



Blood Lead Level Test Results for Selected Flint Zip Codes, Genesee County, and the State of Michigan

Executive Summary for Quarter 4, Calendar Year 2021

Data as of May 09, 2022

This report is generated by MDHHS to track blood lead level test results in Flint, Michigan.

Background

- Blood lead level testing is an important part of efforts to identify people who have been harmed by drinking water that contained lead and from other sources of lead exposure in the home. MDHHS recognizes that the full community of Flint must be the focus of the public health response.
- The CDC announced a change in the blood lead reference value (BLRV) from 5 µg/dL (micrograms lead per deciliter of blood) to 3.5 µg/dL in October 2021. MDHHS adopted the new reference value on May 1, 2022 (for more information see <https://www.michigan.gov/mdhhs/inside-mdhhs/newsroom/2022/04/29/mdhhs-updating-definition-of-elevated-blood-lead-levels>). Reports beginning in Quarter 2 of 2022 will include counts of blood lead levels (BLL) above the BLRV using both 3.5 µg/dL and 5 µg/dL as the blood lead reference values.

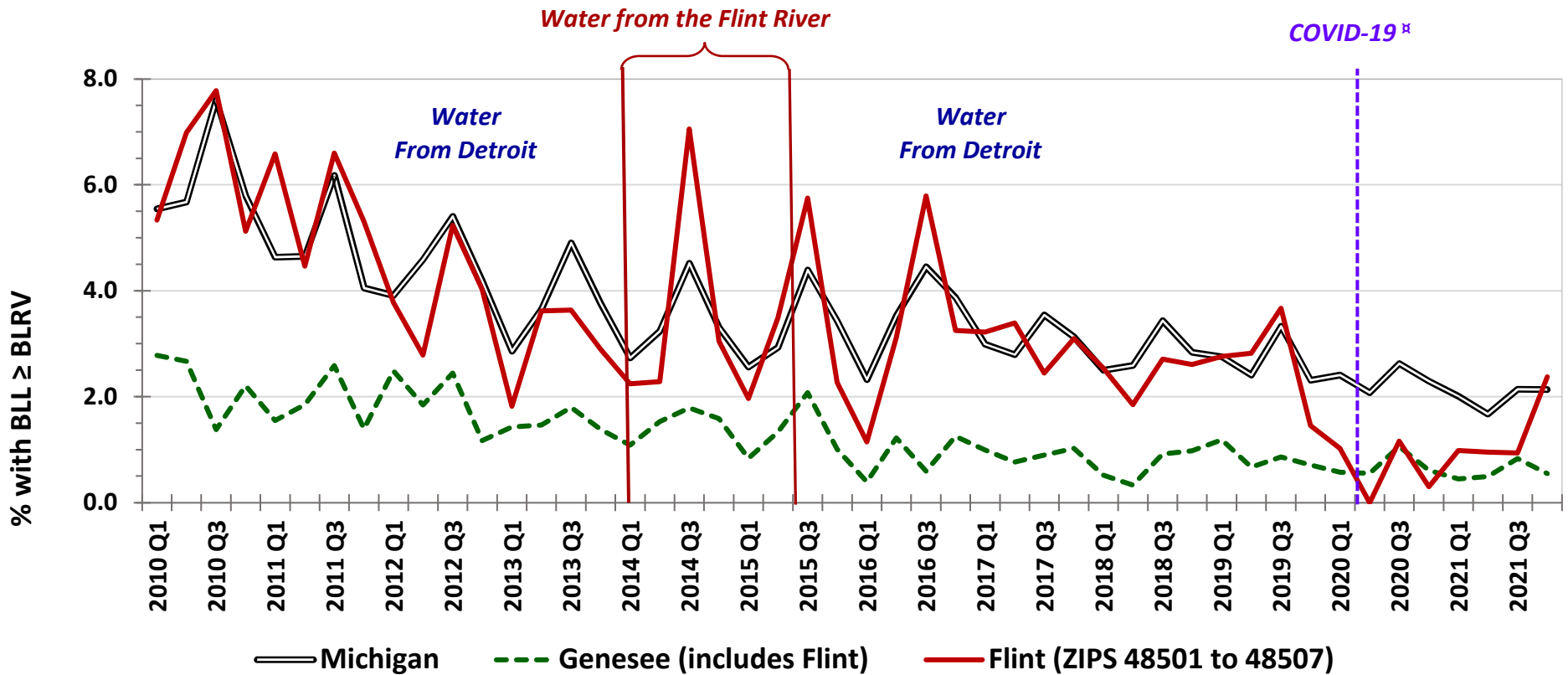
Data Presentation

- Each person is included only once per time period in this table.
 - If a person had multiple tests in the time period, the highest blood lead level from a venous test was counted.
 - If no venous test was performed, the highest blood lead level from a capillary test was counted.
 - If the type of test was unknown, the highest blood lead level obtained from an unknown sample type was counted.

