5.6
Franklin	420	42.2	57.8	2.2	0.8
Fulton	479	64.2	35.8	2.6	2.3
Gallatin	139	63.1	36.9	1.1	1.9
Greene	349	84.0	16.0	2.4	0.0
Grundy	517	14.8	85.2	0.0	0.9
Hamilton	142	70.4	29.6	5.0	2.4
Hancock	364	64.1	35.9	2.5	3.0
Hardin	33	42.9	57.1	13.3	0.0
Henderson	127	48.1	51.9	3.2	0.0
Henry	1,017	57.7	42.3	2.5	1.1
Iroquois	411	60.0	40.0	2.0	1.2
Jackson	1,049	76.4	23.6	0.2	0.4
Jasper	111	81.3	18.8	2.2	0.0

County	Total Number of Children Tested in 2010	Children Tested (%)		Children with Elevated Lead Levels (%)	
		Eligible for Medical Assistance Program	Ineligible for Medical Assistance	Eligible for Medical Assistance Program	Ineligible for Medical Assistance
Jefferson	542	65.4	34.6	0.0	3.6
Jersey	425	49.9	50.1	1.9	1.4
Jo Daviess	134	4.3	95.7	0.0	2.2
Johnson	80	37.8	62.2	0.0	0.0
Kane	13,635	54.8	45.2	1.2	0.7
Kankakee	2,475	52.4	47.6	1.8	1.4
Kendall	983	13.6	86.4	3.0	0.6
Knox	1,038	68.0	32.0	3.7	1.2
Lake	11,480	17.5	82.5	0.5	0.3
La Salle	1,215	21.6	78.4	4.5	3.5
Lawrence	349	79.5	20.5	2.2	0.0
Lee	443	4.9	95.1	22.7	1.7
Livingston	797	74.5	25.5	1.7	1.0
Logan	387	69.9	30.1	2.2	5.0
McDonough	393	49.4	50.6	3.6	1.5
McHenry	2,737	29.8	70.2	0.4	0.6
McLean	2,669	53.0	47.0	0.4	1.0
Macon	3,379	15.5	84.5	7.2	1.6
Macoupin	707	62.5	37.5	0.5	1.1
Madison	4,188	28.6	71.4	2.2	1.3
Marion	789	86.8	13.2	0.4	0.9
Marshall	235	59.5	40.5	8.2	8.0
Mason	291	68.4	31.6	2.5	4.3
Massac	222	32.9	67.1	1.3	0.6
Menard	154	40.6	59.4	4.8	1.1
Mercer	322	62.1	37.9	2.5	0.0
Monroe	438	33.3	66.7	2.0	0.3
Montgomery	533	71.0	29.0	1.3	0.0
Morgan	650	76.6	23.4	2.2	0.0
Moultrie	190	58.9	41.1	1.8	1.3
Ogle	593	12.1	87.9	2.8	1.1
Peoria	2,789	52.7	47.3	10.1	3.2
Perry	412	60.7	39.3	0.4	0.0
Piatt	209	52.1	47.9	0.9	1.0
Pike	323	81.8	18.2	2.2	0.0
Pope	25	36.0	64.0	0.0	0.0
Pulaski	96	55.8	44.2	1.9	2.4
Putnam	54	3.7	96.3	0.0	0.0
Randolph	466	74.0	26.0	1.7	0.0
Richland	257	89.6	10.4	0.4	0.0
Rock Island	4,428	63.2	36.8	2.6	1.8
St. Clair	7,980	58.4	41.6	1.6	0.5
Saline	679	59.4	40.6	1.0	0.4
Sangamon	3,321	2.8	97.2	93.5	0.4

County	Total Number of Children Tested in 2010	Children Tested (%)		Children with Elevated Lead Levels (%)	
		Eligible for Medical Assistance Program	Ineligible for Medical Assistance	Eligible for Medical Assistance Program	Ineligible for Medical Assistance
Schuyler	128	64.6	35.4	1.2	4.3
Scott	110	70.5	29.5	0.0	0.0
Shelby	301	80.3	19.7	1.2	0.0
Stark	124	45.6	54.4	0.0	2.9
Stephenson	1,358	26.3	73.7	14.8	1.3
Tazewell	1,711	35.6	64.4	1.9	2.0
Union	400	36.3	63.7	3.4	4.7
Vermilion	1,368	35.9	64.1	1.8	0.9
Wabash	260	1.5	98.5	100.0	3.0
Warren	377	55.7	44.3	2.9	0.0
Washington	207	35.5	64.5	0.0	2.2
Wayne	349	80.9	19.1	0.7	0.0
White	338	74.8	25.2	1.2	0.0
Whiteside	1,331	63.3	36.7	1.3	0.6
Will	8,094	14.5	85.5	1.0	0.3
Williamson	507	45.3	54.7	1.7	1.1
Winnebago	6,478	16.2	83.8	2.6	1.2
Woodford	363	58.7	41.3	0.9	0.7

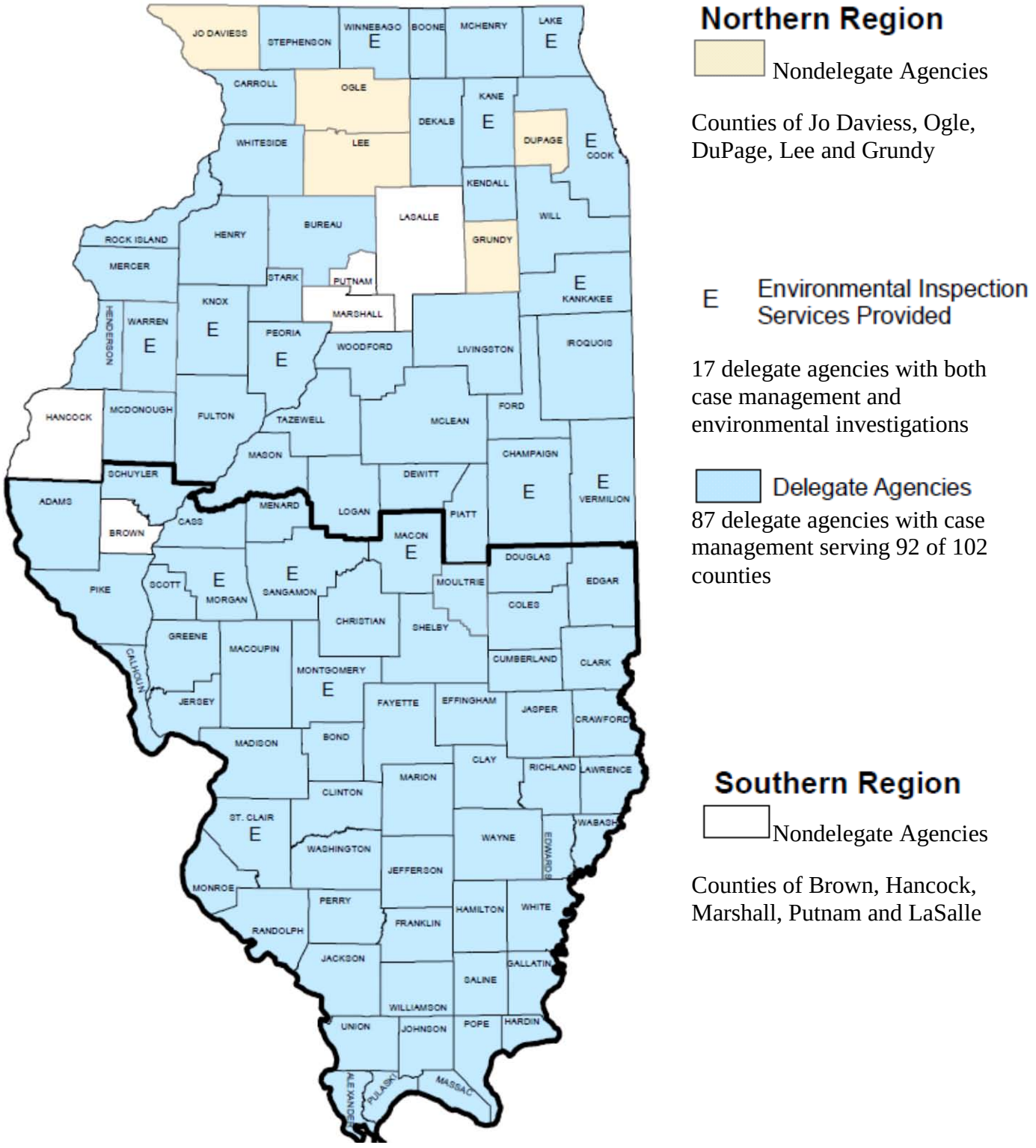
Source: Illinois Department of Public Health – Illinois Lead Program Surveillance Data 2010

