

CHILDHOOD LEAD POISONING PREVENTION IN MICHIGAN

FISCAL YEAR 2016 REPORT TO THE LEGISLATURE

Prepared by the
Childhood Lead Poisoning Prevention Program
Division of Environmental Health
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INTRODUCTION

For over forty years, government, environmental advocates, landlords, schools, and parents have worked to reduce and eliminate childhood lead poisoning hazards. These efforts have led to considerable gains, including increased awareness of lead as an environmental hazard, reductions (and elimination) in the use of lead in consumer products, and improvements in guidance for the testing and the treatment of lead poisoned children.

Unfortunately, lead poisoning is far from eradicated. Exposure to and the lasting effects of lead are magnified in Michigan's urban areas, where aging housing stock and poor living conditions increase risk. Young children, wherever they live, are particularly vulnerable because of their tendency to put contaminated items such as hands and toys into their mouths, and their growing bodies absorb more lead than adults do and their brains and nervous systems are more sensitive to the damaging effects of lead.

Why does this matter? Lead is a potent neurotoxin. Exposure to high levels of lead can result in brain damage and even death. Even low levels of lead in the body have been shown to affect IQ, ability to pay attention, and academic achievement. Effects of lead exposure may never go away.

The goal of the Michigan Childhood Lead Poisoning Prevention Program (CLPPP) within the Michigan Department of Health and Human Services (MDHHS) is to address lead hazards before children are exposed. While the State and its local partners have seen some success, including declines in the

overall rate of childhood lead poisoning, Michigan continually ranks in the top seven states with the greatest number of lead poisoned children. There is still much work to be done.

The work of CLPPP has been altered markedly this fiscal year because of the switch in April 2014 in the City of Flint of water from the Detroit Water System to water drawn from the Flint River. The different characteristics of the water resulted in leaching of lead from lead pipes in the city's water infrastructure into the water supply. Increased water lead levels and elevated blood lead levels in young children were observed in Flint and confirmed by the State of Michigan in October 2015. This public health emergency has brought local, state, and federal resources to coordinate a response that is expected to continue well into the future with the common goal of protecting Michigan residents' lives from lead exposure.

This report has been prepared in accordance with Act 368 of 1978, Section 333.5474 of the Michigan Compiled Laws. Under MCL 333.5474 the Department is required to report annually to the legislature on the number of children screened for lead poisoning and expenditures under the lead poisoning prevention program. (See Appendix 1) This report is for Fiscal Year 2016.

NUMBERS OF MICHIGAN CHILDREN TESTED AND THEIR TEST RESULTS

Data for this report covers the State Fiscal Year 2016 (October 1, 2015-September 30, 2016). Comparison data are provided for the previous ten fiscal years (2006-2015). Data were extracted from the database of blood lead test results that all laboratories in the state submit to CLPPP as required by the Public Health Code. The data are for children tested each fiscal year; each child was counted once each year, even if they had more than one test that year. The counts of children by blood lead level were based on the value representing the highest blood lead level obtained from a venous blood draw (or a capillary blood test if there was no venous test) that fiscal year.

In FY2016, blood lead tests for 152,162 children through age 6 were reported by laboratories.

Under MCL 333.5474, the Department is required to report to the legislature on children with blood lead levels equal to or greater than (\Rightarrow) 10 micrograms per deciliter ($\mu\text{g}/\text{dL}$) which, when the law was enacted in 1998, was the recommended threshold for 'blood lead level of concern'. In 2012, the Centers for Disease Control and Prevention (CDC) released updated recommendations for addressing childhood lead poisoning and prevention. As a result

of these recommendations, there is no longer a threshold for 'blood lead level of concern'. Rather, as research now shows, even low levels of lead in blood present health concerns. The CDC now recommends that a blood lead level of $\Rightarrow 5 \mu\text{g}/\text{dL}$ be considered elevated, and provides recommendations for monitoring and follow-up of children down to this lower blood lead level. Given the changes to the CDC recommendations, the data tables and figures that follow include blood lead test results with a level of $\Rightarrow 5 \mu\text{g}/\text{dL}$, in addition to the threshold of $\Rightarrow 10 \mu\text{g}/\text{dL}$ that was used in previous reports.

Table 1 provides the number and percent of children tested and those with elevated blood lead levels for the eleven fiscal year periods 2006-2016.

Figure 1 shows the number of children with blood lead levels $= > 5 \mu\text{g}/\text{dL}$ and $\Rightarrow 10 \mu\text{g}/\text{dL}$ for the fiscal years 2006 - 2016. Figure 2 shows the percent of children with these blood lead levels for the same fiscal years.

In FY 2016 5,521 (3.6%) of the 152,162 tested children had blood lead levels $\Rightarrow 5 \mu\text{g}/\text{dL}$ and 1,085 (0.7%) had blood lead levels $\Rightarrow 10 \mu\text{g}/\text{dL}$.

