



# Oklahoma Childhood Lead Poisoning Prevention Program (OCLPPP) Surveillance Highlights 2008

SEPTEMBER 2009

## Mission

The OCLPPP provides screening and testing for lead exposure for eligible children 6 to 72 months of age and follow-up for children with blood lead levels  $\geq 10 \mu\text{g/dL}$ .

## Purpose

The OCLPPP strives for the elimination of childhood lead poisoning as a public health problem in Oklahoma by the year 2010.

## Vision

Every child in Oklahoma will live in a home free of lead hazards

## Inside the issue

- Blood Lead Testing and Case Rates
- Number of Children with EBLLs in Oklahoma by County-2008
- Blood Lead Testing Data for High-Risk Target Areas
- HEDIS Blood Lead Testing Measure for Medicaid Population
- SoonerCare Blood Lead Testing Rates by Birth Cohort
- Comparison of EBLL Prevalence Rates

## Blood Lead Testing and Case Rates - 2008

- During calendar year (CY) 2008 there were 283,208 children  $\leq 6$  years of age in Oklahoma, based on U.S Census 2000 data.
- During CY 2008, the OCLPPP received 26,393 laboratory reports on 25,253 children  $\leq 6$  years of age who received a blood lead test.
- The blood lead screening rate for CY 2008 was 8.9%. The screening rate is the number of children  $\leq 6$  years of age who received a blood lead test divided by total number of children  $\leq 6$  years of age.
- Of these 25,253 children, 17,650 (69.9%) were  $\leq 3$  years of age and 7,603 (30.1%) children were  $> 3$  and  $\leq 6$  year of age.
- During CY 2008, the geometric mean blood lead level (BLL) was  $1.73 \mu\text{g/dL}$  (95% CI, 1.70-1.76). This has declined from  $2.31 \mu\text{g/dL}$  (95% CI, 2.28-2.33) observed during CY 2006 and  $1.88 \mu\text{g/dL}$  (95% CI, 1.85-1.91) observed during CY 2007.
- There were 142 elevated blood lead level (EBLL) cases. An EBLL means a confirmed concentration of  $\geq 10$  micrograms ( $\mu\text{g}$ ) of lead per deciliter (dL) of blood measured on a venous sample.
- 78 children had EBLL between 10-14  $\mu\text{g/dL}$ , 31 children had EBLL between 15-19  $\mu\text{g/dL}$ , and 33 children had EBLL  $\geq 20 \mu\text{g/dL}$ .
- The blood lead case rate for CY 2008 was 0.6% or 56 EBLL cases per 10,000 children  $\leq 6$  years of age. The blood lead case rate is the number of children  $\leq 6$  years of age with EBLL divided by total number of children  $\leq 6$  years of age who received a blood lead test. According to the latest National Health and Nutrition Examination Survey (NHANES) 1999-2004, the prevalence of EBLLs among U.S. children  $\leq 6$  years of age was 1.4%.
- Of the 142 EBLL cases, 95 (66.9%) were incident (new) cases and 47 (33.1%) were prevalent (existing) cases. Among the 95 incident cases, 66 (70%) were  $\leq 3$  years of age and 29 (30%) were  $> 3$  and  $\leq 6$  year of age.

Fig 1: Oklahoma Blood Lead Surveillance 2000 - 2008

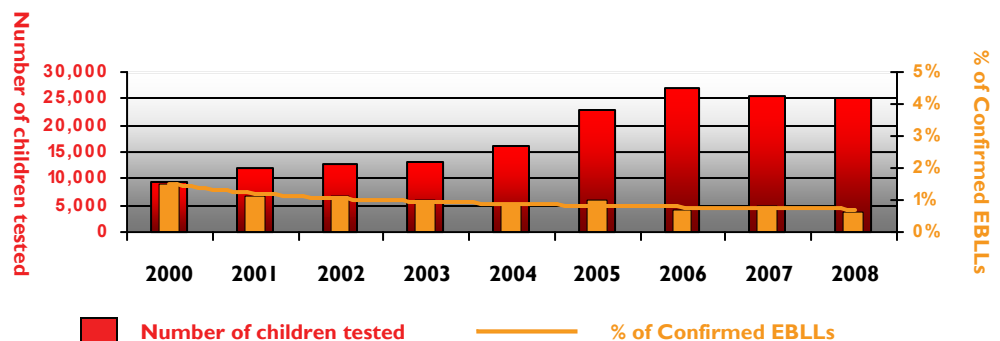




Table I

SoonerCare Children ≤ 6 years of age					Non-SoonerCare Children ≤ 6 years of age			
	n	Geometric Mean (95% CI) $\mu\text{g/dL}$	EBLLs	Case Rate	n	Geometric Mean (95% CI) $\mu\text{g/dL}$	EBLLs	Case Rate
Within HRTA	2,352	2.0 (1.9-2.1)	36	1.5%	1,931	1.9 (1.8-2.0)	21	1.1%
Outside HRTA	11,736	1.7 (1.67-1.73)	45	0.4%	9,234	1.7 (1.65-1.74)	40	0.4%

**Distribution of BLLs within HRTA Zip Codes by Age of Housing**

- Of the 4,283 children who received a blood lead test within HRTAs, 465 (10.9%) were living in homes built in 1950 or earlier.
- Within HRTAs, the geometric mean BLL for children living in homes built in 1950 or earlier was 2.2  $\mu\text{g/dL}$  (95% CI, 1.9-2.5), whereas the geometric mean BLL for children living in homes built after 1950 was 1.9  $\mu\text{g/dL}$  (95% CI, 1.82-1.98).
- Of the 57 EBLL cases identified within HRTAs, 10 (17.5%) were living in homes built in 1950 or earlier.
- Within HRTAs, the blood lead case rate among children living in homes built in 1950 or earlier was 2.2% and was higher than the rate for children living in homes built after 1950 which was 1.2%.