Figure 11: Elevated Lead Levels of Children Eligible for Medicaid and Other Medical Assistance Compared to Ineligible Children from 1996 - 2010



Data Source: Illinois Department of Public Health-Illinois Lead Program Surveillance Database: 1996-2010 and the Illinois Department of Healthcare and Family Services Enterprise Data Warehouse

Figure 12: Illinois Lead Program Delegate and Nondelegate Agencies



Source: Illinois Department of Public Health – Illinois Lead Program 2010

Case Management of Lead Poisoned Children

The Illinois Department of Public Health had grant agreements during 2010 with 87 delegate agencies to provide case management care for lead poisoned children in 92 of 102 counties. Medical case management activities include education**,** nurse home visits and referrals for related services such as medical**,** nutritional supplementation and developmental testing. In collaboration with the Department, these delegate agencies provide community and technical education to health care providers, families of lead poisoned children and the general public. Each of the delegate agencies used STELLAR (Systematic Tracking of Elevated Lead Levels and Remediation) data processing system to maintain records for case management of children in their jurisdiction (Figure 9).

Local health departments without a delegate agency agreement are designated as nondelegate agencies. There are currently 10 nondelegate agencies where case management is provided by the Illinois Lead Program regional nurse consultants.

The Illinois Department of Public Health is partitioned into six environmental regions with an office for each region. The nurse consultants team up with the Illinois Lead Program education coordinator to conduct one-day lead poisoning prevention training sessions at each of the all six regional offices of the Illinois Department of Public Health.

Table 7 shows that 1,237 new cases of lead poisoned children were identified in 2010. There were a total of 4,525 open cases in Illinois during this period. In collaboration with the health care professionals conducting medical case management, the delegate agencies and the Illinois Lead Program regional nurse consultants performed of 2,635 home visits to provide educational and referral services to families with lead poisoned children.

Table 7: Case Management and Environmental Investigation Activities of Lead Poisoned Children

Action		Central Office	Champaign	Edwardsville	Marion	Peoria	Rockford	West Chicago	**TOTAL (N)**
Total Number of Children With Venous and Capillary Blood Lead Levels of 10 Micrograms per Deciliter and Greater **(Prevalence)**		0	182	285	114	541	209	2,013	3,356
Total Number of Confirmed Venous Lead Poisoned Cases Identified for the First time in 2010 (**Incidence**)		0	57	58	42	152	97	824	1,237
Case Management	Open Cases		225	219	110	523	836	2,611	4,524
	Nurse Home Visits		25	49	27	137	54	2,343	2,635
Total Environmental Investigations and Follow-up Conducted	Delegate Agencies[1]		31	18	0	55	39	1019	1162
	Primary Dwelling		38	43	46	50	53	59	289
	Secondary Dwellings		4	1	1	0	0	18	24
	Total Follow-up Investigations		113	210	108	198	62	15	706
	Complaints/On Site Contractor Investigations	144	0	0	118	0	22	2	286
Total Mitigation/Abatement Complete – Certificate of Compliance Issued			34	38	32	40	50	21	215
Total Cases Completed/Closed Reasons include: 1. No lead hazard identified 2. No child with elevated lead level 3. Other dwelling investigated 4. Dwelling or occupant not located 5. Dwelling demolished		0	6	8	7	5	4	34	64
Total Cases for Enforcement			0	3	0	2	0	5	10
Public Presentations/ Meetings/Court		43	0	0	3	17	11	8	82
Local Health Department Program Review/Audit/Field Training		0	2	1	0	1	9	1	14

Source: Illinois Department of Public Health – Illinois Lead Program Surveillance Database 2010

[1]The 17 delegate agencies that provide environmental inspection services in addition to case management services include Champaign-Urbana, Chicago, Cook County, East Side Health District, Evanston, Kane County, Kankakee County, Knox County, Lake County, Macon County, Montgomery County, Morgan County, Oak Park, Peoria County, Vermilion County, Warren County and Winnebago County.

Environmental Follow up of Lead Poisoned Children

Following the Lead Poisoning Prevention Act, inspections of dwellings and common place area occupied by a person screening positive for lead is performed by a licensed representative of the Department, or its delegate agency for the purpose of determining the source of lead poisoning.

