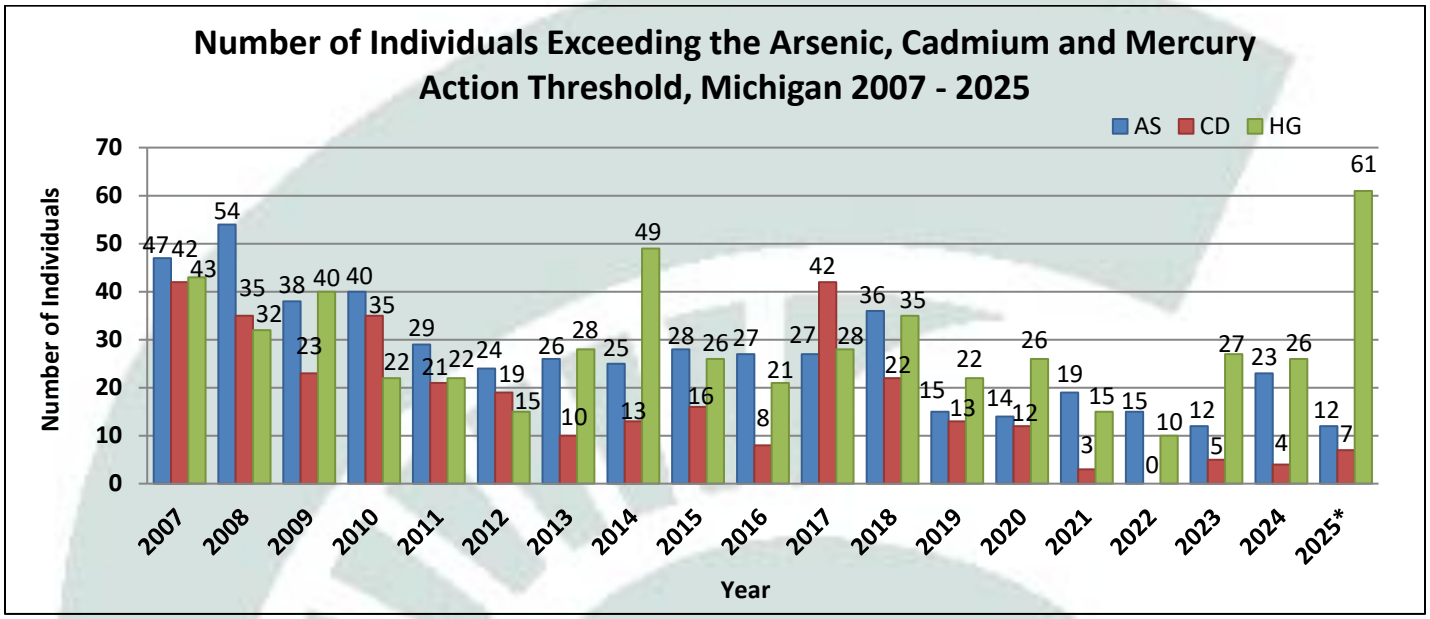
Heavy Metals Surveillance in Michigan

Additional Information and Data Available at: www.oem.msu.edu

Summary Statistics



AS – Arsenic Blood Action Threshold Level (TL) is >70 µg/L. Urine TL in Adults is >100 and in Children ≥50 µg/L.
CD – Cadmium Blood TL is >5 µg/L. Urine TL is >2 µg/L or >3 µg/g creatinine.
HG – Mercury Blood TL in Adults is ≥15 µg/L and in Children >10 µg/L. Urine TL in Adults is >20 µg/L or >35 µg/g creatinine and in Children >10 µg/L.
*2025 preliminary data as of 1/23/2026

