



High lead levels found in water at hundreds of schools

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A water cooler in a classroom at the Mary Curley K-8 school in Jamaica Plain.

By [Matt Rocheleau](#)

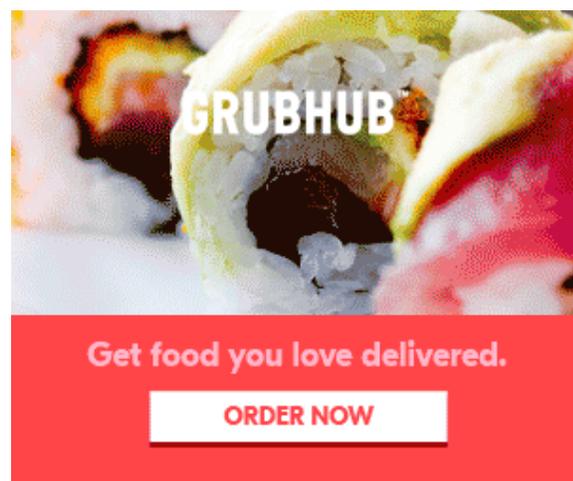
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Water testing at more than 1,000 Massachusetts schools found that a majority had at least one sample showing lead levels above regulatory limits, and in a few cases results rivaled or exceeded levels measured during the crisis in Flint, Mich.

In many of the worst instances, school officials said that the source of the water had not been used for years. They have taken steps to address cases of high lead levels and have notified parents of the results.

But the findings, taken in tests over the past year, nonetheless alarmed school officials and public policy specialists.

“We were surprised by the amount of schools and the amount of tests coming back with positive lead readings,” said Deirdre Cummings, legislative director for the Massachusetts Public Interest Research Group, which recently [gave the state a “D” letter grade](#) for its efforts to prevent lead from entering the water at schools and day-care centers.



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Of the 1,037 Massachusetts schools tested during the past year, 605 schools had at least one sample test above the state's regulatory limit. A total of 995 schools had at least one sample with some amount of lead detected.

Why some water samples from schools show very high lead levels

Alarming high levels of lead were found in a small number of samples of water drawn from drinking fountains inside Massachusetts schools.

Table: Mass. schools that failed, passed tests for lead, copper in water

Chart: The highest lead levels found at Mass. schools

Advocates and experts contend that no amount of lead in water is safe. Even low concentrations can be harmful, particularly for children and the fetuses of pregnant women.

The tests also found high levels of copper — another potentially harmful material — at 265 schools.

The state launched a testing [program](#), funded with about \$2.75 million, last spring in the wake of concerns generated by the crisis in Flint, which was rocked by very high lead levels in its municipal drinking water.

The program, which was overseen by the Massachusetts Department of Environmental Protection and tested mostly public schools, [intensified](#) last fall around the start of the school year. The final batch of results came back in recent days.

The program was voluntary so the results do not represent all of the state's schools. There are more than 1,850 public schools and about 80 charter schools, along with hundreds of private schools statewide.

One key district missing from the statewide results is [Boston Public Schools](#), which consists of about 130 schools. It began its own testing before the state program launched, and that sampling released last spring and summer turned up elevated lead levels in a [number of school buildings](#).

In all, state officials released results of 64,849 samples from the 1,037 schools around the state. The samples came from multiple fixtures in an individual school.

About 51 percent of the total samples showed no detectable levels of lead, according to a Globe review of the [results](#).

The rest revealed some signs of lead, including about 7.6 percent, or 4,955 samples, that measured above the state's limit for the mineral in school water of 15 parts per billion, or ppb. Among those with particularly high results, 784 samples were above 100 ppb, with 109 samples exceeding 1,000 ppb.

The worst sample came from a bubbler at the Hancock K-5 Elementary School in Brockton, which had a lead concentration significantly above the highest levels measured during the crisis in Flint.

But in that case — and for some of the other instances in which extremely high lead levels were found — the readings came from fountains that were believed to have not been used for years, according to officials from those school districts.

