

# Florida Department of Health Healthy Homes and Lead Poisoning Prevention Program

## 2011 Annual Childhood Lead Poisoning Surveillance Report



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# Content

<u>Section</u>	<u>Page Number</u>
Introduction.....	3
Florida’s Healthy Homes & Lead Poisoning Prevention Program .....	4
Potential Sources of Lead Exposure.....	5
Florida Blood Lead Screening Guidelines.....	6
Blood Lead Surveillance in Florida.....	7
<b>Statewide and County Trends</b>	
Screenings and Reported New Cases.....	8
Reported New and Persistent Cases Combined.....	9
Sources of Lead Exposure.....	10
Rate of Reported New Cases Per 1,000 Children Screened.....	11
Number of Reported New Cases by Blood Lead Category.....	12
Reported New Cases by Age and Blood Lead Level.....	13
Reported New Cases by Gender .....	14
Reported Screenings by County .....	15
Screening Rates by County.....	16
Reported New Cases by County.....	17
Case Rates by County.....	18
Reported New and Persistent Cases Combined by County.....	19
<b>References and Resources.....</b>	<b>20</b>
<b>Glossary and Acknowledgements.....</b>	<b>21</b>
<b>Current FHLPPP Contacts .....</b>	<b>22</b>

# Florida's Healthy Homes Lead Poisoning Prevention and Program

## INTRODUCTION

The surveillance findings presented in the 2011 Childhood Lead Poisoning Surveillance Annual Report are based on reported blood lead test data for children less than six years old in Florida. Statewide analyses were conducted over a five year period (2007-2011) to determine trends in screening and case rates among children tested for lead poisoning. For the last five years (2007 to 2011), the screening rate increased by 7 percent. Although the number of new cases declined consistently from 2007 to 2009, there was an increase (34%) in the number of newly identified lead poisoned cases from 2009 to 2010 (190 and 254 respectively). This may be due to an increase in the identification of cases in high-risk zip codes and among high-risk populations. However, in 2011 a 22 percent decrease was found in the number of newly identified lead poisoned cases in comparison to 2010. This decline in cases may be due to enhanced primary prevention activities in identifying and recommending services for the elimination of lead poisonings amongst high-risk children.

Current lead poisoning research state that children under the age of six years are considered to be at high-risk because they tend to put their hands or other objects into their mouths, they absorb a greater percentage of lead, and their developing bodies are more vulnerable to lead's effects. Our findings are consistent with this research. In 2011, the 12-23 months of age group category was noted to have the highest risk for lead poisoning. Specifically, it was found that this age group category represented the largest percent (32 percent) of new cases. Over the past five years, most reported new cases have BLLs ranging from 10 to 14  $\mu\text{g}/\text{dL}$ . In 2011, 71 percent (45 cases) of reported new cases (63 cases), 12-23 months of age, had BLLs within the 10 to 14  $\mu\text{g}/\text{dL}$  range. This age group also had the highest proportion of those cases testing  $\geq 20\text{ug}/\text{dl}$ . Therefore, this age group is highly recommended for blood lead testing by the Centers for Disease Control and Prevention (CDC) and the Florida Medicaid. We know early identification through blood lead screening, testing and treatment of lead poisoning reduces the risk that children will suffer permanent damage. We will continue to promote these practices and reduce the burden of childhood lead poisoning in Florida.



# Florida's Healthy Homes & Lead Poisoning Prevention Program

## HEALTH EFFECTS OF CHILDHOOD LEAD EXPOSURE

There is no safe level of lead in the blood. Research suggests that even blood lead levels below the current level of concern, 10 µg/dL, can have harmful effects (Canfield et al., 2003). The higher the blood lead level the greater the impact on the health and cognitive development of a child. Very high levels of blood lead concentrations may result in seizures, coma, and death.

## MISSION

The mission of Florida's Healthy Homes & Lead Poisoning Prevention Program (FHHLPPP) is to protect the health and cognitive development of all children living in Florida by eliminating childhood exposure to all lead hazards.

## ELIMINATING CHILDHOOD LEAD POISONING IN FLORIDA

The United States Department of Health and Human Services' Healthy People 2010 strategy for improving the Nation's health includes an objective to eliminate elevated blood lead levels in children less than 72 months of age. The FHHLPPP formed an advisory committee and created a strategic "elimination plan" to meet this objective in Florida. The committee, now called the Partnership for Lead Poisoning Prevention and Healthy Homes, meets annually.

## ABOUT THE FL HHLPP

FHHLPP was established in 1992. The program currently undertakes the activities described below with support from the CDC, the Environmental Protection Agency (EPA), and the Florida Legislature. Program activities are implemented in partnership with the 67 counties in Florida.

- **Surveillance:** The FHHLPPP works closely with laboratories and health care providers to collect the results of all blood lead tests. Data are used for statewide surveillance of lead screening and poisoning. Surveillance data are also used to evaluate the impact of lead screening promotion and lead poisoning prevention initiatives at the state and local levels.
- **Screening & Case Management:** The FHHLPPP establishes blood lead screening guidelines and standard of care for lead poisoned children. The program provides education to health care providers across the state to ensure all children receive a blood lead test. The FHHLPPP is also establishing monitoring systems to ensure children diagnosed with lead poisoning receive timely and comprehensive case management including proper medical monitoring and services that effectively protect the child from repeated lead exposure.
- **Primary Prevention / Community Outreach and Education:** The FHHLPPP works to ensure families, communities, and professionals have the knowledge and tools needed to protect children from lead poisoning. The Lead Alert Network is one important primary prevention initiative. The FHHLPPP uses the network to distribute e-mail alerts to families when consumer products are recalled due to lead content. Individuals can sign up by visiting: [http://www.doh.state.fl.us/environment/community/lead/The\\_Lead\\_Alert\\_Network.htm](http://www.doh.state.fl.us/environment/community/lead/The_Lead_Alert_Network.htm). The Healthy Homes Project is another important primary prevention activity. Families with identified lead poisoning risk factors are offered enrollment into the project. Participants receive a comprehensive visual assessment of their homes by trained environmental health specialists. Lead and other environmental health hazards are identified and participants receive one-on-one coaching on how to minimize these hazards to create a healthy home.
- **Protective Policy:** The FHHLPPP receives funding from the EPA and the CDC to explore the options for local oversight of federal regulations and policies at the state and local levels to support the primary prevention of lead poisoning and to prioritize and ensure care for children identified as lead poisoned.

## Potential Sources of Lead Exposure



### Lead-based paint (pre-1978)

Homes built before 1950 are most likely to contain lead-based paint. Homes built before 1978 may also have lead-based paint on the exterior and/or the interior of the dwelling. Children can easily come into contact with paint chips or lead dust created through wear and tear of windows, woodwork, walls, doors, railings or other surfaces covered with lead paint. Children are also susceptible to the extremely high levels of lead dust created in a home undergoing renovation and/or repair.

### Lead-contaminated soil

Lead may be found in the soil, especially near busy roadways or factories. The lead from gasoline used in vehicles before the 1980s has settled into the soil and is difficult to remove. Children may come into contact with lead contaminated soil while playing outside. This soil may also be tracked inside on shoes and clothing and increase the risk for lead exposure.

### Take-home lead

"Take-home lead" is lead dust carried home on items such as clothes and shoes of individuals whose hobbies or occupations involve lead. Some common jobs and hobbies that use lead include: battery manufacturing, radiator repair, construction, renovation, soldering, recycling, painting, demolition, scrap metal recycling, working with stained glass, pottery making, and target shooting.



