

Lead contamination found in blood of half of young kids in U.S.

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About half of young children who were tested for lead had detectable levels of the toxic metal in their blood, according to a new study published in the peer-reviewed journal *JAMA Pediatrics* on Monday.

While most of the kids had relatively smaller amounts, about 2% had a level that is considered high. The research tracked more than 1.1 million [children](#) under the age of 6 years who underwent [lead](#) testing from October 2018 through February 2020.

The findings are likely to raise public health alarms in the U.S., especially amid concerns that lead exposure may be worsening during the pandemic, as well as new questions about the significance of lower levels of lead exposure.

"The broad picture is: Kids have lead in the U.S.," said Morri Markowitz, who directs the lead poisoning prevention and treatment program at Children's Hospital at Montefiore and was not involved in the study. "For lead there's no too low. We want zero."

Kids get exposed to lead in their environment, often through lead paint in older homes. Other sources include lead pipes that bring water into houses and lead found in soil outdoors. There is no level of lead in blood that's known to be safe, according to the U.S. Centers for Disease Control and Prevention and the World Health Organization.

Lead is known to cause likely irreversible damage to still-growing young children, including by harming the brain and nervous system and leading to issues with learning, behavior, hearing and speech.

The new study is the first to examine low levels of lead in children's blood, enabled by more sensitive technology, said Harvey Kaufman, a co-author of the study. Kaufman is also senior medical director at Quest Diagnostics Inc., which performed the testing for the study.

The researchers expected that some children would have detectable amounts of lead in their blood, "but we were surprised that it was half of all children who were tested," he said.

The authors of the study also found connections between lead exposure and poverty, old housing and predominantly Black and Hispanic communities, which is broadly consistent with other lead research.

"These findings confirm that we still have a long way to go to end childhood lead poisoning in the United States," wrote Philip Landrigan and David Bellinger in a corresponding editorial also published Monday in the journal, and "underscore the urgent need to eliminate all sources of lead exposure."

The Biden administration's plan to replace lead pipes as part of a broader infrastructure package is an important step but needs to be accompanied by removing lead paint from U.S. homes, which "remains the predominant source of children's lead exposure," they said.

Keeping kids from lead exposure could save the U.S. as much as \$84 billion for kids born in 2018 alone, in the form of benefits to the economy and public health, a group of researchers found in 2017.

Previous CDC surveys have found that about 2.5% of young children in the U.S. have blood lead levels of 5 micrograms per deciliter or higher. The CDC began using the threshold in 2012 as a so-called reference value, to identify children and guide families in taking lead-reduction measures.

The new *JAMA Pediatrics* study found, similarly, that 1.9% of children tested had blood lead levels of 5 micrograms per deciliter or more. Around 50.5% of the kids had detectable levels of lead, mostly between 1 and 2 micrograms per deciliter.

Kaufman said the population tested was "fairly representative" of the U.S., though he noted there was some selection bias in terms of whose doctor ordered up lead testing.

Only 18 states and the District of Columbia require that health providers screen either all children or high-risk children specifically, while the rest either have only recommendations or don't list requirements or recommendations publicly, according to the study.

Overall children's lead exposure has been reduced significantly over time, including through measures like a federal ban on [lead paint](#) in 1978. Kids' [blood](#) lead levels dropped by about 95% between the late 1970s and the 2011 to 2016 period, researchers have previously found.

"There's lead in the environment, and it persists," said Markowitz, of Children's Hospital at Montefiore. "It's way better than 50 years ago, in terms of how much lead is out there, but it's still there."

More information: *JAMA Pediatrics* (2021). [DOI: 10.1001/jamapediatrics.2021.3518](https://doi.org/10.1001/jamapediatrics.2021.3518)

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