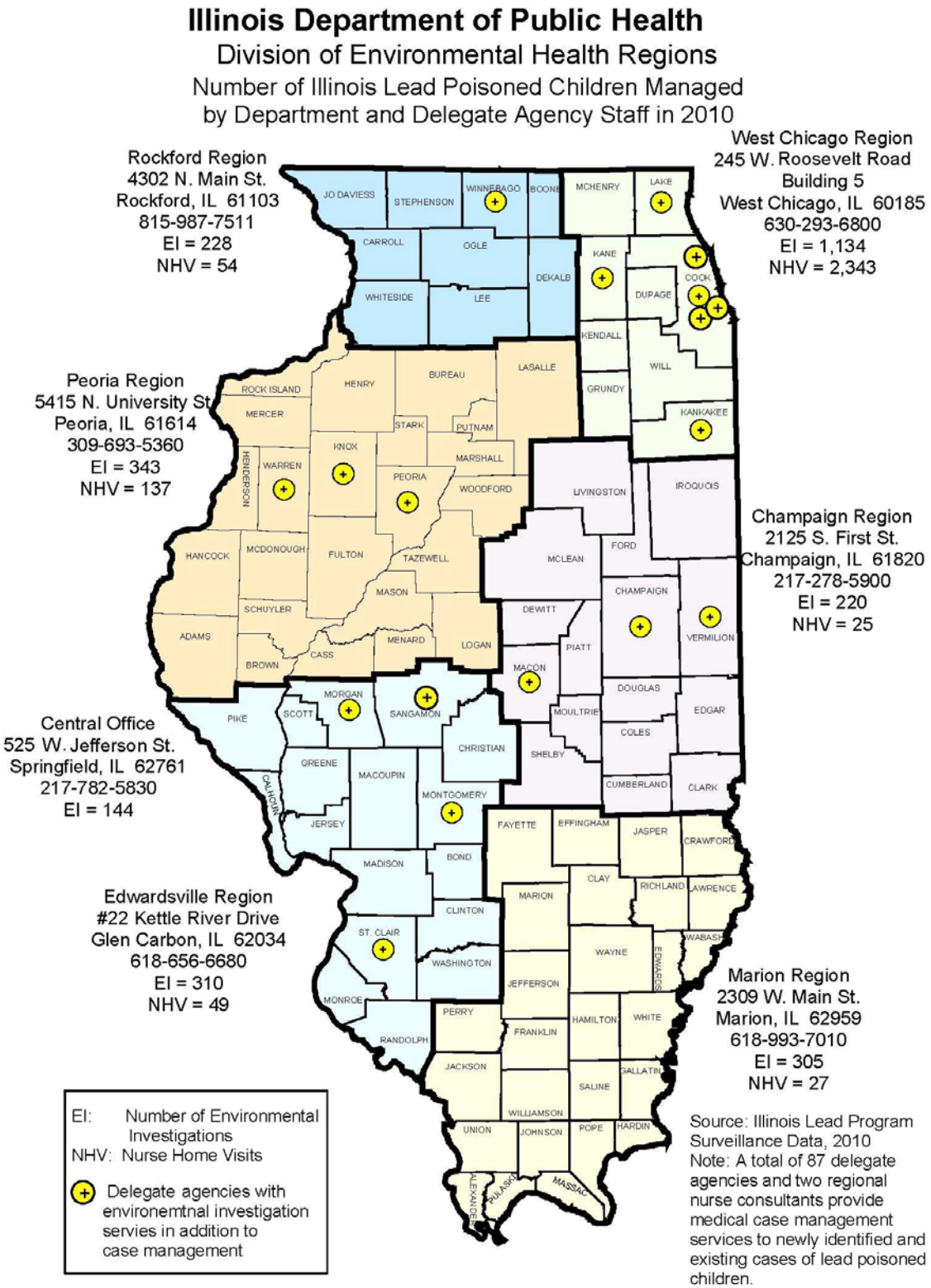
The Illinois Department of Public Health has grant agreements with 17 delegate agencies to provide environmental inspection services in addition to case management services. Environmental services include home inspections and risk assessment. Remediation is required by law when a lead hazard has been identified in a home where a lead poisoned child lives or regularly visits. Local health departments not covered by a delegate agency agreement are served by the Illinois Lead Program regional lead risk assessors housed in the regional offices of the Illinois Department of Public Health.

The six environmental regional offices of the Illinois Department of Public Health each have lead risk assessors who conduct home inspections for lead poisoned children who are younger than 3 years of age with venous confirmatory lead levels of 10 micrograms per deciliter or greater in accordance with the Illinois Lead Poisoning Prevention Act amended in 2006.

A total of 2,756 lead investigations and follow-ups were performed at dwellings and common areas of children with confirmatory blood lead tests of 10 micrograms per deciliter or greater. Environmental remediation is a high priority because medical treatment is ineffective when the child returns to a harmful environment. Homes of children who exhibit elevated blood lead levels are inspected and a report of existing lead hazards is provided. Safe work and cleanup procedures are provided as all identified hazards are required to be controlled or eliminated.

Table 7 shows the environmental case management activities that were carried out at the six Environmental Health Regions based on the number of lead poisoned children identified. In 2010, a total of 1,237 children were identified for the first time with confirmed venous elevated blood lead levels of 10 micrograms per deciliter in Illinois. Some environmental activities included follow-ups, complaints and on-site contractor investigation as shown in Figure 13.

Figure 13: Lead Poisoned Children Managed by Department and Delegate Agency by Region in 2010



Illinois Lead Poisoning Prevention Activities

Educational Activities to Prevent Lead Poisoning in Illinois

The Illinois Lead Program conducted one-day lead poisoning prevention training sessions at each of the six regional offices of the Illinois Department of Public Health. A total of 53 health care professionals were trained on lead poisoning in 2010 and Continuing Education Credits (CEUs) were accorded to qualifying participants. Topics covered in the training included:

- Case management and case follow-up
- Health effects and treatment of lead poisoning
- Specimen collection, submission and analysis at the Department's Division of Laboratories
- STELLAR – Systematic Tracking of Elevated Lead Levels and Remediation
- Environmental case follow-up and compliance investigations for lead poisoned children
- Healthy Homes Initiative

The role of public health nurses is integral in the prevention of childhood lead poisoning and education is important to primary prevention. In addition to the six regional public health offices, the Illinois Lead Program nurses and the education coordinator provided lead poisoning prevention trainings and case management presentations at:

- County Health Departments – Vermilion, Bureau, Jefferson and Shelby
- Medical Centers - Methodist Medical Center of Illinois; Southern Illinois University Physician's Group of Springfield, Wesleyan University School of Nursing in Bloomington; St. John's Hospital in Springfield; and St Francis Medical Center in Peoria.
- Webinars/Meetings/Panels - Pediatrics Conference at Advocate Bromenn Hospital in Bloomington; Child Care Nurse Consultant meetings; Illinois Network of Child Care Resource and Referral Agencies' meeting in Bloomington; Head Start Health Advisory Meeting in Peoria; Illinois Head Start Association Conference in Springfield; and the Seventh Annual Illinois Emergency Management Agency's (IEMA) Radon Program in Springfield.

More than 900 participants at the trainings and presentations were pediatric physicians, medical students, medical residents, Parish nurses, childcare nurse consultants, nurses, community health and nursing students. Approximately 50 mothers with children took advantage of the free lead screening being offered by Bromenn Hospital in Bloomington.

Annual Lead Poisoning Prevention Conferences: Every year since 2003, the Illinois Department of Public Health and the state of Illinois has released a proclamation and organized an annual conference to commemorate the National Lead Poisoning Prevention Week. In 2010, the conference was attended by approximately 175 health care professionals with the focus being on lead poisoning prevention for pregnant women and children through preschool age.

The Comprehensive Lead Education, Reduction and Window Replacement Program (**CLEAR-Win**) is a prevention-focused program aimed at replacing mostly non-specialty double-hung windows in approximately 500 low-income homes thereby reducing potential lead hazards and providing on-the-job training for community members. In 2010, two high-risk areas, Englewood and West Englewood under the management of the Center for Neighborhood Technology (CNT) Energy in Chicago and Peoria under the management of the Peoria City/County Health Department, were selected to serve as the pilot communities for the window replacement project. The two communities were selected through a scoring method based on population, prevalence of lead-poisoned children, area median income and ability to provide program administration at the local level. Evaluation of this program will focus on health benefits, hazards alleviation and home value after window improvement and energy savings.

Health Fairs: The Illinois Lead Program exhibited lead poisoning prevention educational materials at the annual School Nurse Days in Springfield. The event was attended by approximately 300 school nurses and health care providers. The program also participated in the Nigerian Community Organization of Springfield's health fair held in Springfield, to offer educational materials and consultations on lead poisoning prevention. The program also participated at the annual health fair at the James R. Thompson Center in Chicago.

Collaboration and Partnership: As the Illinois Lead Program embraces the healthy homes initiatives with a holistic approach to alleviating home related health hazards, partnerships with existing housing related programs are crucial. Partnerships were initiated in 2010 with the Illinois Asthma Program, the Office of the Illinois State Fire Marshal and the Emergency Management Agency's (IEMA) Radon Program in Springfield as discussed in the Healthy Homes section of this report. Program staff attended an interagency council meeting in Peoria to encourage collaboration of efforts during home visits to increase awareness of lead poisoning prevention and Healthy Homes initiatives.