### Imported or handmade pottery with leaded glaze

Lead in ceramic glaze can leach into stored food and beverages, especially food and beverages that are acidic.

### Imported food or drinks in cans that are sealed with lead solder

Some countries other than the United States still allow lead solder in food and drink cans.

### Imported home remedies and imported cosmetics

Lead has been found in some home remedies and cosmetics often imported from the Middle East, Southeast Asia, India, the Dominican Republic, or Mexico. The remedies are usually bright yellow or orange in color. Examples include: Alarcon, Alkohl, Azarcon, Bali goli, Bint al zahab, Coral, Greta, Farouk, Ghasard, Kandu, Kohl, Liga, Litargirio, Lozeena, Pay-loo-ah, Sindoor, and Surma. There are many others.



### Imported candies or foods

Lead has been found in candy, wrappers, and in certain ethnic foods, such as chapulines (dried grasshoppers) and tamarind.



### Jewelry and toys

Adult and children's jewelry has been found to have lead. Some toys and other consumer products have also been found to contain lead. For more information please refer to the Consumer Product Safety Commission website at <http://www.cpsc.gov/>.

# Florida Blood Lead Screening Guidelines

## FLORIDA'S BLOOD LEAD SCREENING GUIDELINES 2006:

The FHHLPPP recommends that the children falling into certain categories receive a blood lead test:

- Children living in high-risk zip codes (defined as a census block-group with greater than or equal to 27 percent pre-1950 housing, or greater than or equal to 74 percent pre-1978 housing). (<http://www.myfloridaeh.com/medicine/lead/CountyMap.html>)
- Children less than 72 months of age who do not have a documented blood lead screening by age two and live in high-risk zip codes.
- Children who are Medicaid eligible.
- Immigrant and refugee children.
- Children adopted from outside the U.S.
- Children in foster care.
- Children with risk factors listed on the Florida Department of Health Lead Poisoning Risk Assessment Questionnaire (Screening & Case Management Guide, 2008: <http://www.myfloridaeh.com/medicine/lead/education.htm>)

Florida Medicaid guidelines, in accordance with federal requirements, stipulate that all children enrolled in Medicaid must receive a blood lead screening test at 12 and 24 months of age. The guidelines also specify that a blood test must be done for children 36 to 72 months of age if they have not been previously screened for lead poisoning (Florida Medicaid Child Health Check-Up Coverage and Limitations Handbook).

## FLORIDA'S CASE DEFINITION OF CHILDHOOD LEAD POISONING

Florida defines lead poisoning as a blood lead level of 10 µg/dL or greater of whole blood measured from a venous specimen or blood lead levels of 10 µg/dL or greater measured from two capillary draws taken within 12 weeks of one another. The population of greatest concern for lead poisoning is children less than 72 months of age. A confirmed case is considered a "new case" if it was never previously reported. A persistent case is a case confirmed during a previous year and whose blood lead level (BLL) remains elevated ( $\geq 10$  µg/dL) in subsequent years.



# Blood Lead Surveillance in Florida: Understanding Lead Surveillance Data

## **HISTORY OF BLOOD LEAD SURVEILLANCE IN FLORIDA**

Blood lead data collection in Florida dates back to 1992 when lead poisoning became a notifiable disease. Only blood lead levels greater than or equal to 10µg/dL were required to be reported by laboratories and physicians for 1992 up to 2005. During this time period, some laboratories voluntarily provided results less than 10 µg/dL. On November 20, 2006 laboratory reporting requirements were expanded. State regulations (shown below) now require laboratories to report blood lead levels (BLLs) of ALL blood lead tests. This includes users of portable blood lead testing devices.

## **LABORATORY REPORTING REQUIREMENTS**

The Florida Statutes, Chapter 381, stipulates that practitioners and laboratory personnel should report diseases of Public Health Significance to the Department of Health. Chapter 64D-3 of the Florida Administrative Code states that laboratories are responsible for providing all of the following information with each blood lead record:

### **(a) The Patient's:**

1. first and last name, including middle initial
2. address, including city, state and zip code
3. phone number, including area code
4. date of birth
5. sex
6. race
7. ethnicity (specify if of Hispanic descent or not of Hispanic descent)
8. pregnancy status
9. Social Security number

### **(b) The Laboratory/Entity Using Portable Lead Testing Devices:**

1. name
2. address
3. telephone number of laboratory performing blood lead test
4. type of specimen (for example, venous vs. capillary specimen)
5. date of specimen collection
6. date of report
7. type of test (s) performed
8. all available results

### **(c) The Submitting Provider's:**

1. name
2. address
3. telephone number, including area code

## **A NOTE ON DATA LIMITATIONS**

There are several limitations inherent in population-based surveillance data. The data collected by the FHHLPPP are no exception. Several caveats are bulleted below.

- In late 2006, the FHHLPPP conducted active outreach to laboratories to educate them about the new reporting regulations. Laboratories that had not previously reported lead test results began reporting at this time. This enhanced reporting may have increased the screening and case numbers reported when compared to previous years.
- Generally, race and ethnicity are underreported. The information reported on race may not reflect the true racial composition of lead poisoned children in Florida.
- Data presented in this report may vary from data reported for lead by other agencies or from other sources due to variation in the data sources, methods of analysis, and/or data linkage.
- It is important to note that not all children receive a blood lead test in Florida. FL DOH recommends that all at-risk children are screened for lead poisoning, however many of these children are not cared for by traditional health care systems and may not receive an initial blood lead test. As a result, some cases of lead poisoning may never be identified or reported.

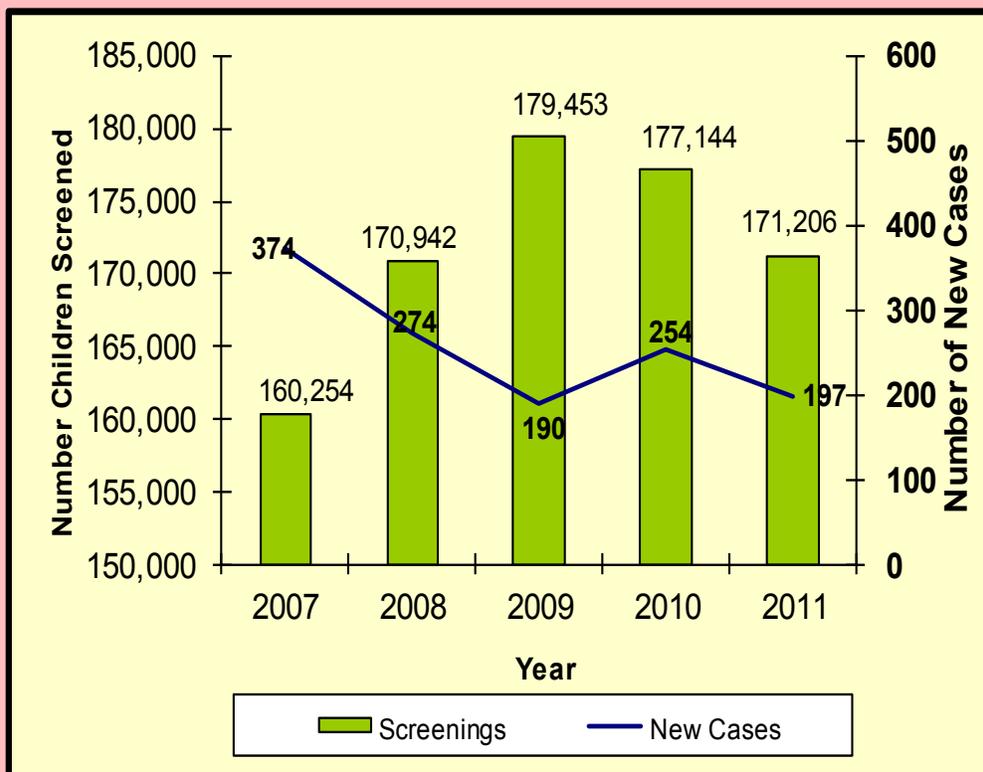
## 5-Year Statewide Trends: Number of Children Screened and Reported New Cases

The FHHLPPP monitors reported blood lead levels in children under 72 months of age. From the lead test data received, FHHLPPP determines annually the reported number of children who were lead poisoned and the reported number of children screened. Although some children are tested multiple times in a single year, only the first test per year is considered a screening. All subsequent tests are considered follow-up tests.