The longer water sits in lead-bearing pipes, the more lead can leach into it. Testing of such water can produce unusually high results.

Steps have been taken in many schools to address elevated lead levels, including shutting off drinking fountains or taps, flushing pipes, installing signs at certain fixtures instructing people they can wash their hands but should not drink the water, and making long-term plumbing repairs, officials have said.

Results varied, in some cases significantly, from one building to the next.

For the Page Hilltop Elementary School in Ayer, about 69 percent of samples came back with lead levels above the regulatory standard of 15 ppb, the highest such percentage of any school in the state.

After getting those results, officials at the school moved to shut down some fixtures and set up plans

to routinely flush others, according to the district's superintendent, Mary Elizabeth Malone. The district also notified families about the results and about efforts to address the problem, she said. Officials plan to hold a community meeting this month.

Malone said officials are looking into long-term solutions, including replacing fixtures and installing water-bottle filling stations.

The elementary school building is old, she said, and some drinking fountains that tested high are not used frequently, but officials were still very concerned.

"We don't take this lightly and we took the interim measures recommended by [state environmental officials] immediately and were working on long-term solutions," she said.

Cummings applauded the state and school leaders for conducting the testing but said the results sound an alarm about how much more work on prevention is needed.

"For a state that prides itself on providing the top-tier education and schools, I would have thought we would have solved the issue of lead in drinking water," she said.

Advocates and experts point out that today's government standards regulating lead levels in water were set by environmental regulators in the early 1990s based on what was feasible to achieve at the time instead of what was needed to keep people [healthy](#).

"Any tap that dispenses any lead, even in amounts below 15 parts per billion, is a tap that puts children at risk," said Yanna Lambrinidou, an affiliate faculty member in the science and technology in society program at Virginia Tech who has closely researched the topic of lead in schools.

A [state bill](#), filed by legislators in January and backed by MassPIRG, would create new rules strengthening lead prevention efforts at Massachusetts schools and day care centers, including lowering the allowable limit for water at those facilities to 1 ppb, which the American Academy of Pediatrics and others [have recommended](#) as the new standard.

The bill calls for annual testing and immediately shutting off school fixtures that measure above 1 ppb. Schools could install special filters to remove lead at such fixtures, replace lead-bearing plumbing, or keep the fixtures off permanently as long the school had other ways of providing access to free, safe water for students.

The bill would represent a “significant step forward,” said Cummings. “It protects the most vulnerable population.”

Officials from the state Department of Environmental Protection said they were analyzing the results and preparing to issue a report on the findings that will include recommendations for next steps. They did not comment further.

The state program also tested water for copper at the 1,037 schools.

Drinking water with high levels of copper can cause nausea, vomiting, stomach cramps, diarrhea, and, in severe cases, liver and kidney damage and even death, according to the [Centers for Disease Control and Prevention](#).

Of the 605 schools with high lead levels, 235 of them also had at least one sample of copper levels above regulatory limits.

Another 30 schools had at least one sample of copper above regulatory limits, though their lead levels were below regulatory limits.

To improve the thoroughness of testing, the program called for drawing two samples from each fixture: one to capture water first thing in the morning after it had sat stagnant overnight; and a second to capture water after the fixture had been run, or flushed, for about 30 seconds.

Lambrinidou, the Virginia Tech researcher, said testing results should be used with caution.

Lead levels at a single tap can vary significantly from one draw to the next, depending on a host of factors including how long the water had been sitting since it was last used and if tiny lead particles happened to break free from the plumbing.

“The testing can be helpful in giving us a very general idea of how extensive and severe the problem is,” she said. “But the testing is inappropriate in making determinations of which taps are safe and which require remediation.”

She said the best short-term solution for schools would be to install lead-certified filters at taps used for drinking or food preparation, or to switch to bottled water temporarily.

The long-term fix, she said, would be to replace lead-bearing plumbing with pipes and fixtures that contain no lead.

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