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## 'Silent Epidemic' of Lead Poisoning in U.S. Kids Continues

— Nationwide study confirms disparities by race, income, housing

by [Lei Lei Wu](#), Intern, MedPage Today

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The majority of children in the U.S. still had lead in their blood in the last few years despite decades of policies controlling lead in the environment, and certain groups may be particularly vulnerable.

Quest Diagnostics data revealed that 50.5% of more than 1 million young children tested nationwide had detectable blood lead levels (BLLs;  $\geq 1.0$   $\mu\text{g}/\text{dL}$ ). In four states -- Nebraska, Missouri, Michigan, and Iowa -- over 75% of children had detectable BLLs, reported Marissa Hauptman, MD, MPH, of the Boston Children's Hospital, working with employees of the large lab services company.

"Any [detectable lead level](#) is abnormal and [potentially harmful](#), particularly in young children; no safe level of exposure to lead for children has been identified," the authors noted in *JAMA Pediatrics*.

What's more, 1.9% of the children in the study (all below age 6 years) had elevated BLLs of greater than 5.0  $\mu\text{g}/\text{dL}$ .

"The silent epidemic of lead poisoning continues," wrote Philip Landrigan, MD, MSc, of Boston College, and David Bellinger, PhD, MSc, of Harvard Medical School, in a [corresponding editorial](#).

[In the 1980s, nearly 90% of children had elevated BLLs](#) higher than 10  $\mu\text{g}/\text{dL}$ . While bans on new lead paint and plumbing have significantly reduced that number, "[l]ead is still widespread in the U.S. environment -- especially in paint, water pipes, and plumbing fixtures," Landrigan and Bellinger said.

President Biden recently proposed [to remove all lead pipes in the U.S.](#) in his [\\$2 trillion infrastructure plan](#).

"This proposed action, however, needs to be complemented by an equally ambitious plan to remove lead paint from all homes across the country. Lead-based paint -- and the lead-laden dust that lead paint produces as it wears -- remains the predominant source of children's lead exposure, accounting for the overwhelming majority of detectable and elevated blood lead levels in U.S. children," Landrigan and Bellinger said.

Hauptman's group reported that higher BLLs were correlated with poverty, race, and housing, in line with findings from [past studies](#). For example:

- 60.2% of children living below the poverty line had detectable BLLs vs 38.8% of children not living in poverty
- 57.6% of Black children had detectable BLLs vs 48.7% of white children
- 57.2% of children living in pre-1950s housing had detectable BLLs vs 42.6% in those who lived in newer housing

"These findings confirm that we still have a long way to go to end childhood lead poisoning in the United States," Landrigan and Bellinger wrote. "They reconfirm the unacceptable presence of stark disparities in children's lead exposure by race, ethnicity, income, and zip code -- many of them the cruel legacy of decades of structural racism -- a legacy that falls most harshly on the children and families in our society with the fewest resources."

"The first step is to make sure those who made the mess are held accountable. I would say that every state should engage in some kind of legal action in getting [lead companies] to clean up the mess they made," urged sociomedical historian David Rosner, PhD, MPH, of Columbia University in New York City.

In 2019, [major suppliers of lead paint had to pay \\$305 million to the state of California](#) to clean up damages caused by lead paint. Rosner, who testified in the case, said he hopes other states will follow in California's footsteps.

"We've known for a century that poor kids, those living in rundown housing, are more likely to be poisoned by lead. The tragedy is that researchers have to continually document this fact, despite a century of knowledge of lead poisoning's direct relationship to race, class, and poverty," Rosner said.

"Americans should be ashamed that we allow this tragedy to just continue along, with only occasional nods to correcting it," he added.

The retrospective, cross-sectional study used de-identified data from 1,141,441 children who had undergone lead testing with Quest Diagnostics. The cohort averaged 2.3 years of age at testing, and 51.5% of the children were boys.

Study authors conceded that there could have been selection bias as data from all lead testing companies in the U.S. were not included.

They also noted that there is state-level variability in lead exposure testing laws and procedures: only 10 states and the D.C. require universal testing for children at 1 and 2 years old. Indeed, data from Montana, North Dakota, South Dakota, Wyoming, Arizona, Hawaii, Vermont, and Maine were not reported in the study as there were fewer than 500 children tested in those states.

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## Disclosures

This study was funded by Quest Diagnostics.

Hauptman reported receiving grants from the National Institutes of Health/National Institute of Environmental Health Sciences during the conduct of the study; and grants from the Agency for Toxic Substances and Disease Registry and the U.S. Environmental Protection Agency outside the submitted work.

Bellinger reported receiving personal fees from attorneys for expert testimony.

Landrigan had no disclosures.

## Primary Source

*JAMA Pediatrics*

Source Reference: [Hauptman M, et al, "Individual- and community-level factors associated with detectable and elevated blood lead levels in US children" JAMA Pediatr 2021; doi:10.1001/jamapediatrics.2021.3518.](#)

## Secondary Source

*JAMA Pediatrics*

Source Reference: [Landrigan PJ, Bellinger D "It's time to end lead poisoning in the United States" JAMA Pediatr 2021; DOI: 10.1001/jamapediatrics.2021.3525.](#)