Figure 1 shows the trend in reported blood lead screenings and new cases for five years. There was a 7 percent increase in the number of children screened from 2007 to 2011. A small decrease (3 percent) in screening numbers was noticeable between 2010 and 2011. During the first three years (2007-2009) of the 5-year period, increase in screening may be partially accounted for by healthcare providers and community-based organizations such as Head Start promoting and conducting blood lead screening. An increase in the number of testing facilities and laboratory reporting compliance may have also contributed to the increased in screenings from 2007 to 2009.

As shown in figure 1, although the screening number increased, the number of reported lead poisoning cases in Florida declined by 47% percent from 374 in 2007 to 197 in 2011. The difference in the number of cases (177 cases) reported from 2007 to 2011 may not be accredited to a decline in lead poisoning among Florida children less than 72 months old. The population screened each year is not homogenous and cannot be exactly compared. In 1997, the CDC recommended that lead poisoning screening should be targeted at high-risk children. However, further investigation is needed to determine the rate of screening among high-risk groups in Florida. Analyses of the screening rates and other risk factors among high-risk zip code and refugee populations were completed in 2011. The findings from these analyses will be released in separate documents.

**Figure 1. Reported blood lead screenings and new cases of lead poisoning, Florida, 2007 to 2011**



## 5-Year Statewide Trends: Reported New and Persistent Cases

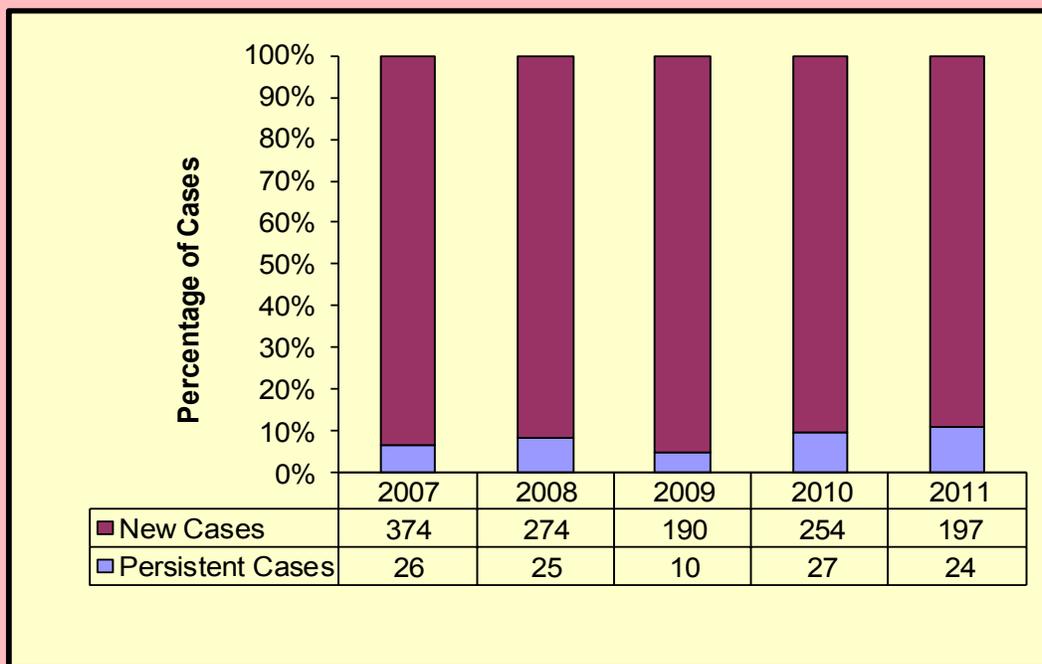
### LEAD POISONING CASE MANAGEMENT

The FHHLPPP recommends that all children (less than 72 months of age) that are identified as lead poisoned receive case management. The child's BLL determines the follow-up testing schedule and the type of case management needed. For instance, children with confirmed BLLs of 10-14µg/dL should receive follow-up testing within three months of the confirmatory test but an environmental health investigation of the home is optional. Children with BLLs 20-44µg/dL should be re-tested within a month of the confirmatory test and an environmental health investigation of the home should be conducted.

The goal of case management is to reduce the child's BLL to below the level of concern (10µg/dL) by preventing continued exposure and improving nutrition. The child should be monitored by the physician and the case manager until the BLLs returns to below 10µg/dL.

Figure 2 shows the number of reported new and persistent cases per year over a 5-year period. The total number of reported lead poisoning cases decreased by 45 percent from 400 in 2007 to 221 in 2011. For 2010 to 2011, the number of all reported new cases decreased by 22 percent. This decline in new cases may be due to enhanced case management activities in identifying and recommending services for the elimination of lead hazards. Another possible reason for a decrease in new cases could be that some children were "lost to follow up" and did not receive a confirmatory blood lead tests. Tracking cases over time, through the Department's statewide reportable disease surveillance system (Merlin), will allow disease investigators at county health departments to identify cases that did not receive follow-up tests. Coordinating care through the health care providers is essential for assuring re-testing of at-risk children.

**Figure 2. Reported new and persistent cases of lead poisoning by year, Florida, 2007 to 2011**



## Sources of Lead Exposure

The FLHHLPP obtained disease investigation information from 168 of the 197 newly reported lead poisoning cases. In 2011, figure 3 reflects the top five self-reported sources of lead exposure. Please note that a variety of sources may contribute to a child becoming lead poisoned. Due to this fact, more than one source of exposure may be reported by a case.

Of the top five reported sources of exposure, tile flooring or counter tops was found to be the highest reported source of exposure (45 of the 168 cases). Occupation of household member was found to be the least reported source of the top five (20 of the 168 cases). The information on potential lead sources is valuable in that it can help FLHHLPP effectively target primary prevention activities, that can reduce the burden of childhood lead poisoning in Florida.

**Figure 3. Sources of Lead Exposure, Florida, 2011.  
 Top Five Self-Reported Sources**

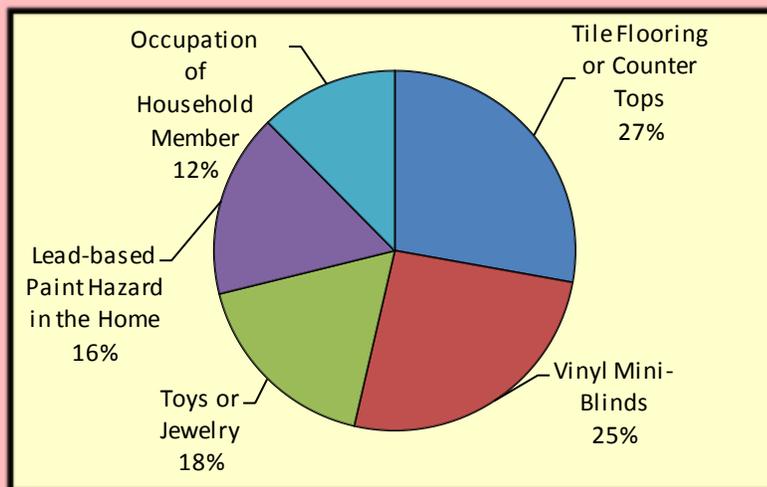


Figure 3. Shows sources of lead exposures for newly identified cases in 2011. Please note that sources of lead exposure were not collected for 29 of the 197 newly identified cases. Therefore, these cases were excluded from this analysis. The information reflected in this figure was obtained from Merlin (Florida Department of Health reportable disease surveillance system).

