Public Health Lead Investigations

Childhood Blood Lead Testing
All Cleveland ZIP codes are considered high risk. Therefore, all children must test at age 1 and again at age 2. If the child has no test history, they should test between ages 3-6.

Case Referrals
A child with blood lead level of 3.5 µg/dL or higher is referred to Cleveland Department of Public Health for case investigation, lead education, and prevention of further exposure.

Risk Assessments
For children with BLLs 10+ µg/dL, environmental health specialists conduct site visits to identify lead hazards in and around the home.

Orders and Abatement
If lead hazards are found, City of Cleveland issues orders to abate lead hazards. Orders to vacate may be issued if a property is non-compliant.

Figure 1.

Overall rates of lead poisoning have declined, but severe cases (≥ 10 µg/dL) have not.

This chart shows the rate of Cleveland children under age 6 with confirmed elevated blood lead levels (BLL) of 3.5 - 9.9 µg/dL and 10µg/dL or higher out of all those who tested each year.

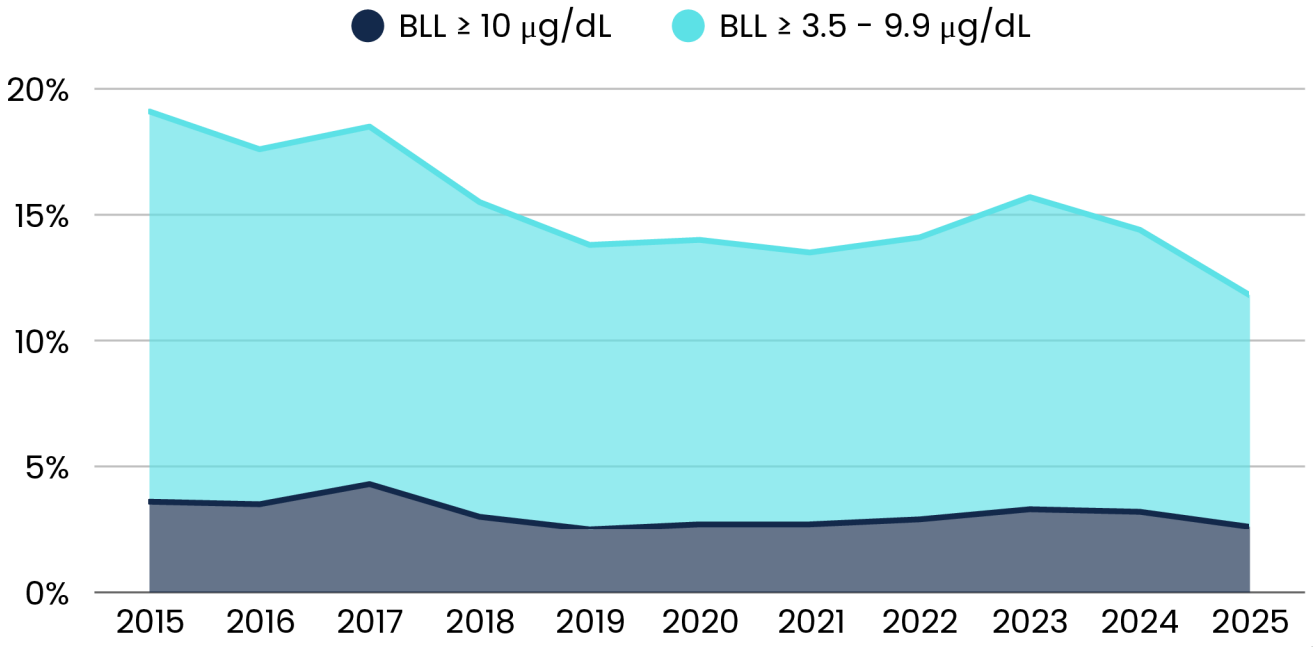


Table 1.

Hundreds of young children each year are identified with lead poisoning.

Counts reflect Cleveland children under age 6 who were tested for elevated blood lead levels.