Summary of Findings

- Between 10/1/2015 and 12/31/2021, 46,229 people had a blood lead test in the City of Flint in zip codes 48501-48507.
- Since 10/1/2015, 398 children under age 18 in Flint in zip codes 48501-48507 had blood lead levels > BLRV: blood lead levels greater than or equal to 5 µg/dL (micrograms lead per deciliter of blood).
- Of the 13,828 children younger than 6 years old tested since 10/1/2015, 2.5% had blood lead levels greater than or equal to 5 µg/dL.

Percentage of Children < 6 Years of Age^A with Blood Lead Levels Greater Than or Equal to the Blood Lead Reference Value (5 µg/dL) by Quarter^B, Michigan, 2010 - 2021



* Data source: MDHHS Data Warehouse, Data current as of May 09, 2022

^A Counts on this chart include both capillary and venous blood tests.

^B People who have had multiple tests are counted only once per year; if they are tested in more than one year, they will be counted once in each year they were tested.

⌘ Beginning of COVID-19 lockdowns and movement restrictions in Michigan

Table 1. Percentage of blood lead levels $\geq 5 \mu\text{g/dL}$ among Michigan Residents in the time periods before and after exposure to Flint River Water, 2014 – 2021*

			Michigan	Genesee County	Flint in ZIPs 48501-48507	
Children Less Than Six Years of Age	During Flint River Use	4/1/2014 to 9/30/2015	Total # of children tested for lead	197,446	9,246	4,151
			Children with test results $\geq 5 \mu\text{g/dL}$	6,964	251	167
			% of children with results $\geq 5 \mu\text{g/dL}$	3.5	2.7	4.0
	After Flint River Use	10/01/2015 to 12/31/2021	Total # of children tested for lead	589,204	29,315	13,828
			Children with test results $\geq 5 \mu\text{g/dL}$	17,054	474	349
			% of children with results $\geq 5 \mu\text{g/dL}$	2.9	1.6	2.5
Children Ages 6 to 17	During Flint River Use	4/1/2014 to 9/30/2015	Total # of children tested for lead	14,880	1,179	580
			Children with test results $\geq 5 \mu\text{g/dL}$	351	9	7
			% of children with results $\geq 5 \mu\text{g/dL}$	2.4	0.8	1.2
	After Flint River Use	10/01/2015 to 12/31/2021	Total # of children tested for lead	67,302	14,608	10,156
			Children with test results $\geq 5 \mu\text{g/dL}$	1,037	67	49
			% of children with results $\geq 5 \mu\text{g/dL}$	1.5	0.5	0.5
Adults 18 Years and Older	During Flint River Use	4/1/2014 to 9/30/2015	Total # of adults tested for lead	15,654	674	202
			Adults with test results $\geq 5 \mu\text{g/dL}$	1,540	56	14
			% of adults with results $\geq 5 \mu\text{g/dL}$	9.8	8.3	6.9
	After Flint River Use	10/01/2015 to 12/31/2021	Total # of adults tested for lead	101,837	32,687	22,245
			Adults with test results $\geq 5 \mu\text{g/dL}$	4,242	458	322
			% of adults with results $\geq 5 \mu\text{g/dL}$	4.2	1.4	1.4
Residents of All Ages	During Flint River Use	4/1/2014 to 9/30/2015	Total # of people tested for lead	227,980	11,099	4,933
			People with test results $\geq 5 \mu\text{g/dL}$	8,855	316	188
			% of people with results $\geq 5 \mu\text{g/dL}$	3.9	2.8	3.8
	After Flint River Use	10/01/2015 to 12/31/2021	Total # of people tested for lead	758,343	76,610	46,229
			People with test results $\geq 5 \mu\text{g/dL}$	22,333	999	720
			% of people with results $\geq 5 \mu\text{g/dL}$	2.9	1.3	1.6

* Data source: MDHHS Data Warehouse, Data current as of May 09, 2022

Table 2. Percentage of Blood Lead Levels (BLL) $\geq 5 \mu\text{g}/\text{dL}^1$ Among Tested Children Less Than 6 Years of Age, 2014 – 2021*