## 5-Year Statewide Trends: Rate of Reported New Cases per 1,000 Children Screened

Figure 4. Rate of reported new cases of lead poisoning per 1,000 children screened, Florida, 2007 to 2011.

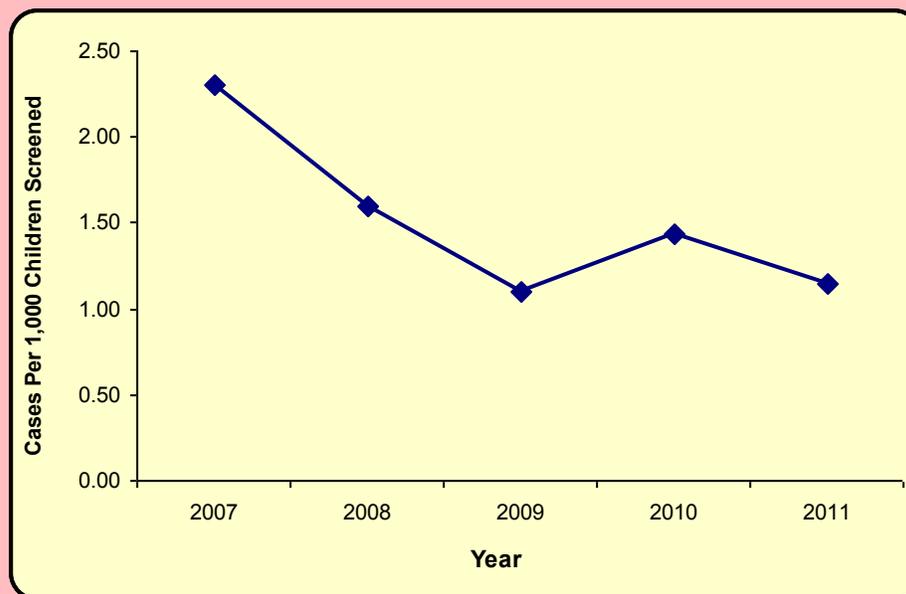


Figure 4 illustrates the statewide rate of reported new cases per 1,000 children screened. Over the five year period, a 48 percent decline in the rate of new cases per children screened was observed between 2007 (2.3 cases per 1,000 children screened) and 2011 (1.2 cases per 1,000 children screened). The decline in the statewide lead poisoning rate was most noticeable between 2007 and 2008 (30 percent) and 2008 and 2009 (31 percent). Compared to previous years, there was an decrease (14 percent) in the case rate from 2010 to 2011.



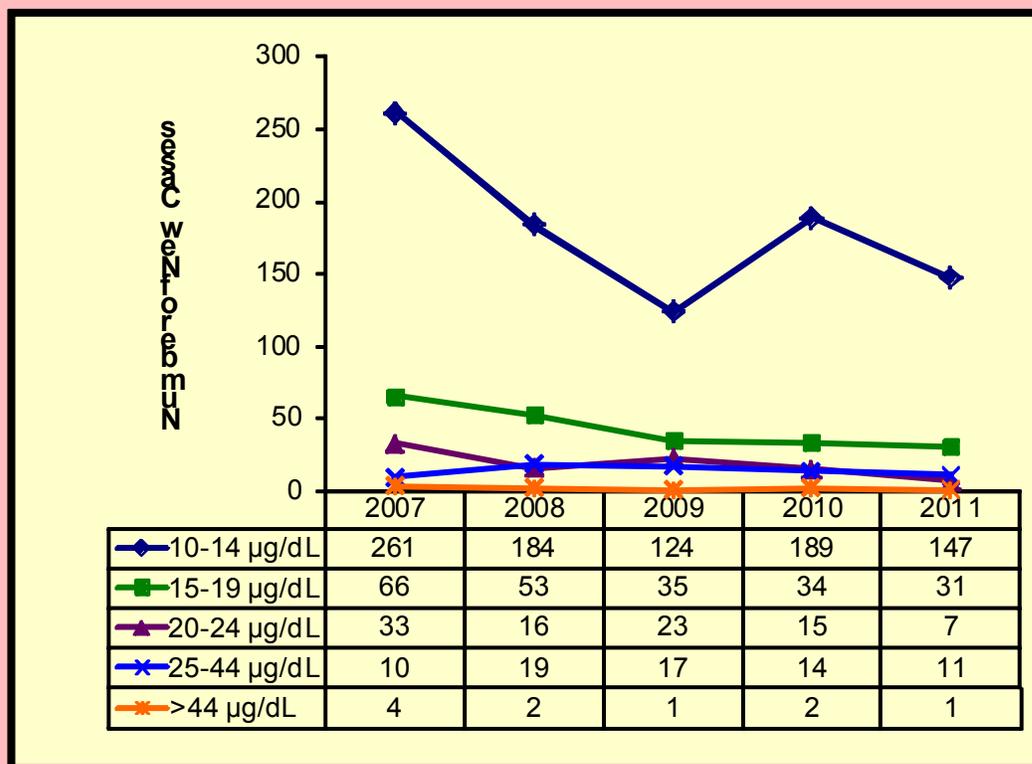
## 5-Year Statewide Trends: Number of Reported New Cases by Blood Lead Level

The effect of lead on the human body is dependent on the level and duration of lead exposure. Higher lead levels have a greater impact on the health and cognitive development of a child. Lead poisoning can result in lowered IQ, behavior problems, hearing loss, and neurological impairments. For this reason, one of the objectives of the FHHLPPP is to reduce the BLLs of children to levels where its effect is minimal.

Figure 5 illustrates the number of reported new cases categorized by confirmed BLL from 2007 through 2011. Compared to 2007, there was a significant decline in the number of reported new cases for most BLL categories in 2011. For the BLL category 10-14  $\mu\text{g}/\text{dL}$  this reduction was 44 percent.

The downward trend in the number of reported new cases with BLLs 10-14  $\mu\text{g}/\text{dL}$  began in 2006 (not shown). The largest decline in the number of reported new cases with BLLs 10-14  $\mu\text{g}/\text{dL}$  occurred between the following years: 2007 and 2008, 2008 and 2009. In 2011, the number of reported new cases for BLLs 10-14  $\mu\text{g}/\text{dL}$  decreased by 22 percent in comparison to 2010. There has been little change in the number of cases identified at the 25 -  $\geq$  44  $\mu\text{g}/\text{dL}$  BLL category.

