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Low-income, minority areas seen as lead poisoning hot spots

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Thousands of Massachusetts children are found to have potentially harmful levels of lead in their blood each year, with cases tending to be concentrated in communities with more low-income and minority residents, state officials say.

The Central Massachusetts town of Warren had the highest rate of lead poisoning, with excessive levels found in 7.1 percent of children tested. The next highest rate was 6.7 percent in the neighboring town of Ware.

At the other end of the spectrum, Walpole and Sudbury had rates of just 0.24 percent and 0.28 percent, respectively, over a recent five-year period.

While the citywide rate for Boston was 2.8 percent, previous state studies have found that certain sections, particularly pockets of Dorchester, may have rates over 6 percent.

State officials said low-income and minority families are more at risk because they are more likely to live in older homes where lead paint has not been removed.

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What parents need to know about lead exposure

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“Being poor and being a minority not only increases the risk of blood lead poisoning but makes it difficult to find a safe home,” Robert Knorr, director of Environmental Epidemiology at the Massachusetts Department of Public Health’s Bureau of Environmental Health, said in a recent presentation on the issue.

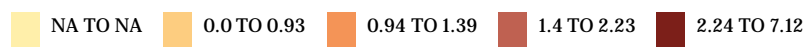
Every child in Massachusetts must get blood lead testing between ages 9 and 12 months and again at ages 2 and 3. In high-risk communities, another test is required at age 4. High-risk communities are designated based on past results. The state collects results of tests on all children under age six, the age range considered to be most vulnerable.

The testing looks for blood lead levels exceeding 5 micrograms per deciliter. Infants and young children are particularly at risk when it comes to lead, which can cause brain damage and other serious health problems.

The map below shows the percentage of children tested in each town in Massachusetts who were found to have elevated levels of lead in testing from 2010 to 2014, the most recent five-year period for which data is available.

Within Massachusetts, rates of children who test to have elevated blood lead levels can vary across different cities and town

This map shows the percentage of children under age six who were found to have blood lead levels of 5 micrograms per deciliter or higher, according to screening done between 2010 and 2014.



SOURCE: Massachusetts Department of Public Health's Bureau of Environmental Health
MATT ROCHELEAU / GLOBE STAFF

In 2014 alone, elevated lead levels were found in nearly 4,000 children statewide who were tested for lead exposure, or about 1.9 percent of the 212,000 children screened, the state data says.

The US Centers for Disease Control and Prevention, which also tracks blood lead levels in children, has higher numbers than the state's. State officials say that's because the federal agency uses a looser standard for counting confirmed cases. By the CDC's count, elevated blood lead levels were found in about 3.4 percent of children screened in Massachusetts in 2014.

Still, that's better than the national rate calculated by the CDC of about 4.2 percent. That equals nearly 106,000 out of 2.5 million screened children in the United States who were tested that year.

If elevated levels of lead are found, parents are advised to seek medical advice.

Dramatic progress has been made overall in recent decades in reducing children's blood lead levels, but there are still trouble spots. For example, the cities of Cleveland and Allentown, Pa., had percentages of 14.2 and 23.1, respectively.

In Flint, Mich., the percentage of children with elevated lead levels in their blood spiked to 7.5 percent in the third quarter of 2014, amid the city's water crisis, according to officials there.

Lead poisoning can cause serious damage to the brain, kidneys, nervous system, and red blood cells, potentially affecting physical development and the ability to learn.

Lead pipes can leach the toxic metal into drinking water. Alarming high lead levels in the water prompted the concern in Flint.

But water is typically just one possible source of lead poisoning.

Lead-based paint — which is estimated to remain on the walls of tens millions of homes nationwide despite its use being banned in 1978 — is believed to be the main source of elevated levels in children.

Children can get tiny paint chips and dust onto their hands and into their mouths from chipping, flaking, and peeling paint, particularly if the paint is disturbed by remodeling.

Exposure can also come from other household dust, soil, food, and certain types of pottery, porcelain, and pewter.

Lead levels in humans are typically measured in micrograms per deciliter of lead in the blood. Over the years, the threshold for concern has been lowered.

The threshold was 40 micrograms per deciliter in 1971. Experts now say that blood lead levels of 5 or more micrograms of lead per deciliter in children are considered to be elevated.

They also say that even levels lower than 5 micrograms can cause adverse health effects.

“No safe blood level has been identified,” the CDC says on its website.

State Representative Jeffrey Sánchez, a Democrat from Jamaica Plain, said he's hopeful that increased attention from the crisis in Flint, Mich., will build political momentum for passage of a bill he has sponsored that would strengthen Massachusetts lead laws.

“It's incredible that here we are in 2016 and we're still talking about lead,” he said.

“We have the second-oldest housing stock in the country,” Sánchez added. “And this is a problem

that disproportionately impacts children from low-income and minority populations.”

“I think the problems in Flint have brought some attention to the issue, and I’m hopeful we can get this done,” he said.

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