Year	Michigan			Genesee County			Flint in ZIPs 48501-48507		
	# Children tested for lead	# with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	% with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	# Children tested for lead	# with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	% with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	# Children tested for lead	# with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	% with BLL $\geq 5 \mu\text{g}/\text{dL}^1$
2014	143,855	5,067	3.5	6,808	178	2.6	3,092	122	3.9
2015	141,508	4,796	3.4	6,979	159	2.3	3,384	111	3.3
2016	157,570	5,641	3.6	11,652	206	1.8	6,578	166	2.5
2017	150,161	4,700	3.1	6,716	126	1.9	3,103	93	3.0
2018	142,102	4,074	2.9	6,349	95	1.5	2,972	72	2.4
2019	143,227	3,908	2.7	6,068	104	1.7	2,779	76	2.7
2020	96,933	2,311	2.4	3,848	29	0.8	1,628	13	0.8
2021	96,462	1,907	2.0	3,863	32	0.8	1,609	19	1.2

Table 3. Percentage of Blood Lead Levels (BLL) $\geq 5 \mu\text{g}/\text{dL}^1$ Among Tested Children 6 to 17 Years of Age, 2014 – 2021*

Year	Michigan			Genesee County			Flint in ZIPs 48501-48507		
	# Children tested for lead	# with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	% with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	# Children tested for lead	# with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	% with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	# Children tested for lead	# with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	% with BLL $\geq 5 \mu\text{g}/\text{dL}^1$
2014	10,554	286	2.7	786	6	0.8	371	5	1.3
2015	10,431	258	2.5	1,572	10	0.6	1,082	8	0.7
2016	24,299	423	1.7	9,663	55	0.6	7,303	39	0.5
2017	13,665	279	2.0	2,493	16	0.6	1,671	13	0.8
2018	12,066	245	2.0	1,806	9	0.5	1,139	7	0.6
2019	11,599	235	2.0	1,351	11	0.8	862	6	0.7
2020	7,375	141	1.9	778	7	0.9	463	3	0.6
2021	8,870	170	1.9	830	3	0.4	518	2	0.4

* Data source: MDHHS Data Warehouse, Data current as of May 09, 2022

¹ Blood lead level after rounding to the nearest whole number (levels $\geq 4.5 \mu\text{g}/\text{dL}$)

Table 4. Percentage of Blood Lead Levels (BLL) $\geq 5 \mu\text{g}/\text{dL}^1$ Among Adults at least 18 Years of Age, 2014 – 2021*

Year	Michigan			Genesee County			Flint in ZIPs 48501-48507		
	# Adults tested for lead	# with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	% with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	# Adults tested for lead	# with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	% with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	# Adults tested for lead	# with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	% with BLL $\geq 5 \mu\text{g}/\text{dL}^1$
2014	10,761	1,182	11.0	437	44	10.1	112	12	10.7
2015	11,808	1,137	9.6	1,250	48	3.8	810	20	2.5
2016	34,527	1,371	4.0	20,220	305	1.5	15,833	245	1.5
2017	18,212	1,122	6.2	5,363	90	1.7	3,227	58	1.8
2018	18,586	980	5.3	4,669	54	1.2	2,536	23	0.9
2019	17,459	1,059	6.1	3,675	55	1.5	1,954	17	0.9
2020	13,754	897	6.5	1,948	28	1.4	1,050	12	1.1
2021	14,933	865	5.8	1,586	34	2.1	869	14	1.6

Table 5. Percentage of Blood Lead Levels (BLL) $\geq 5 \mu\text{g}/\text{dL}^1$ Among Tested Residents of All Ages, 2014 – 2021*

Year	Michigan			Genesee County			Flint in ZIPs 48501-48507		
	# People tested for lead	# with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	% with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	# People tested for lead	# with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	% with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	# People tested for lead	# with BLL $\geq 5 \mu\text{g}/\text{dL}^1$	% with BLL $\geq 5 \mu\text{g}/\text{dL}^1$
2014	165,170	6,535	4.0	8,031	228	2.8	3,575	139	3.9
2015	163,747	6,191	3.8	9,801	217	2.2	5,276	139	2.6
2016	216,396	7,435	3.4	41,535	566	1.4	29,714	450	1.5
2017	182,038	6,101	3.4	14,572	232	1.6	8,001	164	2.0
2018	172,754	5,299	3.1	12,824	158	1.2	6,647	102	1.5
2019	172,285	5,202	3.0	11,094	170	1.5	5,595	99	1.8
2020	118,062	3,349	2.8	6,574	64	1.0	3,141	28	0.9
2021	120,265	2,942	2.4	6,279	69	1.1	2,996	35	1.2

* Data source: MDHHS Data Warehouse, Data current as of May 09, 2022

¹ Blood lead level after rounding to the nearest whole number (levels $\geq 4.5 \mu\text{g}/\text{dL}$)