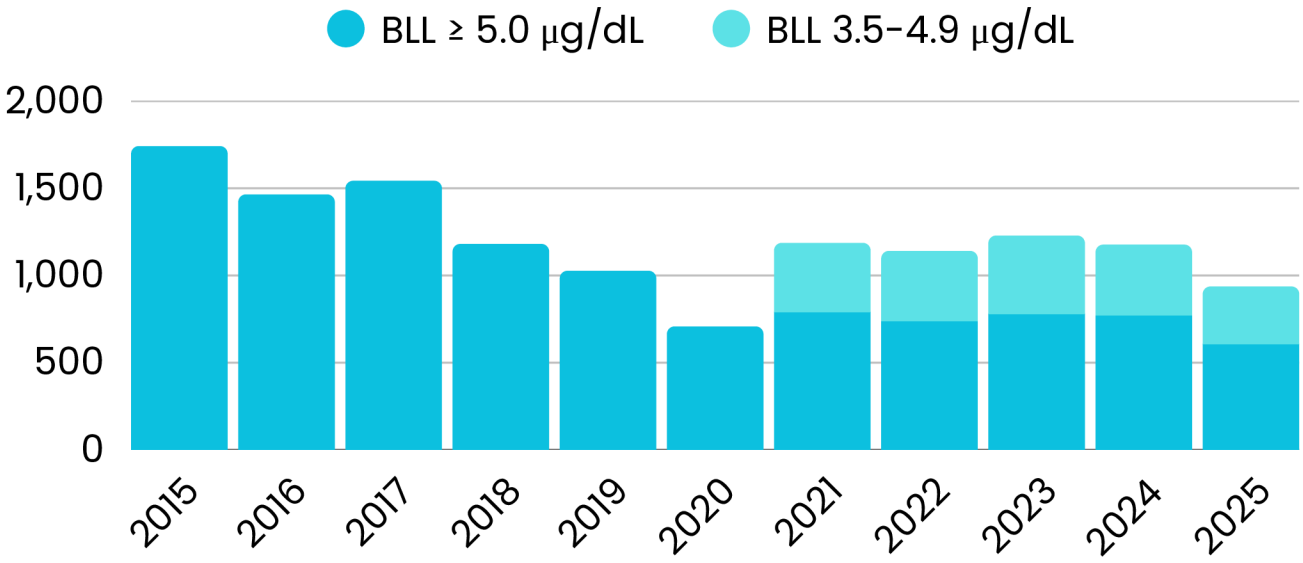
Test Year	Confirmed Blood Lead Levels, µg/dL (% of kids tested)				Unconfirmed Elevated* (% of kids tested)	Total Kids Tested (% of population)	Estimated Population Under Age 6
	3.5-<5	5.0-<10	10-<45	≥45			
2015	778 (7%)	1,050 (9%)	417 (3.5%)	5 (<0.1%)	305 (2.7%)	11,818 (41%)	29,182
2016	676 (6%)	1,036 (9%)	421 (3.5%)	8 (0.1%)	198 (1.6%)	12,174 (41%)	29,553
2017	663 (6%)	1,030 (9%)	502 (4.2%)	11 (0.1%)	161 (1.3%)	11,951 (40%)	30,022
2018	638 (5%)	825 (7%)	351 (3.0%)	5 (<0.1%)	164 (1.4%)	11,740 (42%)	28,165
2019	533 (5%)	745 (7%)	278 (2.5%)	4 (<0.1%)	101 (0.9%)	11,338 (41%)	27,863
2020	347 (5%)	506 (7%)	201 (2.7%)	1 (<0.1%)	84 (1.1%)	7,563 (28%)	26,830
2021	395 (4%)	552 (6%)	237 (2.7%)	3 (<0.1%)	105 (1.2%)	8,805 (37%)	23,793
2022	401 (5%)	504 (6%)	227 (2.8%)	9 (0.1%)	77 (1.0%)	8,093 (32%)	25,004
2023	450 (6%)	518 (7%)	256 (3.3%)	5 (0.1%)	86 (1.1%)	7,835 (32%)	24,159
Ohio updated the blood lead reference value from 5.0 µg/dL to 3.5 µg/dL starting in 2024							
2024	405 (5%)	509 (6%)	260 (3.2%)	3 (<0.1%)	192 (2.4%)	8,134 (33%)	24,900
2025*	330 (4%)	401 (5%)	202 (2.5%)	4 (0.1%)	210 (2.6%)	7,968 (32%)	24,900

Note: If a capillary blood test gives a result of 3.5 µg/dL or higher, a confirmatory venous blood lead test must be done within 90 days after the capillary test. "Unconfirmed elevated" counts represent children who had capillary test results of 3.5 µg/dL or higher and did not receive confirmatory testing by the end of the calendar year.

Figure 2.

Since 2021, blood lead levels of 3.5 µg/dL or higher are considered elevated.

In 2025, an additional 330 children under age 6 had blood lead levels (BLL) between 3.5 and 4.9 µg/dL, bringing the total number of children needing public health follow-up to 937.



In 2021, the Centers for Disease Control and Prevention (CDC) updated the **blood lead reference value (BLRV)** from 5.0 micrograms per deciliter (µg/dL) to 3.5 µg/dL, representing the 97.5th percentile of blood lead distribution in U.S. children ages 1-5 years. The State of Ohio adopted the new BLRV starting in 2024.