U.S. EPA Renovation, Repair and Paint Rule (RRP Rule): The major source of lead poisoning is lead-based paint common in pre-1978 housing units. According to the U.S. EPA, lead-based paint

contains more than 0.5 percent lead by weight. There are more than 3.5 million pre-1978 housing units in Illinois and about 54 percent or 2 million are estimated to contain lead-based paint. The RRP Rule, which became effective on April 22, 2010, requires builders, carpenters, painters, plumbers, electricians and others who work on homes built before 1978 to be certified renovators from certified firms if the work they are conducting disturbs coated surfaces. Failure to do so would result in a fine of up to $37,500 a day. The rule is intended to protect children and pregnant women from exposure to lead dust created during renovation, repair and painting of all homes, apartments and child occupied facilities.

To become RRP certified, a contractor must complete, every five years, an eight-hour training course of which two hours involves hands-on training offered by an EPA-accredited training provider. Once the individual completes the training, they must apply to EPA to become a certified renovator and the company must apply to with the EPA to become a certified firm. The requirements apply to renovation, repair or painting activities where more than six square feet of paint is disturbed in the interior or where 20 square feet of paint is disturbed on the exterior of a pre-1978 building.

During the months of February, March and April 2010, the Illinois Lead Program held 16 meetings around the state to inform the public about the health risks of lead poisoning and the new U.S. EPA Renovation, Repair and Painting lead law. More than 1,100 people attended the federally funded meetings, which were held throughout the state to inform associations, contractors, realtors and the general public of the Renovator Certification required by the U.S. EPA for work performed in buildings and homes built prior to 1978.

The Illinois Lead Program is evaluating the resources that would be necessary to apply with the EPA in order to become an EPA-authorized state for RRP. The program licenses approximately 2,500 individuals and companies involved in lead paint related activities. The RRP rule requires licensure of more than 50,000 individuals and firms that are involved in the renovation of regulated pre-1978 structures. Additional legislation may be required to meet the EPA authorization requirements.

For more information on the RRP rule, visit www.epa.gov/lead or phone 800-424-LEAD (5323)

Lead Poisoning Prevention Resources on the Illinois Department of Public Health Website

Illinois Lead Poisoning Prevention Act
www.ilga.gov/legislation/ilcs/ilcs2.asp?ChapterID=35
410 ILCS 45/ Lead Poisoning Prevention Act.

Administrative Code
www.ilga.gov/commission/jcar/admincode/077/07700845sections.html
www.ilga.gov/commission/jcar/admincode/077/07700665sections.html

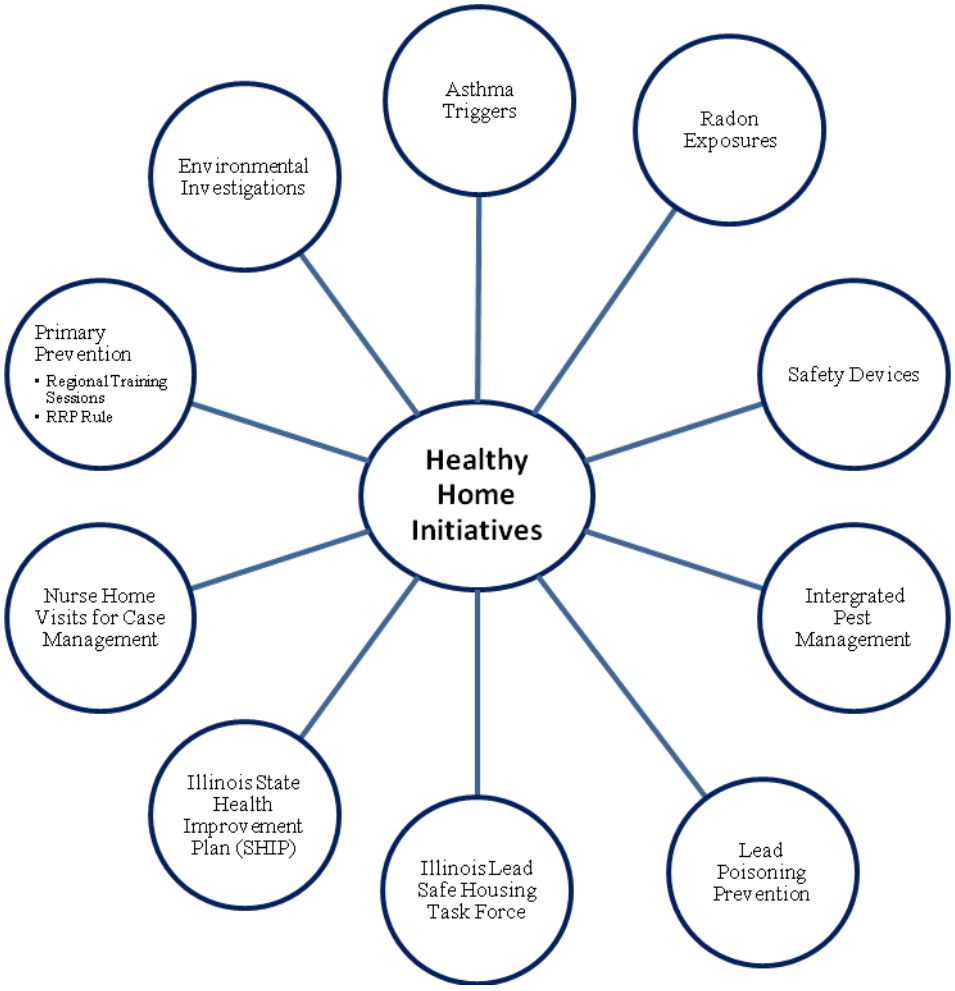
Lead Risk Assessment Questionnaire
www.idph.state.il.us/a-zlist.htm#L
Select L for Lead
Select Lead Programs Forms
Select Childhood Lead Risk Assessment Questionnaire and Guidelines - En Español - En français

This document also includes **Guidelines for Lead Risk Assessment Questionnaire** as the second page and the high-risk ZIP code list as the third page.

Pediatric High-Risk ZIP Code Areas
www.idph.state.il.us/HealthWellness/LeadHighRiskZIPcodes04.pdf

Child Health Certificate of Examination
www.ilga.gov/commission/jcar/admincode/077/07700665sections.html (law)
www.idph.state.il.us/pdf/cert_child_health05.pdf (English)
www.idph.state.il.us/pdf/officialpxS05.pdf (Spanish)

Healthy Homes Initiative - Environmental Areas of Concern in Illinois



In the United States today, the leading preventable causes of death, disease and disability are asthma; lead poisoning; deaths in house fires; falls on stairs and from windows; burns and scald injuries; and drowning in bathtubs and pools.

Surgeon General 2009, Call to Action to Promote Healthy Housing.

http://www.surgeongeneral.gov/topics/healthyhomes/calltoactiontopromotehealthyhomes.pdf

Mission: Due to the heavy burden in the state, the mission of the Illinois Lead Program is to eliminate the incidence of childhood lead poisoning through prevention and control of lead hazards. Additionally, the program, through its partnership approach to preventing diseases and injuries, is broadening its scope to address health issues resulting from home related hazards.

