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Lead-Exposure Problems Spotlighthed in Detroit



Reginald Cureton, a 12-year-old diagnosed with lead poisoning at age 1, studies alongside his mother, Jeanine, and sisters Novea, 8, and Shekinah, 3, in their Detroit home. New research is exploring ways to counter the negative learning effects of lead exposure.
 —Brian Widdis for Education Week

By [Jaclyn Zubrzycki](#)

When Reginald Cureton, a Detroit middle schooler, was just a year old, a routine blood test revealed that he had more than four times the amount of lead in his blood required for a child to be identified as lead-poisoned.

The finding led Reginald's parents, Jeanine and Reginald Sr., on a decade-long quest to rid each home they moved to of lead dust and counteract the effects of lead exposure on their children. Research has tied high levels of lead in the blood to such serious problems as criminal activity and low IQ.

For the Curetons, the fight against lead exposure wasn't easy. Reginald's school, for instance, suggested that he be held back a year in 3rd grade. Eventually, he was also diagnosed with attention deficit hyperactivity disorder, or ADHD, and moved to a smaller

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charter school.

Through a strict home routine and a school environment his mother describes as supportive, Reginald, now 12, has been making strides: He scored "proficient" on a recent standardized test and was moved into a more advanced classroom, his mother said.

"It's a daily struggle," Ms. Cureton said, "but we keep moving forward."

Reginald's experience with lead is in keeping with two not-yet-published pieces of research from Detroit that highlight lead's negative effect on student performance, but also hold out new possibilities for remediation.

Lead has been linked to negative trends in school performance, especially among poor and African-American students, in Chicago, [North Carolina](#), [Rhode Island](#), and Texas, among other places, but there is little research on how schools can help affected children.

A Lead 'Epicenter'

One of the new studies pulls together public-health and education data to draw attention to the large numbers of Detroit children who have been exposed to lead.



Reginald Cureton, a Detroit 7th grader who was found to have high lead levels in his blood at age 1, closes the hatch on his family's car after school lets out at the Detroit Merit Academy. A new study links widespread lead poisoning in the district to lower achievement.
—Brian Widdis for Education Week

"Detroit is one of the epicenters for lead in the country," said Jane L. Nickert, the director of the childhood-lead program in the city's department of health and wellness. "And educators don't know what they're dealing with because no one's told them."

Ms. Nickert was not part of the new study, which was conducted by researchers from her agency, the Detroit Public Schools, the University of South Florida in Tampa, the University of Michigan in Ann Arbor, and [MPRO](#), a nonprofit health-care group.

It demonstrates a link between blood lead levels and lower performance on the Michigan Assessment of Educational Progress, or MAEP: Students with an early-childhood blood lead level of 10 milligrams per deciliter of blood—about half of what Reginald's was at age 1—were more than twice as likely to score less than proficient on all three subjects in the state assessment than students with less than 1 milligram per deciliter, after controlling for factors like family income and maternal education.

The research is being reviewed for publication by the *American Journal of Public Health*.

Researchers connected the health records and the 2008-10 test scores of 21,281 students in grades 3, 5, and 8 in the Detroit school district. They found widespread lead poisoning in the district, including some schools where 54 percent of the population had elevated blood lead levels, said Randall E. Raymond, a geographic information specialist in the district's office of research, evaluation, assessment, and accountability.

National Challenges

The Detroit research comes as advocates nationwide are calling for more awareness about recognizing and ameliorating lead's impact on students, and for an increase in funding from the Atlanta-based federal [Centers for Disease Control and Prevention](#), which recently set a lower threshold for identifying children as lead-poisoned but cut funding for lead education and surveillance programs from \$29 million a year to \$2 million a year.

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The CDC last spring lowered the level of lead considered dangerous from 10 milligrams of lead per deciliter of blood to 5, responding to years of research showing detrimental impacts from lower levels of exposure.

But Nanhua Zhang, one of the authors of the academic achievement study and an assistant professor at the University of South Florida in Tampa, said that the study's findings agree with other research suggesting that even students who had between 1 and 5 milligrams

per deciliter had lower test scores than students with less lead in their bloodstreams. The average blood lead level of Detroit students in the study was 7 milligrams per deciliter.

Mr. Raymond said that the findings show that, for a district that's been plagued by low student achievement for years, "it's not just poverty that's a problem—it's environmental-health issues we're confronted with."

Testing an Intervention

The second study focuses on how to improve the academic outcomes of students who were affected by lead and is the first of its kind, said Sue Gunderson, the executive director of Community Lead Education and Reduction Corps, or **CLEARCorps**, a national nonprofit group with offices in Washington.

Health experts on lead poisoning have rarely worked with educators, Ms. Gunderson said, partly because damage from lead has long been understood to be permanent and partly because it gets most attention in early childhood when students are first tested.

"That never made sense to me because of the work that has been done with brain plasticity," which suggests that intellectual capacity is not an immutable trait, said Dr. Teresa Holtrop, an assistant professor of pediatrics at Wayne State University School of Medicine in Detroit. She and a team of Wayne State researchers examined whether **Cogmed**, a Swedish computer program focused on improving working memory, could help approximately 20 lead-poisoned students. After an eight-week intervention, students' IQ test scores, academic test scores, and visual motor integration all improved. The students' IQ scores jumped from 89 to 95, said Lisa Chiodo, an assistant professor of nursing at Wayne State who participated in the research.

The researchers first piloted the program in the Detroit district on children who did not have blood lead poisoning in order to determine whether it could be practically implemented in a busy public school, and hope to conduct a larger-scale study of the program.

CLEARCorps' Ms. Gunderson said she hopes those findings will be the first of many encouraging results in education. A report due out before the end of the year from the CDC's Advisory Committee on Childhood Lead Poisoning Prevention Education Workgroup, of which Ms. Gunderson is a member, will suggest areas for future research in how to educate lead-poisoned students.

A Solvable Problem

Lead poisoning has become much less common in Detroit and nationwide: There were 4,846 new cases of it in Detroit in 1998; the number at that level in 2011 was closer to 550. But advocates fear stalled progress brought on by the recent CDC budget cuts, said Lyke Thompson, the chair of the Detroit Lead Partnership, which pulls together



Reginald works on a metal ring puzzle. With help from his family and educators, he is making academic gains, his mother says.
—Brian Widdis for Education Week

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The cuts have ended lead surveillance, education, and case-management programs around the country, said Ms. Gunderson.

“Without these programs ... you can’t collect data and can’t see pockets where we have a bunch of new cases,” she said.

Ms. Gunderson said that beyond surveillance, more work remains to be done for schools and researchers. “Unfortunately, the lead issue is not solved,” she said. “And the kids who are affected are the same kids who we’re wondering, what’s going on with African-American kids in school, with low-income kids?”

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While researchers search for more evidence about what exactly works for students like Reginald Cureton, his mother takes as a given Dr. Holtrop’s findings that children who have been exposed to lead can still grow and learn.

“I tell Reginald that you are not defined by this,” Jeanine Cureton said. “Don’t let this illness dictate your life and your choices.”

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Vol. 32, Issue 05, Page 6

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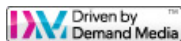
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