Figure 2 shows how many children with blood lead levels of 3.5-4.9 µg/dL would now receive prompt actions to reduce the harmful effects of lead poisoning and eliminate sources of lead exposure.

There is no safe level of lead in the body. Public health practitioners and healthcare providers use the BLRV of 3.5 µg/dL to **identify children with blood lead levels higher than most** U.S. children, determine follow-up actions, and prevent further exposure.

Figure 3.

Cleveland has 2 times the rate of children with lead poisoning compared to similar cities.

This graph shows the percentage of individuals under 6 years old with elevated blood lead levels ≥ 3.5 ug/dL out of all individuals who tested in 2024 and were residents of the corresponding city.

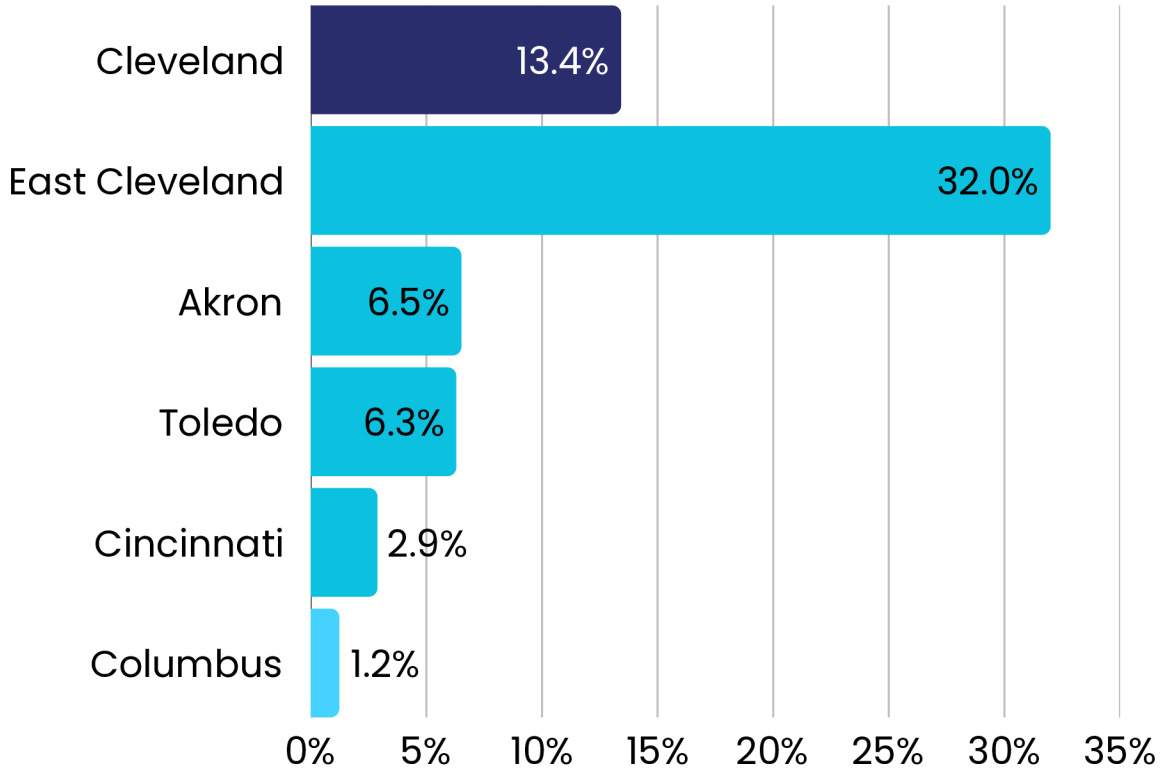


Figure 4a.

The rate of **capillary tests** increased to 43% in 2025 from 24% in 2024.