**Figure 5. Reported new cases by confirmation blood lead level categories, Florida, 2007 to 2011.**



## Statewide: Number of Reported New Cases by Age and Blood Lead Level

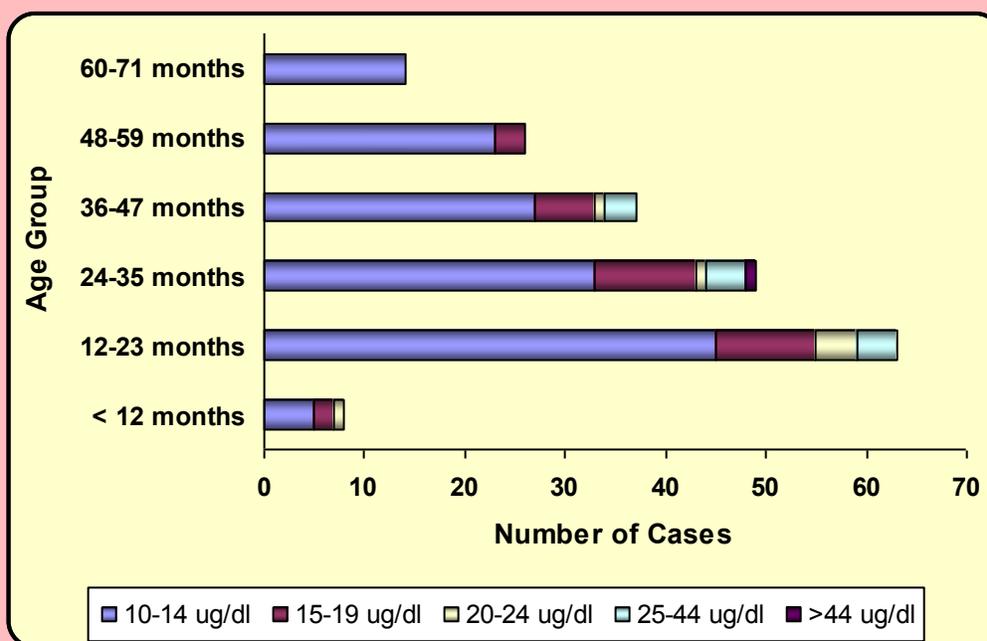
Table 1 and Figure 6 display the number of new cases that were reported for 2011 by age group and BLLs. The information presented here highlights the age group at which children are most likely to be tested for lead poisoning and the highest BLLs of children tested.

For 2011, the age group category with the largest percent (32 percent) of new cases was 12-23 months of age. This age group also had the highest proportion of those cases testing  $\geq 20\mu\text{g/dL}$ . Therefore, this age group is highly recommended for initial blood lead testing by the CDC and the Florida Medicaid. For the past five years, this age group has been consistently reported with the highest number of children screened (data not shown). Over the past five years, most reported new cases have BLLs ranging from 10 to 14  $\mu\text{g/dL}$  (not shown). In 2011, 71 percent (45 cases) of reported new cases (63 cases), 12-23 months of age, had BLLs within the 10 to 14  $\mu\text{g/dL}$  range.

**Table 1. Number of reported new cases by age and blood lead level  
Florida, 2011**

Age (Months)	2011 Blood Lead Level ( $\mu\text{g/dL}$ )					Total
	10-14 $\mu\text{g/dl}$	15-19 $\mu\text{g/dl}$	20-24 $\mu\text{g/dl}$	25-44 $\mu\text{g/dl}$	>44 $\mu\text{g/dl}$	
< 12	5	2	1	0	0	8
12-23	45	10	4	4	0	63
24-35	33	10	1	4	1	49
36-47	27	6	1	3	0	37
48-59	23	3	0	0	0	26
60-71	14	0	0	0	0	14
Total	147	31	7	11	1	197

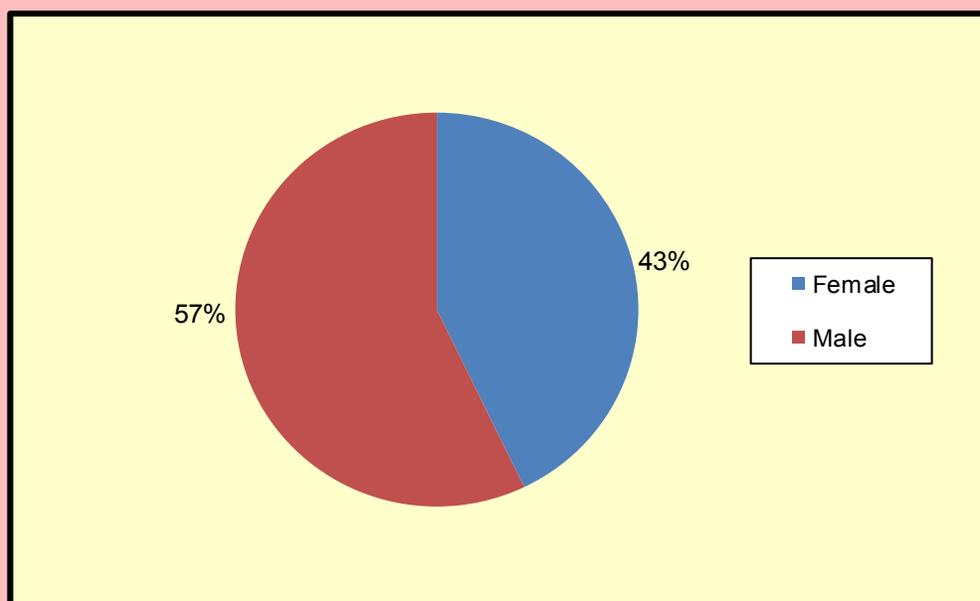
**Figure 6. Number of reported new cases by age and blood lead level  
Florida, 2011**



## Statewide Trends: Number of Reported New Cases by Gender

Gender is not considered a potential risk factor for lead exposure among at-risk children populations. No significant difference in BLLs was observed between male and female children in Florida. Figure 7 illustrates the number of reported new cases in Florida by gender for 2011. For 2011, 57 percent (112 cases) of all new cases were males, 43 percent (84 cases) were females and for 1 case the gender was unknown.

Figure 7. Number of reported new cases by gender  
Florida, 2011.



# Reported Screenings by County

**Table 2. Number of reported screenings among children under 72 months of age by year and county of residence, Florida 2007 to 2011**

Overall, the number of screenings for children less than 72 months increased from 2007. The highest yearly increase (7 percent) was observed between 2007 and 2008. With the highest number of screenings completed in 2009.

However, small decreases in reported screenings were observed between 2009 and 2010 (1 percent) and 2010 and 2011 (3 percent). There are no clear explanations for these slight decreases in screening rates.