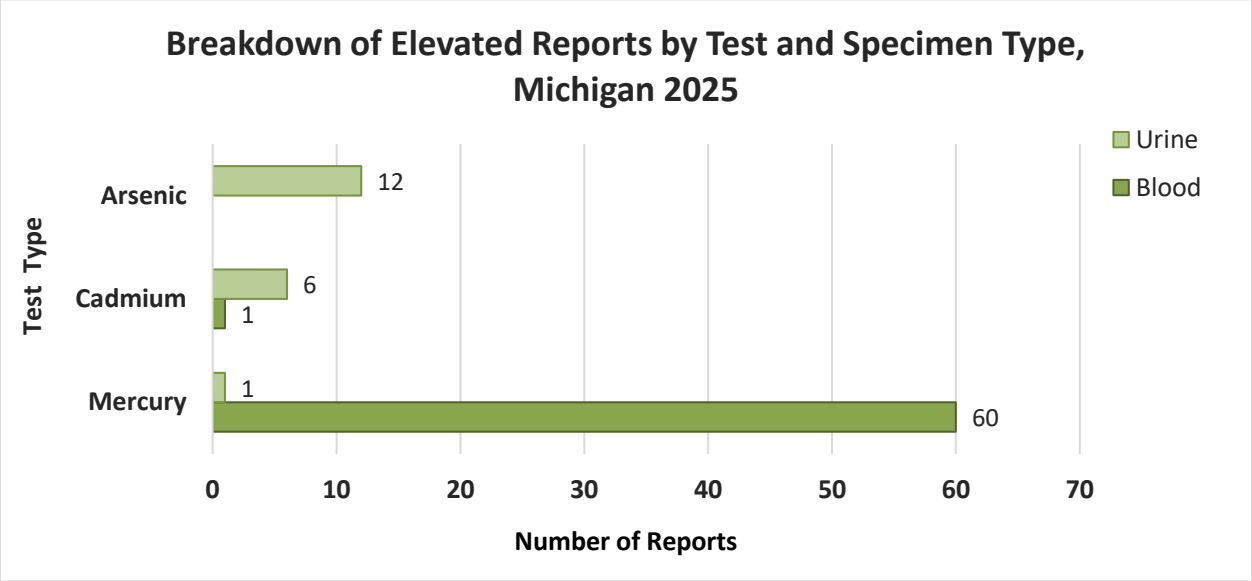
Surveillance Reporting Requirements and Rationale

In September 2005, the Michigan Department of Health and Human Services (MDHHS) promulgated rules requiring clinical laboratories to report all test results of arsenic, cadmium, and mercury in blood and urine. The reporting requirement allows for the identification and prevention of the impacts on human health of exposure to these heavy metals. Individuals with results exceeding action thresholds are interviewed to determine the source of exposure to the metal and assess if public health interventions are warranted. This surveillance system is administered by Michigan State University as a bona fide agent of the State.

2025 Highlights

- A total of 6,153 individuals were tested for arsenic, 3,835 were tested for cadmium, and 12,408 were tested for mercury.
- Eighty-four reports with levels above the action threshold were received from twelve laboratories.
- Eighty individuals had a result that exceeded one of the established action thresholds.
- Sixty-nine percent of the individuals were male. One child had an elevated blood mercury level.
- When the source of exposure was determined (n=31), fish consumption was the likely cause of elevated mercury in 90.3% of tested individuals.

Last Updated February 6th, 2026



Examples: Heavy Metals Poisoning Events, 2010-2025

- 2010 – One individual eating tuna and salmon a few times a week had an elevated blood mercury.
- 2011 – One individual eating shark, swordfish and tuna once a week had an elevated blood mercury.
- 2012 – One individual eating tuna up to ten times a day as a part of his body building diet had an elevated blood mercury.
- 2013 – One individual working in a college lab unintentionally ingested mercury and had an elevated blood mercury.
- 2014 – One individual, who ate salmon and trout four times a week from Lake Michigan had an elevated blood mercury.
- 2015 – One individual, who has spent the last 15 winters in a fishing village off Trinidad and Tobago, ate ocean fish including king fish, wahoo, mahi mahi, blackfin tuna and grouper had an elevated blood mercury. He also consumed tuna and salmon a few times a week during the rest of the year.
- 2016 – Two children, who used house well water had elevated urine arsenic.
- 2017 – One individual working at a nonferrous foundry had an elevated urine cadmium.
- 2018 – One individual, who ate salmon, swordfish and tuna a few times a week, had an elevated blood mercury.
- 2019 – One individual, who ate yellowtail, salmon, canned albacore tuna and sushi a few times a week had an elevated blood mercury.
- 2020 – One individual, who ate tuna and swordfish a few times a week had an elevated blood mercury.
- 2021 – One individual has current dental amalgam fillings and was previously a dental assistant that mixed silver amalgams and squeezed mercury pellets with her bare hands had an elevated blood mercury.
- 2022 – One individual who ate canned salmon and white fish at local restaurants multiple times a week, has dental amalgams, and uses imported facial cream had an elevated blood mercury level.
- 2023 – One individual who used an imported facial cream had an elevated blood mercury level.
- 2024 – One individual who ate canned tuna daily had an elevated blood mercury level.
- 2025 – One individual who works for an industrial hard chrome plating company had an elevated urine cadmium level.