On October 6, 2014, a revised version of this dataset was posted to the Open Data Portal. See **Version History** on page 3 of this document for details.

Title: Screening for elevated blood lead levels in children aged 0-6 years by year, Chicago, 1999-2013.

Brief Description: This dataset contains the annual number and estimated rate per 1,000 children aged 0-6 years receiving a blood lead level test, and the annual number and estimated percentage of those tested found to have an elevated blood lead level, with corresponding 95% confidence intervals, by Chicago community area, for the years 1999 – 2013.

Description: CDPH calculated the indicators using laboratory results reported to the Illinois Department of Public Health (IDPH). An elevated blood lead level was defined as 10 micrograms of lead per deciliter (or higher) of blood measured from a venous blood sample. If a child had an elevated blood lead level in more than one year, he or she was counted in the prevalence estimates for each of the years in which an elevated blood lead level was diagnosed. A matching algorithm based on the child's name and date of birth was used to attribute multiple tests in a given year to the individual. The lead screening rate is the number of children aged 0-6 years in a specified geographic area (in this instance, Chicago community areas), divided by the number of children aged 0-6 years for the same geographic area for a specified time period, multiplied by 1000. The percent with an elevated blood lead level is the proportion of children aged 0-6 in a specified geographic area who were tested and found to have an elevated blood lead level, multiplied by 100.

Geocoding is the process of using location data, such as street address, to determine associated geographic identifiers, such as latitude and longitude, postal code, or community area.Approximately 4% of the tested children are classified as Chicago residents but are not geocoded to a particular community area; these records are included in citywide counts and shown in a row with community area given as unknown (99).Indicators for Chicago as a whole are provided in the row of the table with community area given as 0.

A confidence interval is a range of values used to describe the uncertainty around a measurement (e.g., rate) and serves as a measure of the variability in the data. Confidence intervals are calculated based on the standard error of the rate, which is based on the rate and the number of events. Most confidence intervals are calculated as 95% confidence intervals by convention. The 95% confidence interval can best be understood that if the measurement were conducted 100 times, 95 times the true value would be within the calculated confidence interval and 5 times the true value would be either higher or lower than the range of the confidence interval. For example, a percentage of children with elevated blood lead levels of 10% with a lower limit of 8% and an upper limit of 12% means that there is a 95 percent chance that the percent was between 8% and 12%. Conversely, there is a 5 percent chance that the percent was lower than 8% or higher than 12%. A stable percentage is one that would be close to the same value if the measurement were repeated, i.e., if the percent did not vary greatly from one year to the next. An unstable percent is one that would vary from one year to the next due to chance alone. Wider confidence intervals in relation to the rate indicate instability.

Narrow confidence intervals indicate stability, and large fluctuations from year to year would not be expected. If differences are observed between stable rates (those with narrow confidence intervals), then it is likely that the differences represent true variations, rather than random fluctuations in the number of elevated blood lead levels. In general, if the 95% confidence intervals of two rates do not overlap, they are likely to be significantly different. For a description of the approach used to calculate confidence intervals for the estimates in this dataset, see pages 94-96 of the March 28, 2000 *National Center for Vital Statistics Reports* publication at http://www.cdc.gov/nchs/data/nvsr/nvsr48/nvs48_03.pdf.

The source of annual population estimates by community area was a linear interpolation of counts from the 2000 and 2010 United States Census, using the method described in *Trend Analysis and Interpretation: Key Concepts and Methods for Maternal and Child Health Professionals* (see page 8 of http://mchb.hrsa.gov/publications/pdfs/trendanaylsis.pdf). 2000 population counts were also used for the year 1999; 2010 population counts were also used for the year 2011.

Nationally, 0.9% of children had elevated blood lead levels in the year range from 2005-2008. The Healthy People 2020 target is to eliminate elevated blood lead levels.(See http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=12, EH-8.1)

Disclaimers: The population counts used in the calculations are estimates, and this potential source of error should be taken into account when considering the precision of the indicators. Error can result from geocoding as a result of inaccurate or incomplete source data (e.g., the recording of a person's residential residence does not include "North" or "South") or discrepancies in the reference data that is used to match addresses to their associated geographies (e.g., a particular street segment is excluded or associated to corresponding geographies incorrectly). This potential source of error should be taken into account when considering the precision of the indicators. Percent and confidence interval estimates for years in which fewer than 20 children with elevated blood lead levels were reported are unreliable; this instability should be considered when making comparisons.Methods and data sources may not be identical to those used in CDPH reports published prior to December 2012.

Data were insufficient to calculate the indicators for community area 54 (Riverdale) for the years 2003-2013.

Data Owner: Childhood Lead Poisoning Prevention Program, Chicago Department of Public Health (CDPH).

Time Period: 1999-2013

Frequency: Updated annually.

Related Applications: N/A

Version History: In September 2012, Epidemiology and Public Health Informatics revised the method used to calculate community area population counts from the 2010 U.S. Census. The revised approach bases population on block-level counts rather than tract-level counts, and better accounts for the population distributions within tracts 8310 and 8439. This revision affects rate calculations for the Logan Square (22), West Town (24), Woodlawn (42), and South Shore (43) community areas. An updated version of the dataset was posted to the Open Data Portal on December 28, 2012 to reflect these changes, as well as to include new data pertaining to the year 2011.

The dataset posted to the Open Data Portal on December 28, 2012 displayed the lead screening rate as a percent (i.e., per 100 population) rather than a rate per 1,000 population. An updated version of the dataset was posted to the Open Data Portal on February 14, 2013 to correct this error.

The version of the dataset posted on October 6, 2014 incorporates data from 1999 - 2013 and replaces the previous version, which covered 1999-2011.