The home is any place where we dwell, that includes but is not limited to where we work, study, play and socialize. A home may include single-family houses, townhouses, apartment buildings, schools and offices. The home can be owner or rental occupied.

Educational approaches to addressing housing related health hazards are included in a recent publication of the Department titled "*HEALTHY HOMES: Keeping Your Home Healthy and Safe*" and can be found at the website location below.
http://www.idph.state.il.us/HealthWellness/HealthyHomes.pdf

What is the Healthy Home Initiative?

The Healthy Homes initiative as defined by the CDC is a coordinated, comprehensive and holistic approach to preventing diseases and injuries that result from housing related hazards and deficiencies. The initiative seeks to:

- Promote, develop and implement cross-disciplinary activities at the federal, state, tribal and community levels to address the problem of unhealthy and unsafe housing through surveillance, research and comprehensive prevention program.

- Facilitate the collection of local data and monitor progress toward reducing or eliminating housing deficiencies and hazards.

- Expand collaborations with the U.S. Department of Housing and Urban Development, national associations and organizations, academia, community-based organizations and others, including the American Public Health Association, National Environmental Health Association and the World Health Organization.

- Promote research to determine causal relations between substandard housing and adverse health effects.

- Develop guidelines to assess, reduce and eliminate health and safety risks.

- Identify and implement low-cost, reliable and practical methods to reduce health and safety risks in substandard housing.

  http://www.cdc.gov/nceh/lead/healthyhomes.htm

  http://www.parade.com/health/2011/10/home-not-so-safe-home.html

Goal: The goal of the initiative is to identify, eliminate or mitigate home related health problems. Structural and moisture problems are contributing factors in all the Healthy Home issues that the Illinois Lead Program is addressing.

Scope of Work: Gather and disseminate information concerning to home related health hazards. Promote the use of this information as the basis for addressing the Healthy Homes initiative in Illinois. Develop evaluation and follow-up strategies for alleviating home related health hazards.

Nurse Home Visits for Case Management: The Illinois Lead Program, its delegate agencies and local health departments provided follow-up medical case management services to 2,635 confirmed new and existing cases of lead poisoned children in 2010. Public health nurses conducted home visits to educate the affected families on ways to lower the blood lead level, including proper nutrition, hygiene and housekeeping. Home visits included a visual assessment of the residence and education on other hazards in the home that could result in negative health effects. The *Public Health Home Visit and Environmental Health and Lead Assessment form* used during case management for lead poisoned children now includes questions related to other housing related health hazards as shown in Appendix 1.

http://www.idph.state.il.us/envhealth/Lead_ScreeningGuidelinesForLHDs.pdf

Environmental Investigation: In 2010, a total of 2,756 inspections were performed at dwellings and common play areas of children with lead levels of 10 micrograms per deciliter or higher in order to determine the sources of lead poisoning. Environmental services included home inspections and risk assessment.

Primary prevention: Primary prevention is the most reliable low-cost method to improve health and safety in any housing unit.

- **Regional Training Sessions**: During the calendar year 2010, the Illinois Lead Program at the Illinois Department of Public Health conducted lead training sessions at each of the Department's six environmental health regions. The sessions also addressed potential risk

factors and housing hazards in the homes as documented in a recent publication by the Department titled "*Healthy Homes: Keeping Your Home Healthy and Safe:*"

http://www.idph.state.il.us/HealthWellness/HealthyHomes.pdf

- **RRP Rule**: During the first quarter of 2010, the Illinois Lead Program held 16 meetings around the state to inform the public about the U.S. EPA Renovation, Repair and Painting Rule (RRP Rule). More than 1,100 participants attended the meetings. The rule is intended to protect children, from lead paint poisoning created during construction, painting and renovation activities. The U.S. EPA enforces the RRP rule and the role of the Illinois Lead Program is only educational at this time.

Illinois State Health Improvement Plan (SHIP): Under Public Act 93-0975, Illinois is required to produce a State Health Improvement Plan (SHIP) every four years. SHIP must include priorities and strategies for health status and public health system improvement in Illinois, with a focus on prevention. It also must address diversity. The plan is produced by a team of public, private and voluntary sector stakeholders appointed by the director of the Illinois Department of Public Health.
According to the Illinois SHIP 2010, two long term objectives related to priority health concerns in natural and built environments are:

- Significantly reduce the negative health impacts caused by pollution (air, land, water, point source, etc.).
  Reduce point source (factories, drycleaners, lead-based painted houses, mercury, etc.) pollution

- Reduce negative impacts caused by indoor pollution (schools, homes, etc.) and promote the "healthy homes" concept.

  1. Eliminate elevated blood toxin levels in children.
  2. Decrease the number of Illinois homes found to have lead-based paint or related hazard.
  3. Increase the awareness of environmentally friendly household supplies, such as cleaners, paints and building materials, to improve overall health and indoor air quality.

  http://www.idph.state.il.us/ship/09-10_Plan/SHIP_Final_2010.pdf

Illinois Lead Safe Housing Task Force: The Illinois Lead Safe Housing Task Force was created in 1997 to develop and implement strategies to eliminate childhood lead poisoning. In accordance with the Lead Safe Housing Advisory Council Act, a statewide advisory council was established to provide

recommendations to the governor and General Assembly regarding the establishment of a primary prevention program. The task force addresses the concept of Healthy Homes as:

- Wellness promotion
- Free of environmental pollutants
- Good indoor quality

The task force also has discussed efforts needed to support the Healthy Homes initiative through:

- Coordinated services/government-community partnerships
- Use and oversight for use of safe and quality materials and work in building, remodeling and repairing
- Proper maintenance of structure
- Reporting of bad housing and building code enforcement
- Access to information to make homes healthy/safe
- Health-based research applied to local issues/target measureable goals
- Healthy neighborhoods

http://www.leadsafeillinois.org/prevention/task.asp

The purpose of Healthy Homes Surveillance, according to the CDC, is to:

- Identify and track housing related risk factors and outcomes
- Generate research questions related to housing and health
- Generate intervention strategies related to housing and health
- Evaluate the long-term effectiveness of these strategies

According to CDC, childhood lead poisoning, injuries, respiratory diseases such as asthma and quality of life issues have been linked to the more than 6 million substandard housing units nationwide.

The Illinois Lead Program and Asthma Related Activities

The Illinois Department of Public Health's Asthma Program began in 1999 with funding from CDC and established the Illinois Asthma Partnership in 2000. The program and the partnership work collaboratively to reduce the burden of asthma in Illinois. Major program successes include the establishment of statewide network of asthma coalitions, an asthma strategic plan (in its third edition) and corresponding burden reports.

http://www.idph.state.il.us/about/chronic/asthma.htm

Normal Bronchiole	Asthmatic Bronchiole
	

Source: http://www.nlm.nih.gov/medlineplus/ency/imagepages/19346.htm

Asthma is a respiratory disorder characterized by recurring episodes of shortness of breath, wheezing, coughing and chest tightness. While the cause or causes of asthma remain unknown, numerous conditions such as inhalation of allergens or pollutant, infection, cold air, vigorous exercise and emotional stress have been identified as triggers of asthma symptoms and episodes. Asthma is the most common chronic disorder in childhood in the nation, currently affecting an estimated 291,000 children younger than 18 years of age in Illinois (American Lung Association, 2007). Although asthma cannot be cured, symptoms can be controlled by appropriate medical care. Additionally, combined efforts to control exposure to triggers such as secondhand smoke, is an important component of preventing asthma attacks and allowing people with asthma to lead full lives largely unrestricted by their asthma.

