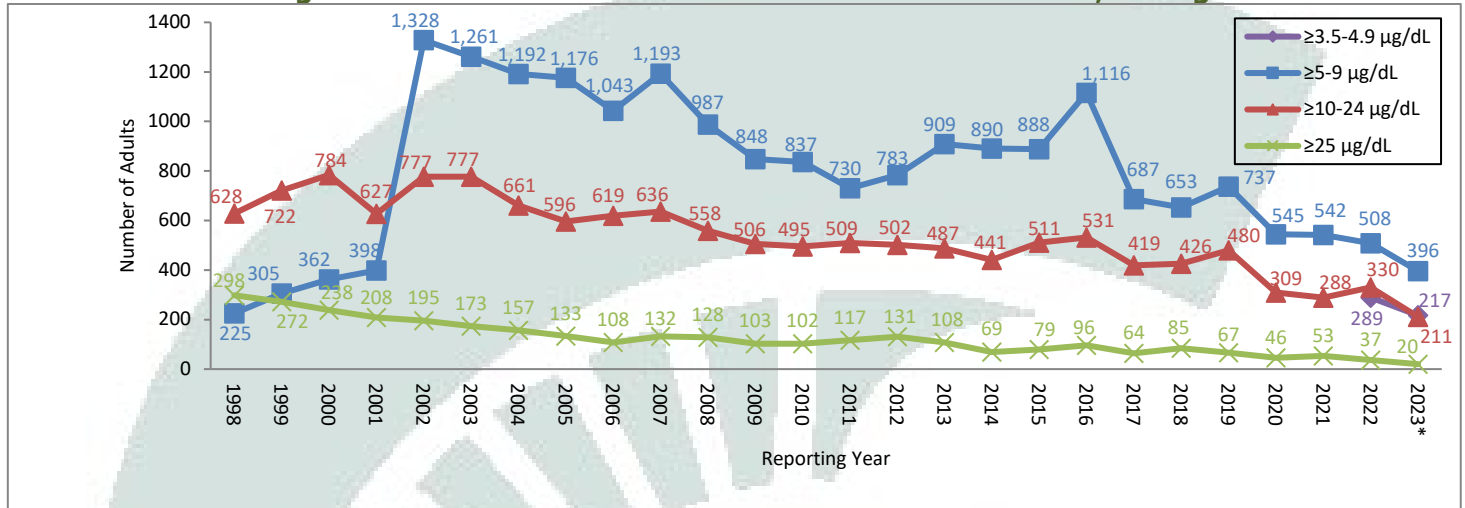


# Tracking Adult Blood lead in Michigan

Additional information available at [www.oem.msu.edu](http://www.oem.msu.edu)

## Summary Statistics

### Number of Adults Aged 16 Years or Older with Elevated Blood Lead Levels, Michigan 1998-2023



\*2023 preliminary data through 08/31/2023 as of 10/10/2023. We expect to identify an additional 279 individuals in the latter part of 2023.

Beginning in 2022, blood lead levels (BLLs)  $\geq 3.5\text{--}4.9\ \mu\text{g/dL}$  have begun to be tracked. The 1,648 adults with BLLs  $\geq 3.5\ \mu\text{g/dL}$  in 2022 and 2023 were likely to be male (86.6%) and white (76.8%). Their mean age was 46.3 years. They were most likely to live in Wayne (18.2%), Saint Clair (6.6%), and Oakland (6.6%) counties. Of the 1,255 adults with known exposure, 80% were work-related and 20% were nonwork-related. An additional 75 adults had an unknown exposure and the exposure source for 318 adults are still being investigated.

### Work-Related Exposure Sources for Individuals with Blood Lead $\geq 10\ \mu\text{g/dL}$ , Michigan 2022-2023

NORA Sector Group <sup>a</sup>	NAICS Code <sup>b</sup>	#	%
Agriculture, Forestry & Fishing (except Wildland Firefighting)		11	0
Construction		23	92
Healthcare & Social Assistance	62, 54194, 81291	24	6.4
Manufacturing	31-33	145	38.7
Mining (except Oil & Gas Services)		21	0
Oil & Gas Extraction	211, 213111, 213112	0	—
Public Safety (including Wildland Firefighting)	92212, 92214, 92216, 62191	6	1.6
Services (except Public Safety)	51, 52, 53, 54, 55, 56, 61, 71, 72, 81, 92	50	13.3
Transportation, Warehousing & Utilities	48-49, 22	43	11.5
Wholesale & Retail Trade	42, 44-45	15	4.0
<b>Total</b>		<b>375<sup>c</sup></b>	<b>100.0</b>

<sup>a</sup> National Occupational Research Agenda (NORA). <sup>b</sup> North American Industry Classification System (NAICS).

<sup>c</sup> Another 131 were work-related, however, the industry was unknown.



Exposure typically occurs where individuals perform abrasive blasting to remove lead paint on outdoor metal structures such as bridges, overpasses, or water towers; cast brass or bronze fixtures; clean or refurbish batteries; fabricate metal products; or are exposed to lead fumes or dust from firing guns or retrieving spent bullets at firing ranges.