**Discussion**

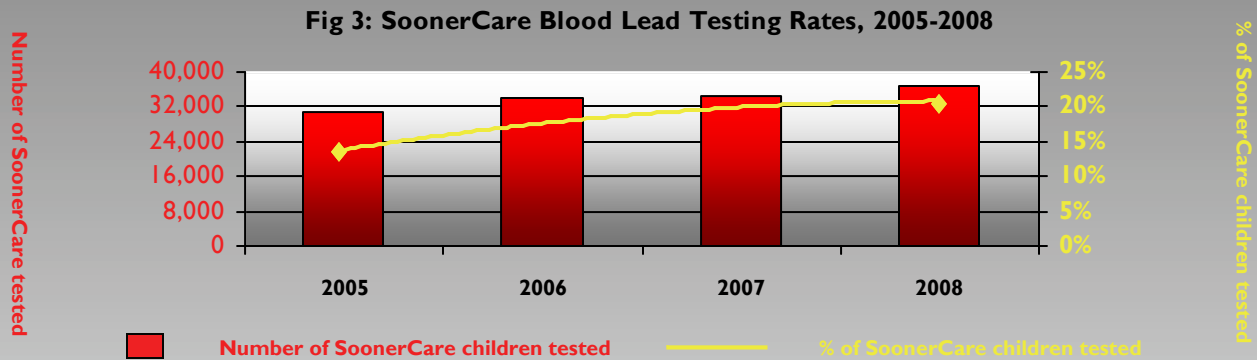
- Despite a relatively low blood lead testing rate within HRTAs during CY 2008, a higher blood lead case rate (1.3%) was observed within HRTAs as compared to rest of the state (0.6%).
- Blood lead case rates among the SoonerCare (1.5%) and the non-SoonerCare (1.1%) populations within HRTAs were also higher compared to the SoonerCare (0.4%) and the non-SoonerCare (0.2%) populations outside the HRTAs. Despite low SoonerCare testing rates within HRTAs (79.2% untested), a higher blood lead case rate within this group was observed.
- Additionally, the blood lead case rate (2.2%) among children living in older homes in HRTAs was higher than the blood lead case rate (1.2%) observed in children living in homes built after 1950 in HRTAs.
- These findings suggest that more intensified testing of high-risk children in the HRTAs is needed to identify more children with EBLLs. Testing efforts should be focused on untested SoonerCare eligible children ≤ 6 years of age within HRTAs, particularly those living in homes built in 1950 or earlier.

**HEDIS Blood Lead Testing Measure for Medicaid Population**

- The Healthcare Effectiveness Data and Information Set (HEDIS) is a tool designed by the National Committee for Quality Assurance (NCQA) to improve health care quality. Used by 90% of health plans nationwide, HEDIS measures performance on important dimensions of care and service.
- In 2008, a lead screening measure for the Medicaid population was added to the list of HEDIS quality measures. This measure is used to assess the percentage of children two years of age who had one or more capillary or venous blood lead tests for lead poisoning by their second birthday.
- According to the HEDIS lead testing data reported by the Oklahoma Health Care Authority (OHCA), Oklahoma’s Medicaid agency, 9,016 of 23,963 SoonerCare clients two years of age received a blood lead test during CY 2008 (37.6%). This has increased from 33.4% observed during 2007.

## SoonerCare Blood Lead Testing Rates by Birth Cohort

- The OCLPPP links the blood lead surveillance data with the SoonerCare data to track and improve testing rates among the SoonerCare population.
- SoonerCare blood lead testing rates by birth cohort provides the percentage of eligible children born in a given time period who received a blood lead test by their 6th birthday (Fig. 3).
- As of December 31, 2008, there were 175,853 SoonerCare eligible children  $\leq 6$  years of age. These children were born between December 31, 2002 and December 31, 2008. 36,687 (20.9%) children received a blood lead test by their 6th birthday. This has increased from 13.8% observed in 2005, an increase of 51%.



## Comparison of EBLL Rates in SoonerCare & Non SoonerCare Populations

- The prevalence of EBLs has been steadily declining nationwide as indicated by NHANES data (77.8% during 1976-1980; 8.6% during 1988-1991; 4.4% during 1991-1994 and 1.4% during 1999-2004).
- A similar downward trend has been observed in Oklahoma. The percentage of children  $\leq 6$  years of age with EBLs has declined in both the SoonerCare and the general populations. OCLPPP surveillance data indicate that the EBL prevalence within the SoonerCare population has decreased from 1.7% to 0.6% from 2000-2008 and from 1.3% to 0.5% in the non-SoonerCare population during the same time period (Fig. 4).
- This current trend suggests that the SoonerCare - Non SoonerCare disparity in EBL prevalence is diminishing statewide. Disparities may continue to exist within specific HRTAs, however.

**Fig 4: Comparison of EBL Rates, 2000-2008**