The Illinois Lead Program, in partnership with the Asthma Program, developed four basic questions to identify common asthma triggers in a home. The questions mirror those used for the Illinois County Level Behavioral Risk Factor Surveillance System (BRFSS) survey and the National Health Interview Survey (NHIS).

- *Has anyone in the home been diagnosed with asthma? Yes or No*
- *Does anyone in the home have asthma now? Yes or No*
- *Do you have pets? Yes or No*
- *Does anyone smoke in the house? Yes or No*

These questions are included in the revised manual titled "*Lead Screening and Case Follow-up Guidelines for Local Health Departments*" Appendix 1: *Public Health Home Visit Form for Environmental Health and Lead Assessment.*
http://www.idph.state.il.us/envhealth/Lead_ScreeningGuidelinesForLHDs.pdf

If anyone answers yes to any of the questions, the Illinois Lead Program staff provides a list of available resources to the family during home visits for environmental inspection or case management of a lead poisoned child. For instance, if someone smokes in the home, one resource provided is information on the Illinois Tobacco Quitline **866-QUIT-YES (866-784-8937)** staffed in Illinois by nurses, respiratory therapists and addictions specialists at the American Lung Association.

The Illinois Lead Program has revised its lead training sessions conducted at the Department's six environmental health regions to include a healthy home module that presents information on asthma triggers in the home environment. More information about this topic is found in a recent publication by the Department titled "*Healthy Homes: Keeping Your Home Healthy and Safe.*"

http://www.idph.state.il.us/HealthWellness/HealthyHomes.pdf

Asthma Data: The Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing state-based, random-digit-dialed telephone survey designed to monitor the prevalence of the major behavioral risks among adults associated with premature morbidity and mortality. Additional health information is collected from BRFSS participants that indicate they currently have asthma.

In 2009 an estimated 9.2 percent or 295,000 Illinois children younger than 18 years of age suffered from asthma.

- According to the 2010 Illinois BRFSS, an estimated 9.3 percent (903,270) adults had been told by a doctor, nurse or other health professional that they suffered from asthma at some point in their lifetime and still suffered from asthma. This number has risen from 9 percent in 2009.
- In 2009, 9.2 percent or 294,587 children in Illinois still suffered from asthma.

Table 8 is based on the number of Illinois residents ever told by a doctor, nurse or other health professional that they have asthma (2009 BRFSS).

Table 8: Home Asthma Triggers for Illinois Residents Ever Diagnosed With Asthma

Common Asthma Triggers in the Home	Children (%)	Adult (%)
Someone smoked inside home in the past week	10.2	15.6
Have a pet that spends time indoors	60.8	56.5
Pet allowed in bedroom	45.6	43.0
Have carpet or rug in bedroom	81.7	71.8
Cockroaches seen in home in past 30 days	0.0	5.6
Mice and rats seen in home in past 30 days	2.5	5.9
Strategies to Control Triggers		
Regular use of air cleaners or purifier	22.9	31.9
Regular use of dehumidifier	34.9	31.9
Used mattress cover	25.0	27.4
Used pillow covers	23.4	29.9

Source: 2009 Behavioral Risk Factor Surveillance System (BRFSS) Asthma Call Back, the most current available data at this time.

- In Illinois homes of people ever diagnosed with asthma, 10.2 percent of children and 15.6 percent of adults stated that in the past week someone had **smoked** inside their home; 22.9 percent of children lived in a home where air cleaner or purifier was regularly used compared to 31.9 percent of adults. A dehumidifier was regularly used in the homes of 34.9 percent of children and 31.9 percent of adults ever diagnosed with asthma (BRFSS, 2009).

- 60.8 percent of the Illinois children ever diagnosed with asthma reported that they had a pet that spends time indoors and 45.6 percent allowed the **pet** in the bedroom. This is similar to Illinois adults ever diagnosed with asthma, 56.5 percent allowed pets indoors and 43.0 percent allowed them in their bedroom.

- In the past 30 days, 5.6 percent of adults ever diagnosed with asthma have reported seeing **cockroaches** inside the home (no homes of children ever diagnosed with asthma reported seeing cockroaches). Additionally, in Illinois homes 5.9 percent of adults and 2.5 percent of children ever diagnosed with asthma report seeing **mice or rats** inside the home.

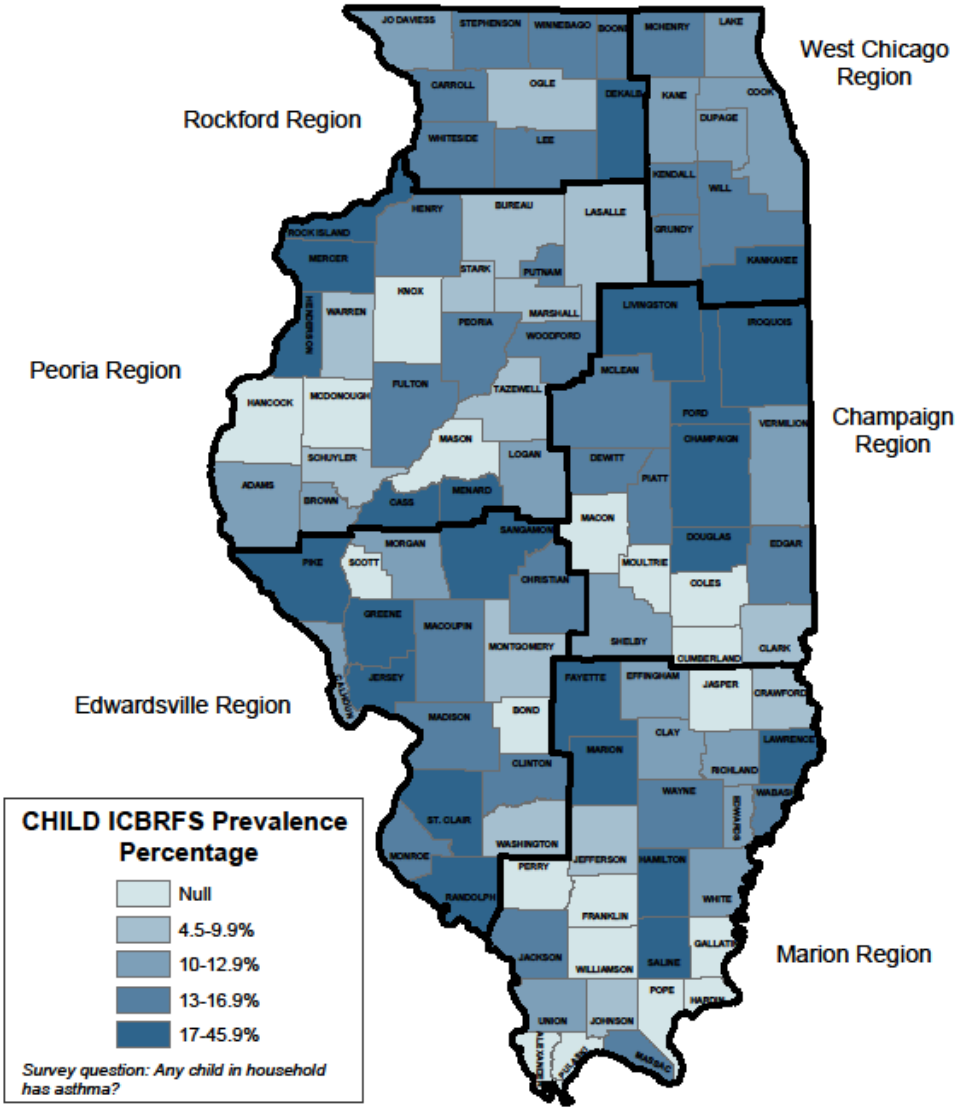
- Controlling **dust mites** is an important step in managing an asthma trigger. Of Illinois children ever diagnosed with asthma, 25.0 percent use a mattress cover, 23.4 percent use pillow covers and 81.7 percent have carpeting or rugs in their bedroom. Of Illinois adults ever diagnosed with asthma, 27.4 percent use a mattress cover, 29.9 percent use pillow covers and 71.8 percent have carpeting or rugs in their bedroom (BRFSS, 2009).