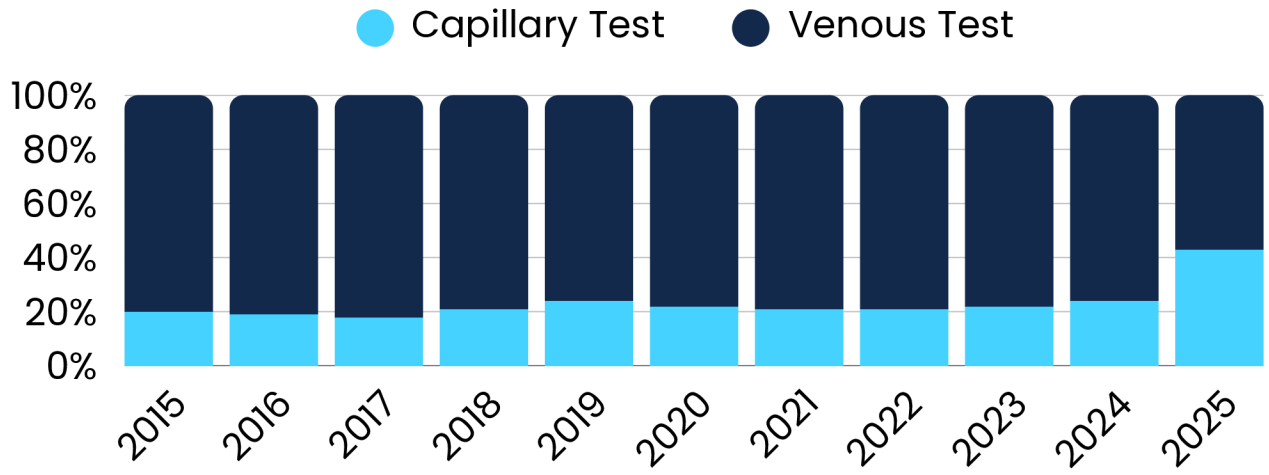
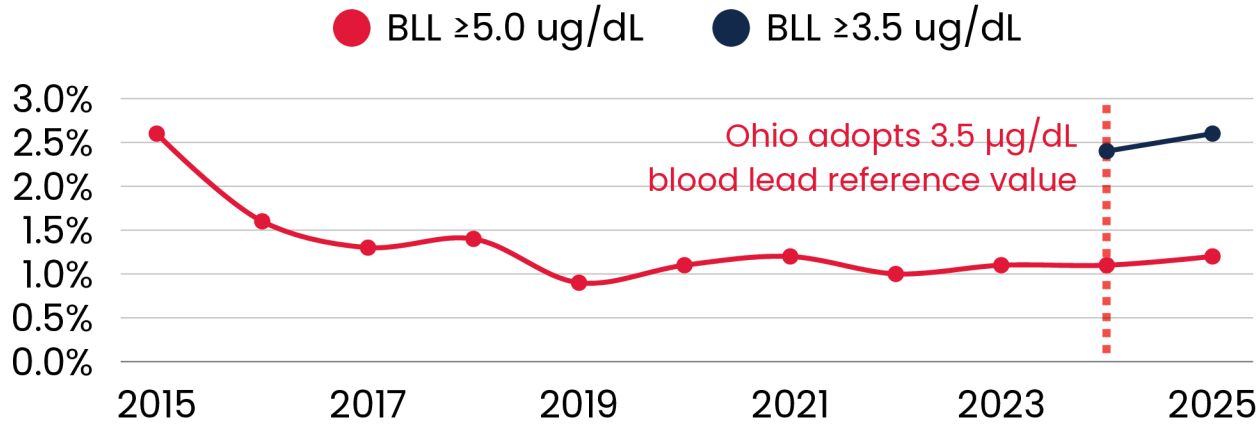


Figure 4b.

However, the rate of **unconfirmed elevated** capillary test results showed little change.



Children with elevated capillary tests need a venous test to confirm lead poisoning within 90 days or less (depending on how high the result is). Some confirmatory venous tests occur in the year following the capillary test.

Table 2.

By the end of 2025, approximately 66% of children born in 2024 had been tested at least once.

This chart shows when children receive their first blood lead test based on the year they were born. All Cleveland ZIP codes are considered high-risk for lead exposure, so children should be tested at age 1 and again at age 2.

Birth Cohort -- The year children were born	**Live Births** -- The number of children born	**Age at first lead test**						**% Tested at Least Once Before Age 2**
		Tested Under Age 1 (% of live births)	**Tested at Age 1**	**Tested at Age 2**	**Tested at Age 3**	**Tested at Age 4**	**Tested at Age 5**	
2016	5,442	342 (6%)	3,322 (61%)	735 (13%)	375 (7%)	233 (4%)	207 (4%)	67%
2017	5,291	295 (6%)	3,406 (64%)	630 (12%)	351 (7%)	334 (6%)	187 (4%)	70%
2018	4,898	260 (5%)	2,911 (59%)	598 (12%)	425 (9%)	303 (6%)	213 (4%)	65%
2019	4,823	207 (4%)	2,794 (58%)	644 (13%)	394 (8%)	338 (7%)	200 (4%)	62%
2020	4,502	192 (4%)	2,801 (62%)	680 (15%)	418 (9%)	289 (6%)	90 (2%)	67%
2021	4,279	220 (5%)	2,688 (63%)	691 (16%)	352 (8%)	154 (4%)		66%
2022	4,078	220 (5%)	2,599 (64%)	641 (16%)	193 (5%)			69%
2023	4,026	207 (5%)	2,723 (68%)	349 (9%)				73%
2024	3,817	217 (5%)	2,293 (60%)					66%

How to Interpret: Of the 3,817 children born in 2024, 60.1% or 2,293 of them received a lead test at age 1 (12-23 months).