County	2007	2008	2009	2010	2011
Alachua	2,297	2,175	1,705	2,569	2,507
Baker	199	130	126	176	124
Bay	728	700	1,033	983	728
Bradford	248	360	440	338	268
Brevard	1,569	2,049	2,460	2,183	1,716
Broward	23,394	23,481	25,479	24,293	24,445
Calhoun	42	49	67	70	42
Charlotte	552	696	645	694	490
Citrus	258	399	484	552	694
Clay	1,017	953	762	781	764
Collier	1,975	1,609	1,797	1,470	1,268
Columbia	487	592	532	470	456
Miami-Dade	37,599	40,918	41,518	41,354	39,226
Desoto	210	277	384	291	287
Dixie	270	258	208	185	161
Duval	7,496	6,940	5,745	6,210	7,192
Escambia	1,676	1,962	2,152	2,239	1,452
Flagler	584	526	421	354	388
Franklin	166	132	135	184	127
Gadsden	292	270	232	315	615
Gilchrist	190	206	188	191	140
Glades	38	53	30	32	42
Gulf	119	151	237	155	126
Hamilton	107	99	83	85	58
Hardee	286	674	798	740	643
Hendry	638	846	742	713	614
Hernando	539	768	883	738	826
Highlands	998	1,226	1,452	1,550	1,633
Hillsborough	11,586	11,989	13,797	13,871	14,507
Holmes	262	252	198	174	124
Indian River	1,403	1,552	1,745	1,412	1,403
Jackson	254	29	235	58	78
Jefferson	66	71	72	69	78
Lafayette	13	17	31	19	51
Lake	2,056	2,160	2,041	2,116	1,978
Lee	3,122	4,012	5,440	5,140	5,018
Leon	1,570	1,303	1,068	798	936
Levy	353	444	397	410	380
Liberty	20	27	45	27	12
Madison	36	58	95	124	164
Manatee	2,882	2,830	2,605	2,630	2,995
Marion	1,410	1,845	1,905	1,856	1,782
Martin	1,420	1,294	1,306	1,376	1,317
Monroe	161	141	92	242	164
Nassau	116	141	164	200	146
Okaloosa	664	732	910	847	823
Okeechobee	481	509	416	452	580
Orange	7,688	8,813	9,697	8,987	8,318
Osceola	2,482	2,452	2,135	1,877	1,850
Palm Beach	13,633	14,738	17,006	16,802	15,950
Pasco	2,848	3,493	3,163	3,010	2,739
Pinellas	3,789	4,658	4,752	5,194	3,694
Polk	7,065	7,389	7,015	7,207	6,924
Putnam	509	679	454	986	860
Saint Johns	624	325	360	490	545
Saint Lucie	2,786	3,375	3,653	3,204	3,493
Santa Rosa	603	330	748	635	426
Sarasota	1,584	1,966	2,104	2,008	1,897
Seminole	998	842	945	846	830
Sumter	643	440	400	409	437
Suwannee	224	226	203	254	242
Taylor	105	227	365	352	465
Union	111	95	114	83	85
Volusia	1,396	1,874	1,653	1,841	2,259
Wakulla	105	111	66	112	89
Walton	186	216	241	357	237
Washington	113	165	129	97	63
Unknown	913	623	950	657	235
<b>Total</b>	<b>160,254</b>	<b>170,942</b>	<b>179,453</b>	<b>177,144</b>	<b>171,206</b>

# Lead Poisoning Screening Rate by County

Figure 8: Screening rate per 1,000 children screened by county, Florida 2011

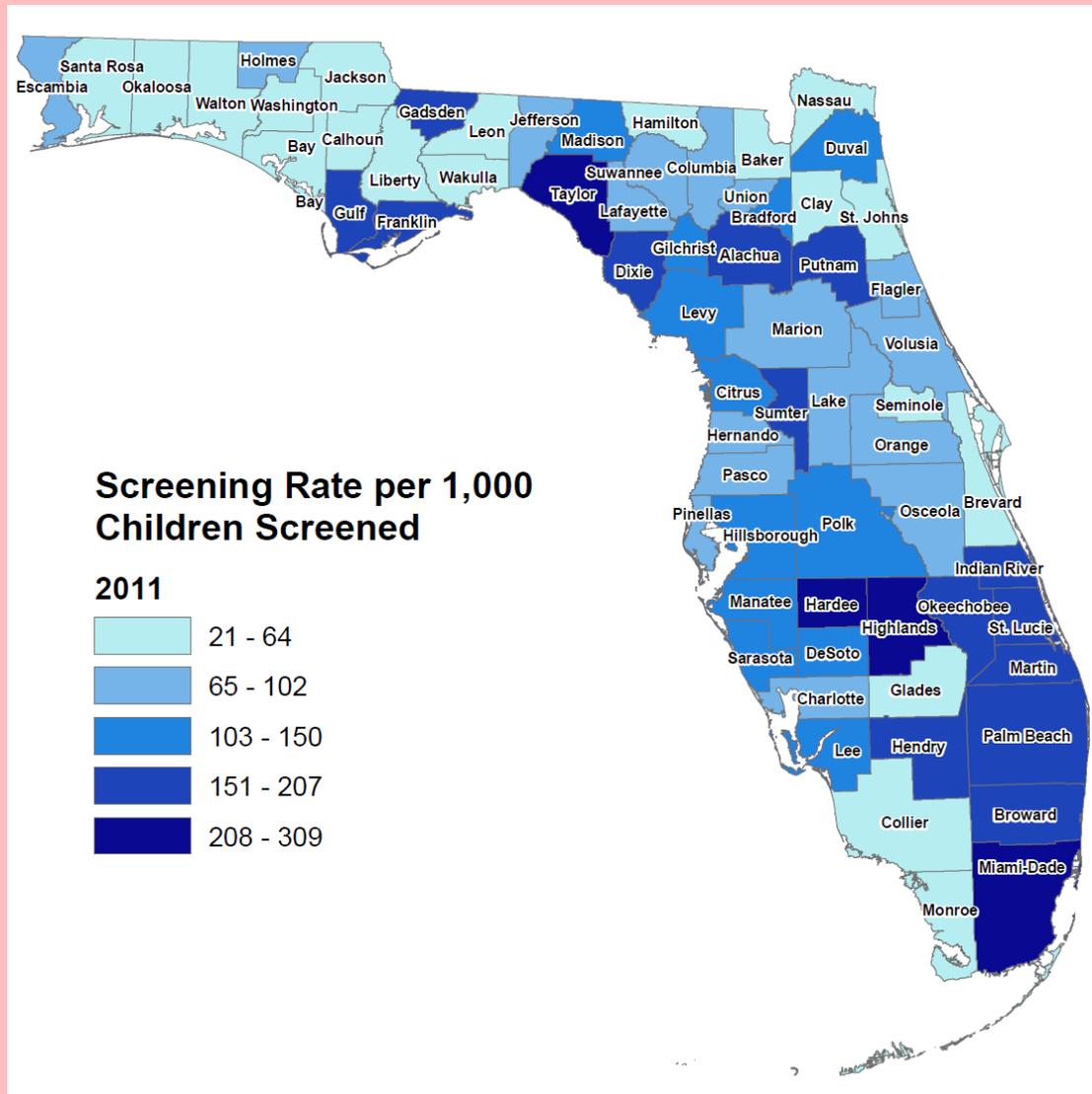


Figure 8 shows the 2011 screening rate by county for children less than six years old. The screening rate for each county was determined by dividing the number of children less than 72 months of age who received a blood lead test with the total number of children less than 72 months of age expressed per 1000 population of children (< 72 months old). The population estimates were obtained from the Florida Legislature's Office of Economic Demographic Research data.

There are limitations when using population estimates to calculate the screening rates by county. The estimated population includes the at-risk groups for lead poisoning in addition to the general population and therefore does not accurately characterize lead screening rates in the targeted population. The FHHLPPP has assessed screening rates among high-risk populations such as Refugees and Medicaid-eligible children among all children screened for blood lead (data not shown) in order to target educational outreach and prevention activities to the most vulnerable individuals.

# Reported New Cases by County

**Table 3. Reported new cases of lead poisoning among children under 72 months of age by year and county of residence, Florida 2007 to 2011.**

Overall, there was a significant decline (47%) in the number of new cases from 2007 to 2011. The most noticeable decrease (27%) in newly identified cases was from 2007 to 2008.