For more information on the burden of asthma in Illinois see

- Burden of Asthma in Illinois 2000-2007, Illinois Department of Public Health http://www.idph.state.il.us/about/chronic/ILAsthmaBurdenReport2009.pdf
- Illinois Behavioral Risk Factor Surveillance System, 2010 http://app.idph.state.il.us/brfss/

Figure 14: Percentages of Illinois Homes Where a Child With Asthma Resides by Environmental Health Regions

Illinois Department of Public Health
Division of Environmental Health Regions
Asthma Prevalence Among Illinois Children, 2007-2009



Illinois County Behavioral Risk Factor Surveillance System, ICBRFS Round 4 (2007-2009). Illinois County Level Adult Asthma Prevelance data;
**Unweighted counts of 5 or less or confidence interval of 12.5% or more do not mee standards of reliability and are blank
Source: Illinois Behavioral Risk Factor Surveillance System, Illinois Department of Public Health, Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention

Illinois Lead Program and Radon Related Activities

Illinois Indoor Radon Program: In 2010, the Illinois Lead Program established a partnership with the Illinois Indoor Radon Program of the Illinois Emergency Management Agency (IEMA)

http://www.radon.illinois.gov/).

- ***Have you tested your home for radon?***
- ***Are you interested in a radon test kit?***
- ***Call 800-325-1245***

http://www.radon.illinois.gov/

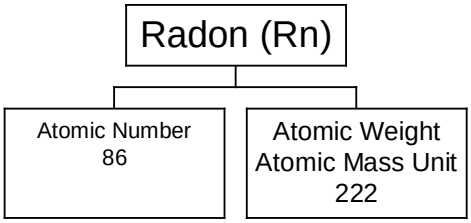
U.S. EPA and the Surgeon General recommend testing all homes below the third floor for radon.

U.S. EPA also recommends testing in schools.

An educational meeting was held with Regional Environmental Health staff to confer the partnership. A total of 200 home radon test kits were requested and received from the Radon Program. The test kits were distributed to the six regional environmental health offices. Public health nurses and public health environmental health specialists visit homes of lead poisoned children for case management and environmental inspection purposes. During these visits, families interested in performing a radon test in their homes are offered a free test kit, instructions and educational materials. Additional follow-up and education is provided by the IEMA Radon Program. Preliminary data collection is underway.

What is radon? Radon is an invisible, cancer-causing, radioactive colorless, odorless and tasteless inert gas. Radon was ranked the number one risk in homes according to the 1998 Harvard Risk in Perspective.

http://www.hcra.harvard.edu/rip/rip_Apr_1998.pdf



It is the heaviest known gas formed from the natural decay of radium, which results from the natural decay of uranium. Uranium and radium are solids trapped in rocks, soil and water.

Uranium (U) ⇒ Radium (Ra) ⇒ Radon (Rn) ⇒ Radon Decay Products (RDPs) like Polonium (Po)

How does radon enter a building? Radon is a gas that seeps into homes, schools, work places and other buildings from the ground through cracks in the basement floor and walls, crawlspace, sump pits, or foundation as a result of differences in air pressure.

How is radon harmful to the body? Radon is the second leading cause of lung cancer and the number one cause of lung cancer among non smokers in the United States. Radon is leading single radiation exposure to the general public according to the National Council on Radiation Protection.

Radon and radon decay products (RDPs) are inhaled. While radon is exhaled, the solid particles of radon decay products remain in lung tissue, trapped in the bronchial epithelium where alpha particles emitted may cause physical and/or chemical damage to DNA.

What is the action level for radon? There is no safe level of radon. Performing a radon test is the best way to identify homes with high levels. The U.S. EPA radon action level is 4 picocuries of radon per liter of air (4.0pCi/L). However, the US EPA recommends that every home be tested for radon. At radon levels of 4.0pCi/L the risk of developing lung cancer is estimated at about seven lung cancer deaths per 1,000 persons. One in every 15 homes has levels above the EPA's action guideline of 4.0pCi/L.

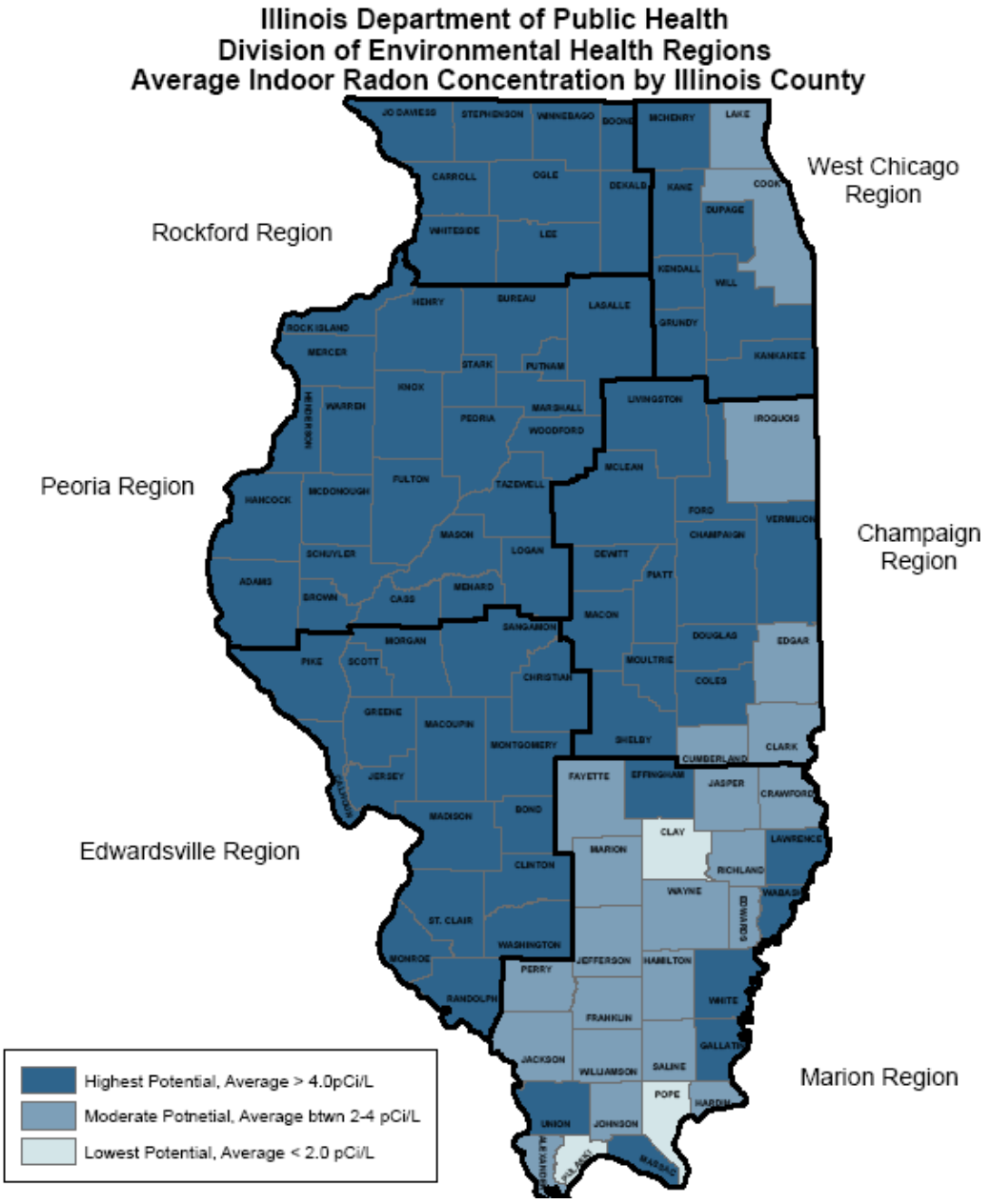
An estimated 1,160 Illinois citizens are at risk of developing radon related lung cancer each year.
Source: IEMA