Note: Age-at-first-test data include only children tested while living in Cleveland and do not represent the full birth cohort.

Table 3.

Lead testing and poisoning rates differ by neighborhood.

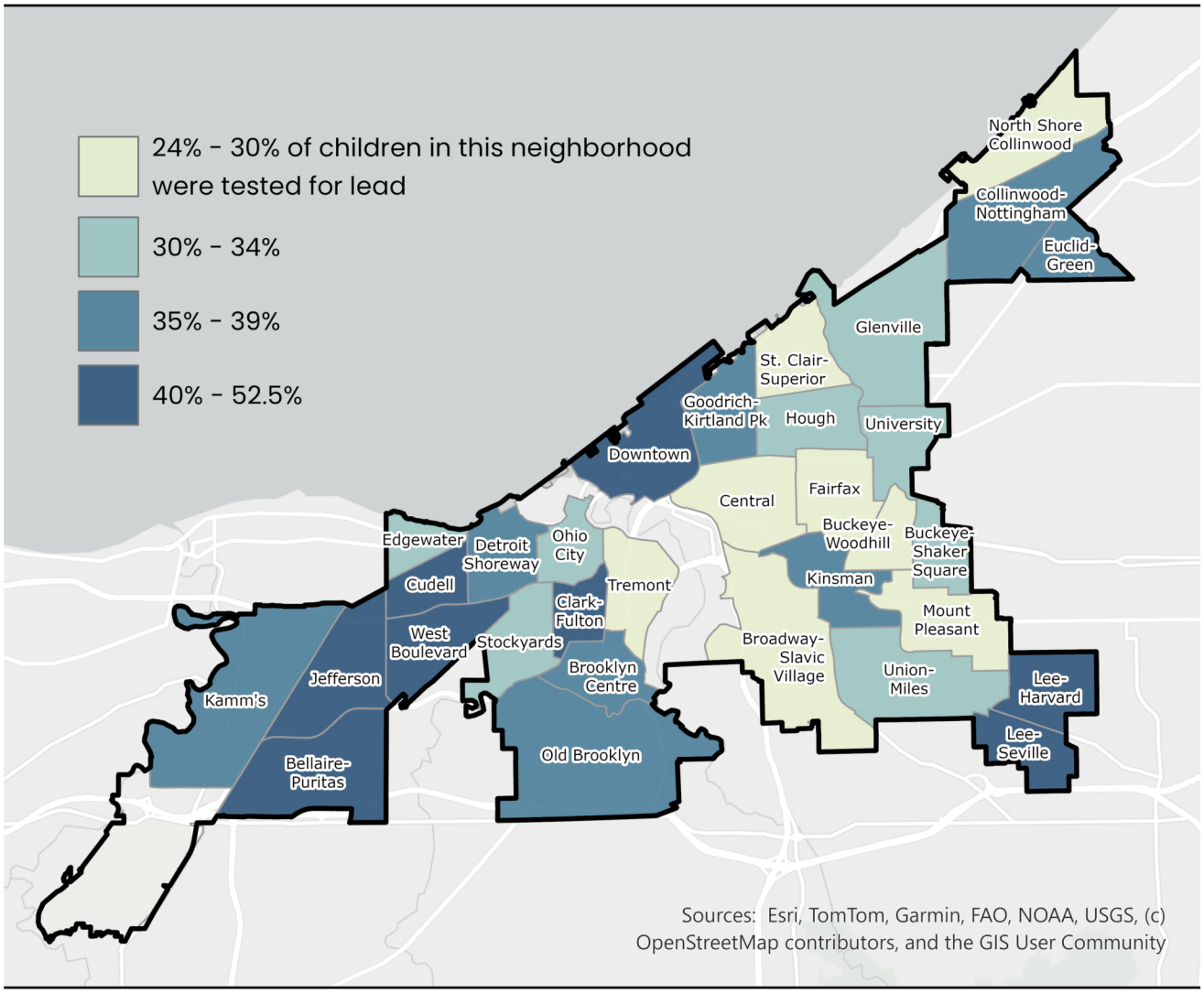
Neighborhood-level counts of children under age 6 tested, poisoned, and living in each area. Cuyahoga Valley and Hopkins are omitted due to low population counts.

