

InfoByte: Childhood Lead Exposure in Wisconsin

Courtesy of the Wisconsin Health Information Organization

July 2023



This publication includes information on insured children under the age of 6 who have been diagnosed with lead exposure, effects of lead exposure, or detectable blood lead levels.

When broken out by insurance type, there is a higher prevalence of abnormal lead levels amongst children with Medicaid insurance. This is consistent with the observation that lead-based paint in structures is likely the primary source of childhood lead exposure in Wisconsin.

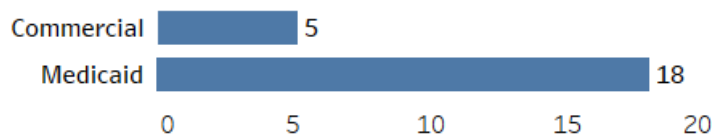
1. Wisconsin Department of Health Services. (2022, November 9). *Lead-Safe Wisconsin: Where is Lead Commonly Found in Wisconsin?* Retrieved from Wisconsin Department of Health Services: <https://www.dhs.wisconsin.gov/lead/sources.htm>

For additional information please contact the WHIO at 608.442.3876 or info@whio.org

Abnormal Blood Lead Levels (Under Age 6) by Insurance Type

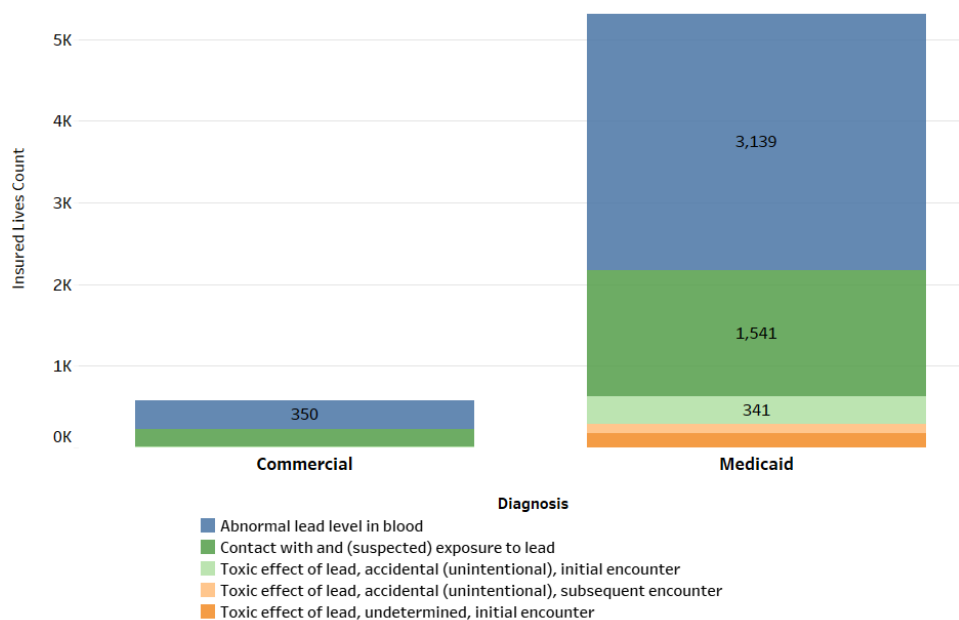


Per Thousand Rate



The number of children with Medicaid insurance with a diagnosis of abnormal blood lead levels is 3.6 times higher than that of children on commercial insurance. A portion of this difference may be the result of a federal requirement that children with Medicaid insurance receive blood lead testing at designated ages. The State of Wisconsin Department of Health Services has noted that children in low-income environments in Wisconsin are more likely to experience lead poisoning due to their restricted range of housing options.¹

Top 5 Lead-Related Diagnoses (Under Age 6)



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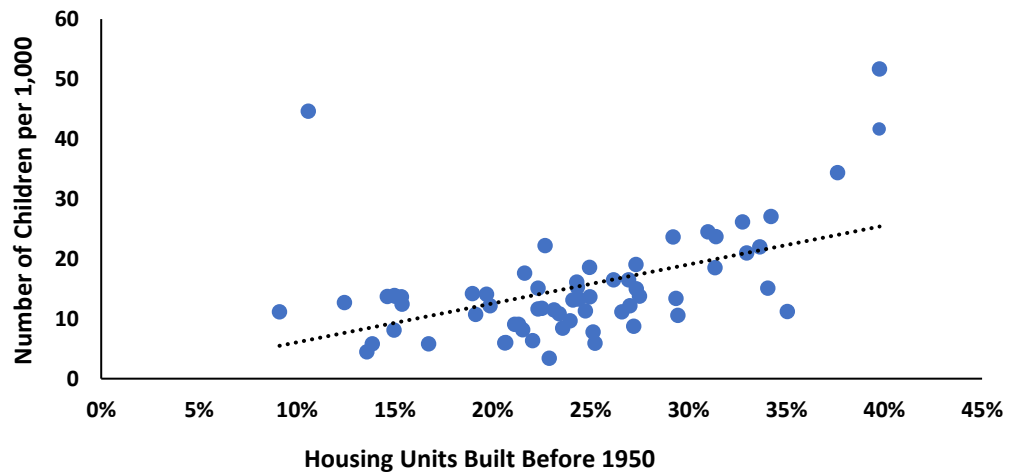
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A 2021 study published in the Journal of the American Medical Association (JAMA) examined individual and community-level factors linked to detectable blood lead levels in children under the age of 6. The study findings indicate that detectable levels were more common in children on public insurance and in children that live in communities with houses built before 1950.²

The manufacturing of lead-based paint was banned in 1978 by the federal government. However, some cities voluntarily prohibited the use of lead-based paint in the 1950's. Housing units built before 1950 were used in this analysis as an indicator of homes that are more likely to still have lead-based paint.

2. Hauptman M, Niles JK, Gudin J, Kaufman HW. Individual- and Community-Level Factors Associated with Detectable and Elevated Blood Lead Levels in US Children: Results From a National Clinical Laboratory. *JAMA Pediatr.* 2021;175(12):1252–1260.

Lead-Related Diagnoses (Under Age 6)



This scatterplot shows a positive relationship between the percentage of housing units in a county that were built before 1950 and the number of children who have a lead-related diagnosis. Waukesha County (upper left dot point) represents an anomaly in this dataset. Upon further investigation, the diagnosis of “Contact with and (suspected) exposure to lead” was the most commonly reported lead-related diagnosis for this county.

The table below shows the Wisconsin counties with the largest number of children per 1,000 having a lead-related diagnosis. Fifty-three percent of these counties are located in the southern and southeaster regions of the state where older housing is more prominent.

Top 15 Wisconsin Counties by Lead-Related Diagnoses (Under Age 6)

County	Structures Built Before 1950	Number of Children per 1,000
Milwaukee	39%	52
Waukesha	11%	45
Manitowoc	36%	34
Green-Lafayette	34%	30
Dodge	34%	27
Sheboygan	33%	26
Fond du Lac	29%	25
Jefferson	30%	24
Kenosha	23%	22
Douglas	33%	22
Vernon	33%	21
Lincoln	26%	19
Shawano-Menominee	25%	18
Marinette	22%	18
Racine	26%	17

Counties with a census population of less than 20,000 people are combined with geographically adjacent counties for de-identification purposes.