County	2007	2008	2009	2010	2011
Alachua	1	2	1	1	1
Baker	0	1	1	1	1
Bay	1	1	2	1	0
Bradford	0	0	0	0	0
Brevard	3	0	3	1	0
Broward	51	21	14	26	20
Calhoun	0	0	0	0	1
Charlotte	1	0	0	0	2
Citrus	1	2	0	0	1
Clay	1	1	1	3	0
Collier	1	3	1	2	2
Columbia	1	1	0	0	3
Miami-Dade	108	89	49	78	43
Desoto	1	2	0	0	1
Dixie	0	0	0	0	0
Duval	29	22	11	10	13
Escambia	4	2	3	6	0
Flagler	0	0	0	4	2
Franklin	0	0	0	0	1
Gadsden	1	1	0	0	1
Gilchrist	0	0	0	0	0
Glades	1	0	0	0	0
Gulf	0	0	1	0	0
Hamilton	0	0	0	1	0
Hardee	1	2	1	4	2
Hendry	2	3	0	5	4
Hernando	0	1	3	1	0
Highlands	3	2	1	5	1
Hillsborough	33	17	17	15	14
Holmes	0	1	1	1	0
Indian River	1	2	1	1	1
Jackson	2	1	1	1	0
Jefferson	1	0	1	0	0
Lafayette	0	0	0	0	0
Lake	1	3	4	1	2
Lee	6	5	4	7	5
Leon	4	0	0	0	2
Levy	0	1	0	0	0
Liberty	0	0	0	0	1
Madison	0	0	0	0	0
Manatee	5	3	3	2	2
Marion	2	1	0	2	1
Martin	2	2	3	3	1
Monroe	1	1	0	0	1
Nassau	0	1	2	0	0
Okaloosa	0	0	1	1	0
Okeechobee	1	1	0	1	0
Orange	24	11	9	9	9
Osceola	0	1	3	1	4
Palm Beach	18	19	19	16	15
Pasco	4	2	4	2	2
Pinellas	6	7	3	2	5
Polk	19	14	3	17	11
Putnam	0	4	3	4	1
Saint Johns	0	1	0	2	2
Saint Lucie	11	3	5	3	6
Santa Rosa	5	1	1	3	0
Sarasota	3	2	1	2	3
Seminole	1	2	0	2	0
Sumter	2	0	1	1	2
Suwannee	0	0	0	1	0
Taylor	0	0	0	0	0
Union	0	0	1	0	3
Volusia	5	7	2	4	4
Wakulla	1	0	0	0	0
Walton	0	1	4	1	0
Washington	0	1	0	0	0
Unknown	5	2	1	0	1
<b>Total</b>	<b>374</b>	<b>274</b>	<b>190</b>	<b>254</b>	<b>197</b>

# Case Rate per 1,000 Children Screened by County

Figure 9: Case rate per 1,000 children screened by county Florida, 2011

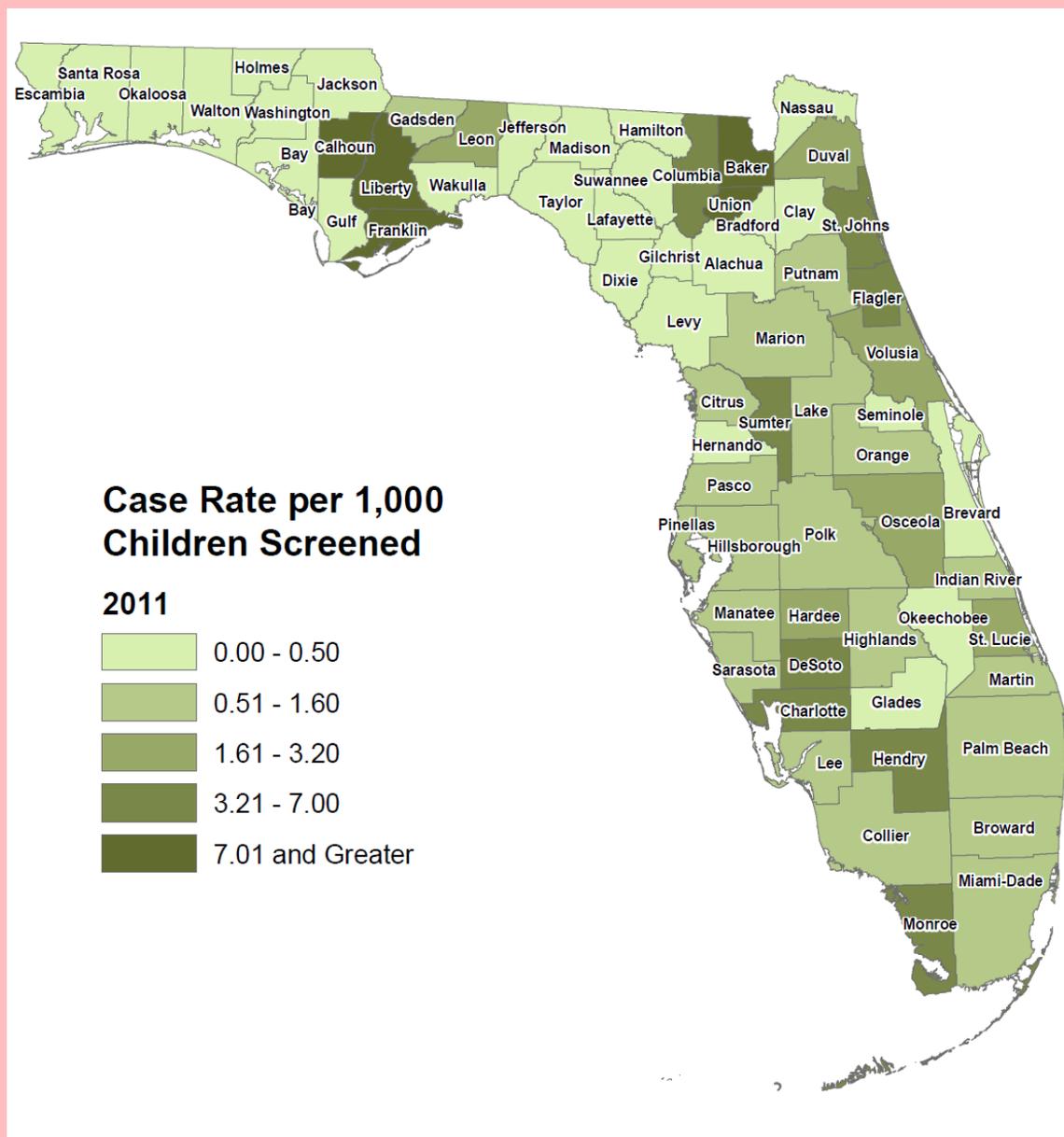


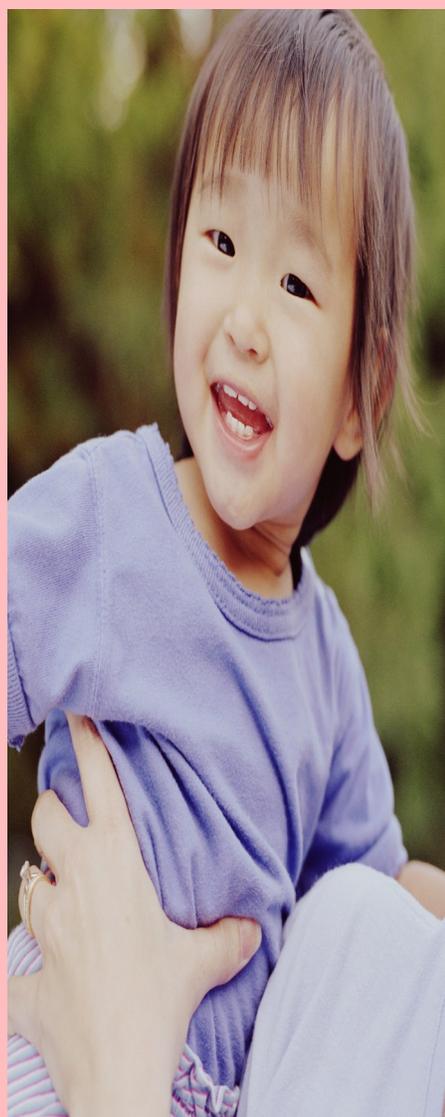
Figure 9 shows the childhood lead poisoning case rate by county for 2011 for children less than six years old. The case rate was determined by dividing the number of new reported cases by the number of children screened per year for each county expressed per 1000 of the population screened. Comparing the case rate between counties may be misleading since it is a crude rate and is affected by the case and screening numbers reported from each county. Smaller counties tend to have lower numbers of at-risk children compared to larger counties, therefore a small increase in cases may result in a higher case rate if there is little or no change in the screening numbers.