Neighborhood	Blood Lead Levels, µg/dL (% of Children Tested)			Total Children Tested (% of Population)	Estimated Population Under Age 6
	3.5–<10	10–<45	≥45		
Bellaire-Puritas	9 (3%)	1 (<1%)	0	343 (53%)	653
Broadway-Slavic Village	50 (12%)	8 (2%)	0	409 (29%)	1,414
Brooklyn Centre	26 (12%)	4 (2%)	0	216 (39%)	559
Buckeye-Shaker Square	14 (8%)	5 (3%)	1 (<1%)	166 (30%)	546
Buckeye-Woodhill	18 (14%)	2 (2%)	0	131 (27%)	482
Central	22 (5%)	4 (1%)	0	401 (29%)	1,393
Clark-Fulton	42 (17%)	13 (5%)	0	249 (46%)	546
Collinwood-Nottingham	39 (16%)	11 (5%)	0	237 (38%)	623
Cudell	57 (19%)	5 (2%)	0	297 (50%)	591
Detroit Shoreway	37 (15%)	16 (6%)	0	252 (37%)	690
Downtown	3 (5%)	0	0	56 (44%)	127
Edgewater	4 (6%)	0	0	63 (30%)	210
Euclid-Green	9 (8%)	4 (3%)	0	116 (40%)	292
Fairfax	7 (8%)	5 (6%)	0	90 (25%)	367
Glenville	94 (19%)	28 (6%)	2 (<1%)	504 (34%)	1,477
Goodrich-Kirtland Park	20 (30%)	1 (1%)	0	67 (39%)	171
Hough	20 (11%)	4 (2%)	0	184 (31%)	590
Jefferson	46 (11%)	11 (3%)	0	412 (49%)	842
Kamm's	16 (3%)	2 (<1%)	0	490 (39%)	1,264
Kinsman	27 (13%)	4 (2%)	0	206 (35%)	586
Lee-Harvard	6 (4%)	5 (3%)	0	163 (46%)	352
Lee-Seville	5 (6%)	0	0	80 (42%)	190
Mount Pleasant	50 (20%)	12 (4%)	0	252 (27%)	927
North Shore Collinwood	26 (12%)	8 (4%)	0	220 (29%)	758
Ohio City	2 (1%)	0	0	146 (30%)	479
Old Brooklyn	40 (7%)	12 (2%)	0	603 (38%)	1,570
St. Clair-Superior	22 (20%)	8 (7%)	0	109 (29%)	378
Stockyards	45 (17%)	14 (5%)	0	265 (35%)	762
Tremont	12 (11%)	0	0	112 (28%)	406
Union-Miles	63 (21%)	9 (3%)	0	302 (34%)	884
University	2 (5%)	0	0	41 (32%)	130
West Boulevard	91 (16%)	20 (4%)	1 (<1%)	564 (47%)	1,212

Figure 5.

Cleveland's east side neighborhoods had lower lead testing rates compared to west side.

Lead testing rates for children under age 6 in 2025.