## Background

Surveillance of blood lead levels (BLLs) of Michigan citizens is based on regulations promulgated October 11, 1997 by the Michigan Department of Health and Human Services (MDHHS) that require laboratories to report all blood lead analyses, both among adults and children. The Adult Blood Lead Epidemiology and Surveillance (ABLES) Program was founded nationally in 1992 and tracks laboratory reports of elevated BLLs in U.S. adults in 37 states. ABLES in Michigan is maintained by Michigan State University in collaboration with MDHHS and the Michigan Occupational Safety and Health Administration (MIOSHA).

## Follow up of Elevated Blood Lead Testing, Michigan 2013-2023

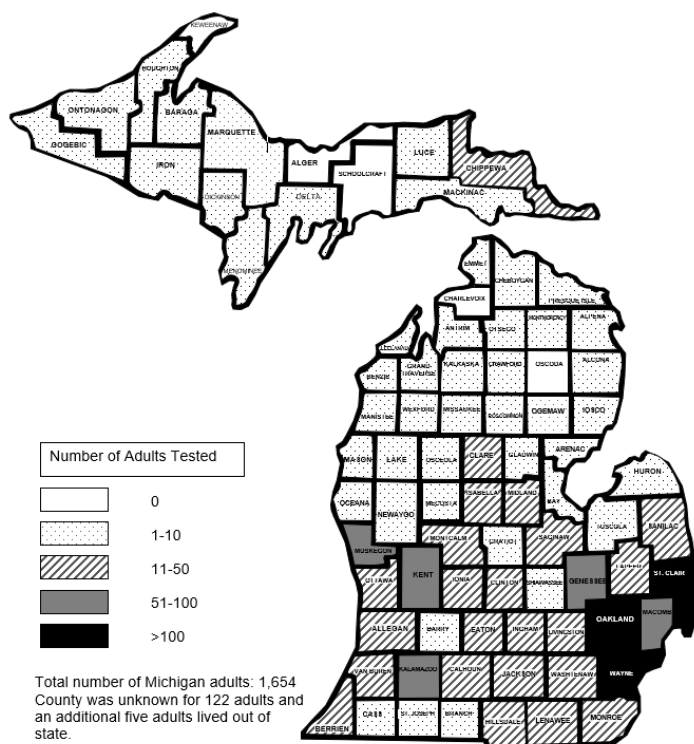
Twenty-five MIOSHA and one Illinois OSHA inspections were conducted at 22 companies referred by Michigan ABLES due to elevated blood lead laboratory reports. Nineteen of the 26 (73%) received citations for violation of the lead-related standard.

- 5 of 5 shooting ranges
- 1 construction operation
- 1 metal storage warehouse
- 1 electric power generator
- 2 of 2 brass/bronze and copper foundries
- 1 recycling service
- 1 finish carpentry contractor
- 1 copper rolling, drawing and extruding manufacturer
- 1 of 2 industrial machinery and equipment merchant wholesalers
- 1 fabricated structural metal fabricator
- 1 rolled steel shape manufacturer
- 1 storage battery manufacturer
- 2 of 3 remediation services

## Elevated Blood Lead Narratives, Michigan 2020-2023

- A female in her 40s, employed at a remediation services company had three elevated BLLs between January 2020 and August 2021 ranging from 23  $\mu\text{g}/\text{dL}$  to 5  $\mu\text{g}/\text{dL}$ .
- A male in his 40s, employed at a remediation services company, had four elevated BLLs ranging from 50  $\mu\text{g}/\text{dL}$  and 17  $\mu\text{g}/\text{dL}$  in December 2020 thru May 2021.
- A male in his late 30s, employed at a remediation services company, had an elevated BLL of 39  $\mu\text{g}/\text{dL}$  in December 2020 and 33  $\mu\text{g}/\text{dL}$  in January 2021. He reported he did lead paint abatement and stripping.
- A male in his 40s employed at a metal casting foundry had an elevated BLL of 23  $\mu\text{g}/\text{dL}$  in June 2021 and 17  $\mu\text{g}/\text{dL}$  in December 2021.
- A male in his mid-40s, employed at an industrial machinery and equipment merchant wholesaler in a battery processing area, had five elevated BLLs ranging between 70  $\mu\text{g}/\text{dL}$  and 55  $\mu\text{g}/\text{dL}$  in September through November 2021.
- A male in his late-60s, employed at an indoor firing range, had three elevated BLLs ranging between 27  $\mu\text{g}/\text{dL}$  and 15  $\mu\text{g}/\text{dL}$  in March through November 2022.
- A female in her mid-30s, employed at a recyclable material merchant wholesaler had an elevated BLL of 16  $\mu\text{g}/\text{dL}$  in July 2022.
- A male in his teens, employed by a self-employed remodeler, had an elevated BLL of 30  $\mu\text{g}/\text{dL}$  in August 2022. He reported that he stripped paint and renovated older homes.
- A male in his 40s, employed at a storage battery manufacturing facility had eight elevated BLLs ranging between 6  $\mu\text{g}/\text{dL}$  and 31  $\mu\text{g}/\text{dL}$  in March through August 2023.

Geographic Distribution of Adults Tested with BLLs  $\geq 3.5$   $\mu\text{g}/\text{dL}$  In Michigan by County of Residence, 1/1/22-08/31/23



Wayne, Oakland, and St. Clair counties had the highest number of adults tested with 301, 109, and 109, respectively.