# Reported New and Persistent Cases by County

**Table 4. Number of reported new and persistent cases combined among children under 72 months of age by year and county, Florida 2007 to 2011.**

There was a decline (45%) in the total number of cases from 2007 to 2011. The most noticeable decrease (25%) for all cases was from 2007 to 2008.

Overall, the total number of cases have declined since 2007, however the number of total cases have varied during the last three years (2009-2011). Therefore, although the prevalence of lead poisoning has decreased it has not been a steady decline.



County	2007	2008	2009	2010	2011
Alachua	1	2	1	1	1
Baker	0	1	1	1	1
Bay	1	1	2	1	0
Bradford	0	0	0	0	0
Brevard	3	0	3	1	0
Broward	51	25	15	27	21
Calhoun	0	0	0	0	1
Charlotte	1	0	0	0	2
Citrus	1	2	0	0	1
Clay	1	1	1	3	0
Collier	1	3	1	2	2
Columbia	1	1	0	0	3
Miami-Dade	115	94	50	86	50
Desoto	1	2	0	0	1
Dixie	0	0	0	0	0
Duval	31	25	11	10	14
Escambia	4	2	3	6	0
Flagler	0	0	0	4	2
Franklin	0	0	0	0	1
Gadsden	1	1	0	0	1
Gilchrist	0	0	0	0	0
Glades	1	0	0	0	0
Gulf	0	0	1	0	0
Hamilton	0	0	0	1	0
Hardee	1	2	1	4	2
Hendry	2	3	0	5	5
Hernando	0	1	3	1	0
Highlands	3	2	1	5	1
Hillsborough	35	21	19	16	15
Holmes	0	1	1	1	0
Indian River	1	2	1	1	1
Jackson	2	1	1	1	0
Jefferson	1	0	1	0	0
Lafayette	0	0	0	0	0
Lake	1	3	4	3	3
Lee	7	5	5	7	5
Leon	5	0	0	0	2
Levy	0	1	0	0	0
Liberty	0	0	0	0	1
Madison	0	0	0	0	0
Manatee	5	3	3	2	2
Marion	2	1	0	2	2
Martin	2	2	0	6	1
Monroe	1	1	4	0	1
Nassau	0	1	2	0	0
Okaloosa	0	0	1	1	0
Okeechobee	1	1	0	1	0
Orange	27	12	9	12	9
Osceola	1	1	3	1	4
Palm Beach	21	22	21	22	21
Pasco	4	3	5	3	2
Pinellas	7	8	3	3	5
Polk	19	15	3	17	14
Putnam	1	4	3	4	2
Saint Johns	0	1	0	2	2
Saint Lucie	14	5	5	3	7
Santa Rosa	5	1	1	3	0
Sarasota	3	2	1	2	3
Seminole	2	2	1	2	0
Sumter	2	0	1	1	2
Suwannee	0	0	0	1	0
Taylor	0	0	0	0	0
Union	0	0	1	0	3
Volusia	5	7	2	5	4
Wakulla	1	0	0	0	0
Walton	0	1	4	1	0
Washington	0	1	0	0	0
Unknown	5	3	1	0	1
<b>Total</b>	<b>400</b>	<b>299</b>	<b>200</b>	<b>281</b>	<b>221</b>

## References & Resources

### REFERENCES

Canfield RL, Henderson CR, Cory-Slechta DA, Cox C, Jusko TA, Lanphear BP. Intellectual impairment in children with blood lead concentration below 10 µg per deciliter. *New England Journal of Medicine* 2003; 348:1517-1526.

Florida Department of Health Childhood Lead Poisoning Screening & Case Management Guide. Adopted January 2008. <http://www.doh.state.fl.us/environment/medicine/lead/education.htm>

Florida Medicaid Child Health Check-Up Coverage and Limitations Handbook. <http://mymedicaid-florida.com/>

### RESOURCES

American Academy of Pediatrics. <http://www.aap.org/>

Centers for Disease Control and Prevention. Managing Elevated Blood Lead Levels Among Young Children: Recommendations from the Advisory Committee on Childhood Lead Poisoning Prevention. Atlanta: CDC, March 2002. [http://www.cdc.gov/nceh/lead/CaseManagement/caseManage\\_main.htm](http://www.cdc.gov/nceh/lead/CaseManagement/caseManage_main.htm)

Centers for Disease Control and Prevention. Screening Young Children for Lead Poisoning: Guidance for State and Local Public Health Officials. Atlanta: CDC, 1997. <http://www.cdc.gov/nceh/lead/guide/guide97.htm>

Centers for Disease Control and Prevention. Interpreting and Managing Blood Lead Levels <10 µg/dL in Children and Reducing Childhood Exposures to Lead: Recommendations of CDC's Advisory Committee on Childhood Lead Poisoning Prevention. *MMWR* 2007;56:(No. RR-8)

Consumer Product Safety Commission website at <http://www.cpsc.gov/>.

Florida Childhood Lead Poisoning Prevention Program  
<http://www.doh.state.fl.us/environment/medicine/lead/index.html>

Florida Chapter of the American Academy of Pediatrics  
<http://www.medicalhomeinfo.org/states/state/florida.html>

The United States Centers for Disease Control and Prevention. <http://www.cdc.gov/lead/>

## Glossary and Acknowledgements

### ACKNOWLEDGEMENTS

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### GLOSSARY

**Children:** For the purposes of this report, children are defined as those less than 72 months of age.

**CHD:** County Health Department.

**Reported:** For the purposes of this report, reported refers to all blood lead test results received by the FHHLPPP.

**LeadCare II Analyzer:** A portable device that is waived under the Clinical Laboratory Improvement Amendment (CLIA) to perform blood lead testing based on a capillary blood draw.

**µg/dL:** Micrograms per deciliter, the standard unit of measure for blood lead levels.

**Test:** Any blood lead sample type (i.e. capillary, venous, or unknown) that produces a quantifiable result and is analyzed by a Clinical Laboratory Improvement Amendments (CLIA) certified facility or an approved portable device. Blood for a lead test can be collected for a screening, confirmation, or follow up.

**Screening:** The initial blood lead test occurring within one year. Any subsequent blood lead draws are defined as follow-up tests.

**Follow-up Test:** Any blood lead test that occurs subsequent to a confirmation test and any test that occurs subsequent to a screening in a calendar year.

**Confirmed Case:** A case with a blood lead concentration greater than or equal to 10µg/dL that was drawn from a single venous specimen or from two capillary specimens drawn within 12 weeks (84 days) of each other.

**New Case:** A confirmed case (see “confirmed case” above) that has never been previously identified as a confirmed case.

**Persistent Case:** A case confirmed during a previous year and whose blood lead level remains at 10 µg/dL or greater in a subsequent year.

**Case Rate:** The number of children less than 72 months old with a confirmed BLL  $\geq$  10µg/dL divided by the number of children less than 72 months old screened for lead poisoning in a particular year.

**Screening Rate:** The number of children less than 72 months old without a previous confirmed BLL who were screened for blood lead level in a particular year divided by the number of children less than 72 months old in Florida for that year (based on Florida Legislature’s Office of Economic Demographic Research).

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