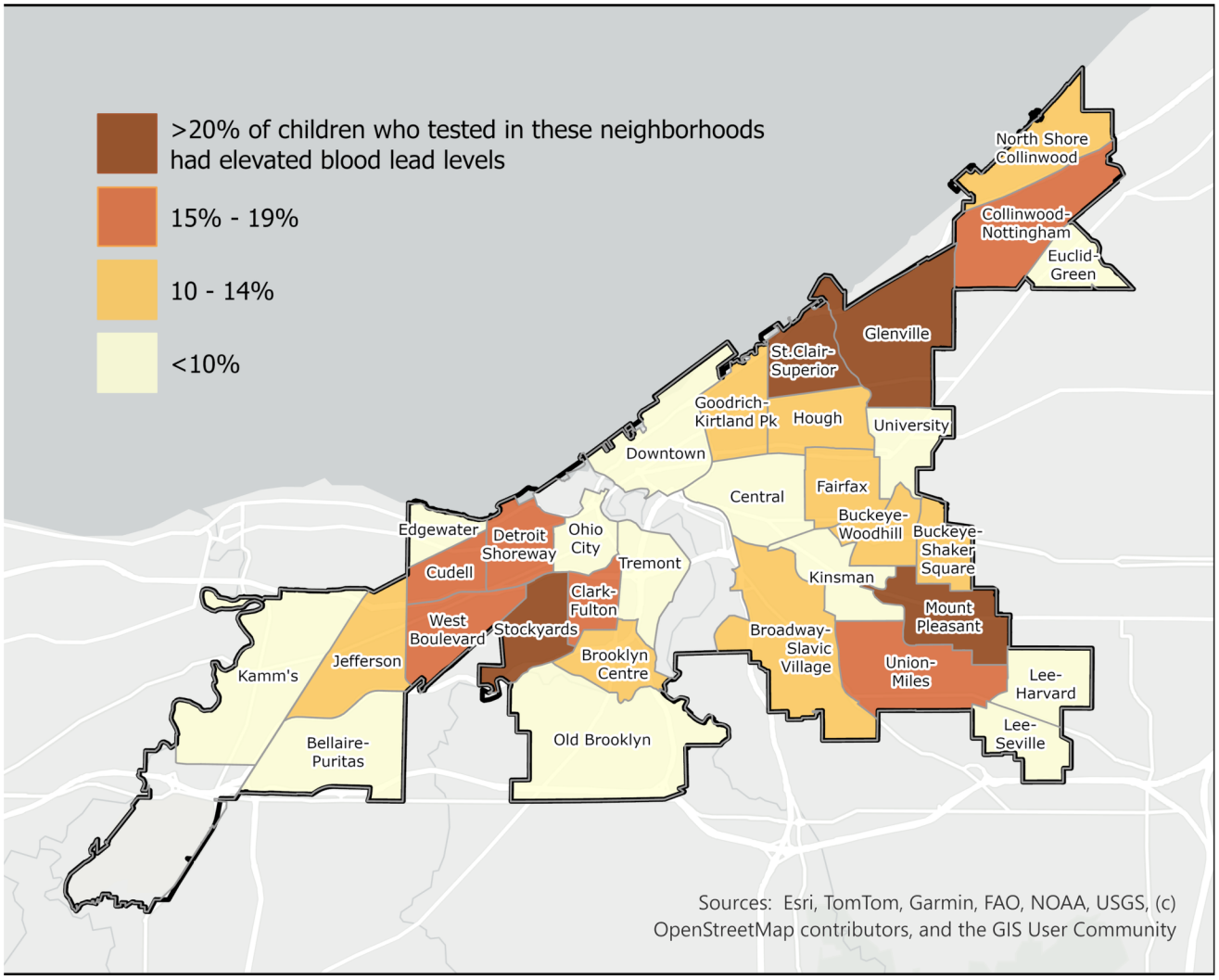


This map shows estimated testing rates in neighborhoods in 2025. Generally, west side neighborhoods have higher testing rates, while most east side neighborhoods have lower testing rates except for Lee-Harvard and Lee-Seville. Children living in Cleveland must test at age 1 and again at age 2. If they have not been tested before, they must test at least once before age 6.

Figure 6.

Some neighborhoods have higher rates of lead poisoning than others.

Lead poisoning rates (≥ 3.5 ug/dL) for children ages 0-5 out of all children who tested in 2025.