Table 1: Children Tested and Number/percent Children through Age 6 with Elevated Blood lead Levels by Fiscal Year: 2006-2016

Fiscal Year	Children Tested	# => 5 $\mu\text{g}/\text{dL}$	% => 5	# => 10 $\mu\text{g}/\text{dL}$	% => 10
2006	144,435	21,917	15.2	3,507	2.4
2007	151,037	20,428	13.5	3,180	2.1
2008	158,252	16,384	10.4	2,556	1.6
2009	160,375	14,223	8.9	2,057	1.3
2010	158,184	10,533	6.7	1,693	1.1
2011	155,708	8,420	5.4	1,367	0.9
2012	152,710	7,015	4.6	1,153	0.8
2013	152,013	6,016	4	936	0.6
2014	147,765	5,345	3.6	943	0.6
2015	140,982	4,791	3.4	850	0.6
2016	152,162	5,521	3.6	1,085	0.7

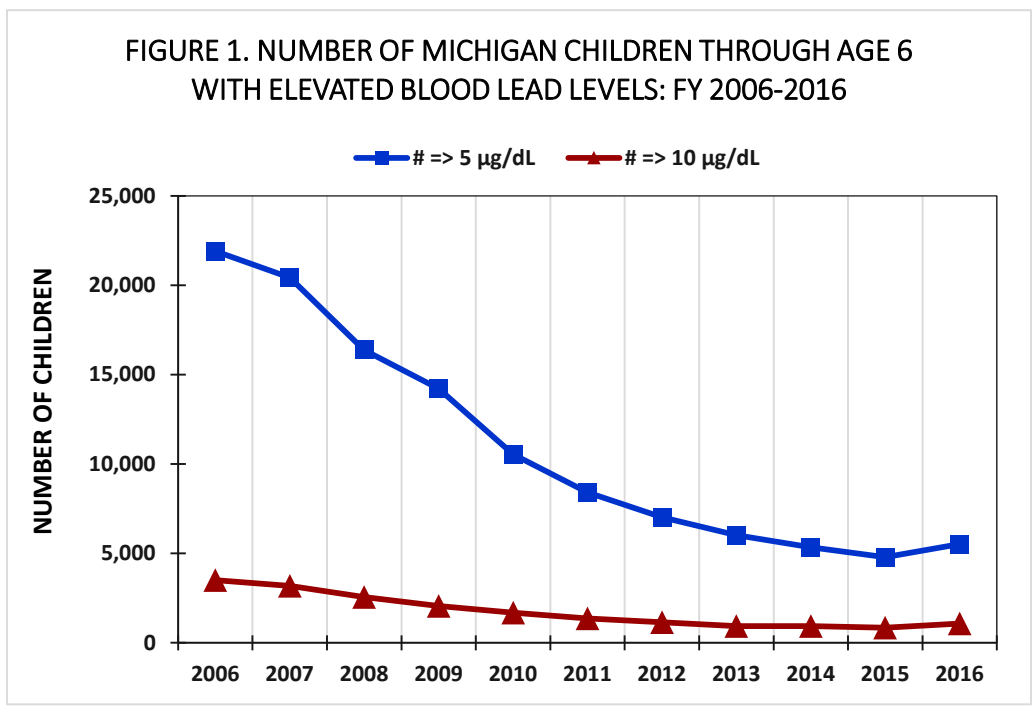
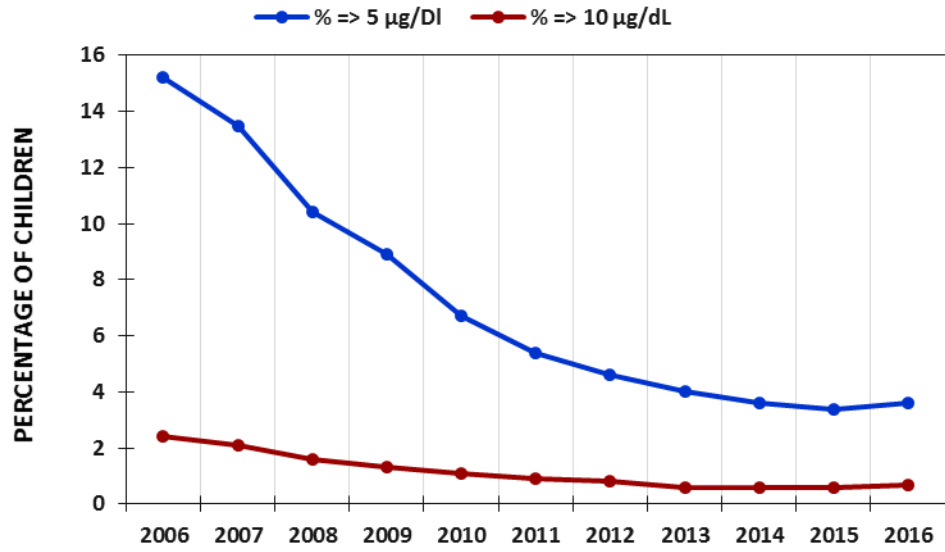


FIGURE 2. PERCENTAGE OF MICHIGAN CHILDREN THROUGH AGE 6 WITH ELEVATED BLOOD LEAD LEVELS: FY 2006-2016



FUNDING

FY 2016 funding for the Childhood Lead Poisoning Prevention Program came from four sources:

Fiscal Year	Maternal and Child Health Services Block Grant*	State of Michigan General Fund	State of Michigan Flint Supplemental Funds	Centers for Disease Control and Prevention	Total
2016	\$ 1,072,200	\$ 113,700	\$ 312,151	\$ 327,353	\$ 1,825,404

*Source: Federal Health Resources and Services Administration

Funding was used to maintain three components of the MDHHS lead poisoning prevention program as required by PA 368 of 1978, Section 333.5474:

- 1) **A surveillance system capable of gathering, storing, and reporting on blood lead results for Michigan children.** Many grants, programs and activities are dependent on and benefit directly from surveillance system data, including the Lead Safe Home Program of the MDHHS, the Michigan State Housing Development Authority, the Michigan Care Improvement Registry, Medicaid, researchers, and the public. Improvements to the surveillance system in FY2016 included:
 - The design and testing of a new web-based data management system was nearly completed. This was one of several initiatives undertaken to automate the process of receiving and processing electronic laboratory reports and making this data available to other programs, including Medicaid. Costs to develop and operate these systems included hardware, computer support and program staff.
 - Support and technical assistance was provided to Local Health Departments in the use of an online data system for accessing blood lead data of children in their jurisdiction.
- 2) **Clinical case management coordination.** Flint supplemental funds were used to support the intensive efforts to provide nursing case management to all children in Flint with elevated blood lead levels, first by the Genesee County Health Department and then by the Genesee Children’s Health Access Program (CHAP). A CLPPP Nurse Consultant acted as an expert consultant to clinical health care providers and local public health agencies throughout Michigan to assure that cases of childhood lead poisoning were managed appropriately. More than 2,000 calls/contacts are fielded over the course of each fiscal year. Funds were provided to several Local Health Departments to provide nurse case management services to children with elevated blood lead levels. At the same, time a plan was developed to support case management by Local Health Departments statewide, with support from MDHHS Medicaid, which will be implemented in 2017.
- 3) **Comprehensive educational and community outreach prevention.** Funds were provided to selected local health departments to provide lead poisoning prevention education and outreach throughout the “prosperity regions” in the State. Activities included:
 - Campaigns to educate and inform key audiences about lead hazards;
 - Informational materials to assist parents and caregivers on safe cleaning practices;
 - Alerts and just-in-time communications on hazardous products; and
 - Updated training for primary care providers on counseling, testing and treating lead exposed patients.

CONCLUSION & RECOMMENDATIONS

Childhood lead poisoning remains a public health threat for many Michigan children. The number and percentage of tested children with blood lead levels of $\geq 10 \mu\text{g}/\text{dL}$ has decreased from year to year in the eleven years of this report, continuing a downward trend going back to 1998, the first year of data collection. We included the number and percentage of tested children with blood lead levels $\geq 5 \mu\text{g}/\text{dL}$ for the first time in the FY 2014-2015 annual report, because of recommendations from the CDC that identify this lower blood lead level as elevated; these are included in this report as well. Note that for every child with $\geq 10 \mu\text{g}/\text{dL}$ there were about 8 children with blood lead levels $\geq 5 \mu\text{g}/\text{dL}$. The age of Michigan's housing stock, the number of children living in rental homes and lack of funding for lead remediation keeps lead poisoning risk as a major health concern.

A major focus of lead poisoning prevention activities beginning in late FY 2015 has been related to elevated blood lead levels associated with water in the City of Flint, and this focus will continue into the future. Data

summaries and information about Flint can be found at www/michigan.gov/flintwater.

Over the next year, the CLPPP will also continue efforts to reduce exposures and poisonings through:

- Improvements to the systems for managing the surveillance data electronically;
- Analysis and dissemination of data on children with elevated blood lead levels;
- Information and education provided to the general population in order to prevent childhood lead poisoning;
- Ensuring appropriate public health case management and interventions statewide when a child is identified with an elevated blood lead level;
- Linking lead poisoning prevention services, including assessment and abatement of lead hazards in homes, to families in need;
- Educating primary care providers about the importance of testing and treating (including retesting) high risk populations, especially in Flint.

APPENDIX 1

Excerpts from Act 365 of 1978 regarding legislative reporting requirements

MCL 333.5474(2) “The department shall report to the legislature by January 1, 1999, and annually thereafter, the number of children through age 6 who were screened for lead poisoning during the preceding fiscal year and who were confirmed to have had blood lead levels above 10 micrograms per deciliter. The report shall compare these rates with those of previous fiscal years and the department shall recommend methods for improving compliance with guidelines issued by the federal centers for disease control and prevention, including any necessary legislation or appropriations.”

MCL 333.5474(3) “Not more than 1 year after the effective date of this part, and annually thereafter, the department shall prepare a written report regarding the expenditures under the lead poisoning prevention program including the amounts and sources of money from the previous year and a complete accounting of its use. The report shall be given to the appropriate committees of the legislature and be made available to the general public upon request.”