How Prevalent is Radon in Illinois? Radon is found in homes across Illinois. The half life of radon is 3.8 days. Nearly 1,200 of the 21,000 estimated national radon related lung cancer deaths occur in Illinois every year from inhalation and digestion. About 36 percent of the homes in Illinois are above the U.S. EPA Action Level of 4.0pCi/L (Status Report for Radon). Based on 104,884 homes tested in Illinois, 37,710 homes had radon levels greater than 4.0 pCi/L with an average concentration of 4.4 pCi/L. The U.S. EPA estimates that 13 percent of all lung cancer related deaths are radon-related. Find out how much radon is in your county or ZIP code by visiting:

http://www.radon.illinois.gov/RadonCounty_Frames.asp

How can radon be mitigated? Homeowners may install a radon mitigation system even if the home tests below 4.0pCi/L. For detailed information related to residential radon mitigation, contact the Radon Program for a copy of the IEMA-Division of Nuclear Safety Radon Program Guide to Radon Mitigation.

Figure 15: Average Indoor Radon Concentration by Illinois County



Source: Illinois Emergency Management Agency (IEMA), http://www.radon.illinois.gov/
Statewide Results from IEMA Professional Licensee measurements

Additional information about radon levels in Illinois may be available through: Illinois Emergency Management Agency (IEMA), http://www.radon.illinois.gov/, 1-800-325-1245

Table 9: Adverse Health Outcomes Related to Home Hazards

Home Hazard	Priority Sources of Hazard	Some Adverse Priority Health Outcomes	Illinois Telephone Contacts For More Information
Lead	Deteriorating leaded paint, folk remedies with lead, lead water pipes and solder used in plumbing, toys and ceramics	Lowered IQ, delinquent behavior, learning problems and death	Illinois Department of Public Health, Illinois Lead Program 866-909-3572 or 217-782-3517
Smoke, smokers and Fires	Indoor smoke, fireplace, smokers in home, allergens and endotoxins	Cancers due to smoking; respiratory diseases like asthma, COPD; allergies; burns; fungal infections; viral infections;	Illinois Tobacco Quitline 866-QUIT-YES or 866-784-8937 Office of the Illinois State Fire Marshal 217-785-0969 Illinois Department of Public Health, Illinois Asthma Program 217-782-3300 IDPH Division of Environmental Health 217-782-5830 U.S. EPA http://epa.gov/pesticides/bedbugs
Mold/moisture	Water leaks, moisture, poor ventilation		
Pets, pests and pesticides	Allergens due to cockroaches, dust, dust mites, rats, mice, pet dander, contamination of food products, or food borne illness, bed bugs		
Chemicals at home	Pain relievers, prescription medications, sedatives, cleaning products and antidepressants	Attention and behavioral problems and other nervous disorders; respiratory diseases	Illinois Poison Control 800-222-1222
Radon	Inadequate ventilation problems, cracks on foundation and open crawl spaces	Lung cancer	Illinois Emergency Management Agency (IEMA) 1-800-325-1245
Carbon monoxide	Fuel combustion products from improperly vented furnaces, stoves, heaters	Carbon monoxide poisoning, coma, neurological damage, death	Illinois Department of Public Health 217-782-4977
Injury hazards	Loose rugs, accidental poisonings, unattached baby gates, choking, strangulation and accessible firearms	Falls, injuries, brain damage and death	Illinois Department of Public Health Division of Violence and Injury Prevention 217-782-3300

Sources: Illinois Department of Public Health, CDC (http://www.cdc.gov/healthyhomes/); National Center for Healthy Housing, U.S.EPA [a] The list will be updated in subsequent reports.

Table 9 provides additional contact information for programs focusing on some home related health hazards addressed in Illinois.

Illinois Lead Poisoning Elimination Advisory Council

The mission of the Illinois Lead Program advisory council is to develop and implement a comprehensive statewide strategic plan and foster creative partnerships for outreach.

The strategic plan addressed:

- Screening and Case Management
- Remediation
- Surveillance – Data Collection/Evaluation
- Primary Prevention – Education/Training
- Strategic Partnership
- Elimination Plan – Collaboration

The council is divided into subcommittees who identify or address goals and objectives related to the elimination of childhood lead poisoning and healthy homes initiatives. The 2010 subcommittees were:

- Education Awareness
- Primary Prevention/Screening
- Resource and Regulations
- Evaluation
- Healthy Homes Identification and Intervention

The Program continues to recruit and build capacity and competency among members of its advisory council. The 2010 stakeholders included:

- Physicians
- Nurses
- Health Educators
- Nutritionists
- Demographer
- Environmental Scientists
- Epidemiologists
- Allied Health Professionals
- University Professors

For more information on the advisory council contact the Illinois Department of Public Health.

Contact Information

Childhood Lead Poisoning
Illinois Lead Program
Illinois Department of Public Health
525 West Jefferson Street
Springfield, Illinois 62761
Phone: 866-909-3572 or 217-782-3517
The hearing impaired can dial 800-547-0466
Website: http://www.idph.state.il.us/envhealth/ehpublications.htm#lead

Asthma
Illinois Asthma Program
Illinois Department of Public Health
535 West Jefferson Street
Springfield, Illinois 62761
Phone: 217-782-3300
http://www.idph.state.il.us/about/chronic/asthma.htm

Radon
Illinois Emergency Management Agency
2200 South Dirksen Parkway
Springfield, Illinois 62703
Phone: 800-325-1245
http://www.radon.illinois.gov/

Fire Safety
Office of the Illinois State Fire Marshal
1035 Stevenson Drive
Springfield Illinois 62703
Phone: 217-785-0969
http://www.sfm.illinois.gov/

U.S. Centers for Disease Control and Prevention
http://www.cdc.gov/healthyplaces/newhealthyhomes.htm

National Center for Healthy Housing
http://www.centerforhealthyhousing.org/

U.S. Environmental Protection Agency
http://www.epa.gov/

U.S. Department of Housing and Urban Development
http://www.hud.gov/