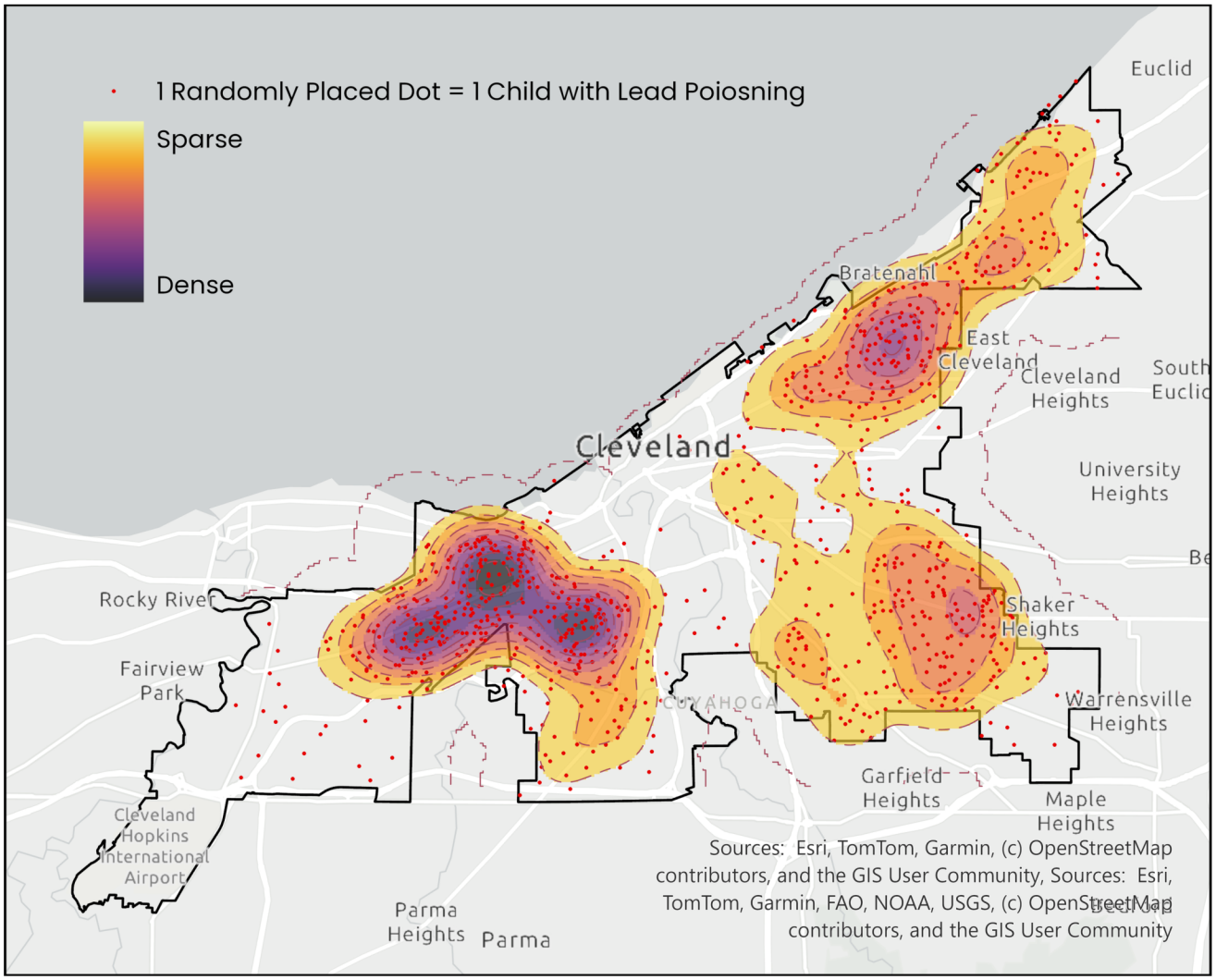


This map shows how many kids had lead poisoning out of all the kids who tested in a neighborhood. Clark Fulton, St. Clair-Superior, Glenville, and Mount Pleasant stand out with the highest lead-poisoning rates.

Figure 7.

Residential Patterns of Children with Elevated Lead Levels, 2025

Kernel density and dot density of home addresses for affected children.



This map shows where many affected children lived at the time of their blood lead test and not necessarily where their lead exposure occurred. The darker purple and orange bands highlight continuous stretches of the city with higher densities of affected children. They may follow major streets, housing types, or older housing corridors. Dots representing children with lead poisoning are randomly placed within the neighborhood of residence.

Acknowledgment and Disclaimer

These data were provided by the Ohio Department of Health, through the DataOhio Portal. The Department specifically disclaims responsibility for any analyses, interpretations, or conclusions from these data.

Methods

Data Sources

- Cleveland's lead testing data are securely shared to Cleveland Department of Public Health as a delegated authority for performing public health lead investigations through the Healthy Housing and Lead Poisoning Surveillance System at Ohio Department of Health.
- Lead testing data for Ohio cities retrieved from "Blood Lead Testing Public (2016-Present)" on the Data Ohio Portal (data.ohio.gov).
- American Community Survey 1-Year Estimates are used for Cleveland population estimates.
- Neighborhood population estimates for 2024 are provided by The Center on Poverty and Community Development through the Lead Safe Cleveland Coalition Dashboard (https://povertycentercle.github.io/lscc_dashboard/index.html)

Who Does the Data Represent?

Data are prepared following Ohio Department of Health methodology for making lead testing data more accessible to the public. Children tested more than once in a calendar year are shown only once in these data. Unless otherwise noted, blood lead levels reflect the highest confirmed test during the year if a confirmed test exists for a child, or the highest test for the year. This is referred to in the data as "Best Test For Calendar Year".

Only a venous blood draw may be classified as a confirmed test. Point-of-care devices can never confirm a child's lead level, regardless of whether the sample is venous or capillary.

Data Release Schedule

Data for a year are finalized by July 1 of the calendar year that follows. Before this date, any reported data may be added to and updated as laboratory test data are shared with the Ohio Healthy Homes and Lead Poisoning Prevention Program (e.g. 2025 data may change until July 1, 2026).

Population Estimates

Population estimates for children ages 0–5 in Cleveland, used in Table 1, come from the American Community Survey (ACS) 1-year estimates. These estimates were selected to match the specific year of analysis. The custom age group (0–5) was created by adding the ACS count for ages 0–4 to one-fifth of the count for ages 5–9, assuming an even distribution across single years of age.

Analysis

Data are prepared using R 4.5.3 and R Studio 2026.01.1. Choropleth, dot density, kernel density, and contour maps were created using ArcGIS Pro 3.3.1. Records with invalid addresses, including missing or inconclusive addresses and those geocoding to 3955 Euclid Ave (Cuyahoga County Children and Family Services), were excluded from mapping.