



Action Plan

Standards vary surrounding lead testing & remediation in schools

By Lauren Estes

Lead contamination in drinking water remains a concern throughout the U.S., particularly in schools and childcare facilities that serve children—the population most vulnerable to the dangers associated with lead contamination. While point-of-use (POU) and point-of-entry (POE) treatment provides a solution, it cannot effectively be implemented unless facilities proactively identify problems.

Surveying Standards

“There is no federal regulation requiring that all schools or childcare facilities have their water tested for lead or replace lead service lines,”

said Kathleen Fultz, global regulatory and government affairs manager for the Water Quality Assn. “However, there has been a lot of discussion around the topic and there is proposed legislation to add requirements, but there is no regulation requiring it.”

Fultz monitors regulations and proposed regulations relating to the water treatment industry. She has created a map to track which states have adopted regulations for testing water for lead in schools or childcare facilities, as well as which states have proposed regulations. Currently, she has found that 14 states have regulations to test for lead in drinking water in schools and 15 states have proposed legislation that was introduced this year.

“All in all, it is more than half of the states that are either doing something already with lead in schools or are proposing it—so definitely a top issue,” Fultz said. “There is just huge momentum.”

However, regulations vary across the states and lack consistency. Regulations differ in regards to testing frequency, defining what a school is and remediation steps, Fultz said. Some states focus lead testing regulations in elementary schools, while others have expanded to include higher education in legislation. When it comes to remediation steps, some states only require testing while others require the implementation of filters or the replacement of fixtures.

On the federal level, childhood lead exposure remains top of mind. In December 2018, the U.S. EPA published the 2018 Federal Action Plan to Reduce Childhood Lead Exposures and Associated Health Impacts. The plan aims to reduce children’s exposure to lead sources and revise the Lead and Copper Rule. The plan also prioritizes EPA’s 3Ts approach (training, testing and taking action) to reduce lead in drinking water.

“You really would have thought that 2016 and 2017 with Flint, Mich., that the momentum would have slowed down afterwards or we would not continue to see that buildup,” Fultz said. “But we are definitely seeing states continue to take a closer look at drinking water.”

Leading the Charge

One such state is Indiana, which adopted a rigorous testing and remediation strategy for lead in drinking water at schools. In 2017, the Indiana Finance Authority (IFA), in coordination with the Indiana Department of Environmental Management, launched a voluntary school lead sampling program that sampled 915 school buildings statewide.

“The primary goal of the program was to provide schools with more information about how to better manage water quality within their facilities,” said Jim McGoff, chief operating officer and director of environmental programs for IFA.

Financed through IFA using a combination of federal and state funding, the program tested drinking water at participating schools and identified remediation approaches, including removing or replacing fixtures, posting hand washing-only signs or routinely flushing fixtures before use, McGoff said. Because current state and federal laws do not require schools to test for lead, the program was voluntary, covering 60% of the state’s public school students.

Indiana-based water quality technology and testing company 120WaterAudit worked with IFA as a data management provider throughout the program. Founded in April 2016, the company has

expanded to provide water testing and data management services across the country.

“Living in a post-Flint world, we immediately started to see the trend of schools, districts and then states setting up these voluntary programs, as well as regulating lead testing in drinking water across the U.S.,” said 120WaterAudit CEO Megan Glover.

Because the water samples needed to be taken when schools were in session to resemble normal use patterns, the program ran from August 2017 to May 2018. Sixty collectors covered different regions and worked every Tuesday through Saturday to collect samples in the rapid timetable. The schools then collaborated with IFA to take necessary remediation steps before the new school year began. The protocols in the lead sampling program were based on EPA’s 3Ts guidance.

Overall, 57,000 samples were collected, on average 60 samples per school, and 62% of schools had a least one fixture with lead at more than 15 ppb, while 95% of fixtures were under 15 ppb per school on average. Additionally, 100% of water entering schools was not a source of lead contamination.

“In the state of Indiana, we found no data to suggest that water coming in from the distribution line was the cause of lead in the facilities,” Glover said. “It really is localized to the fixtures and interior plumbing more than the water coming into the facility.”

The sampling protocol involved taking an initial and flush sample from every fixture that was used for drinking or cooking, and then taking a final three minute flush at the distribution line. This protocol revealed the significant role fixtures had in any lead contamination found, rather than the distribution line.

“The ‘why now’ is I think in a post-Flint world everyone became a lot more educated about the fact that this vulnerable population across the U.S. was not being regularly tested for lead, and then once they started to test they realized we are finding lead because so much of it is localized to the interior plumbing and the actual fixtures of the facility,” Glover said.

Recommended Remediation

As a result of the lead sampling program, IFA worked with schools to ensure fixtures were replaced and POU treatment devices were installed where appropriate. The schools also were encouraged to pursue follow-up sampling to ensure lead levels remain below the federal threshold.

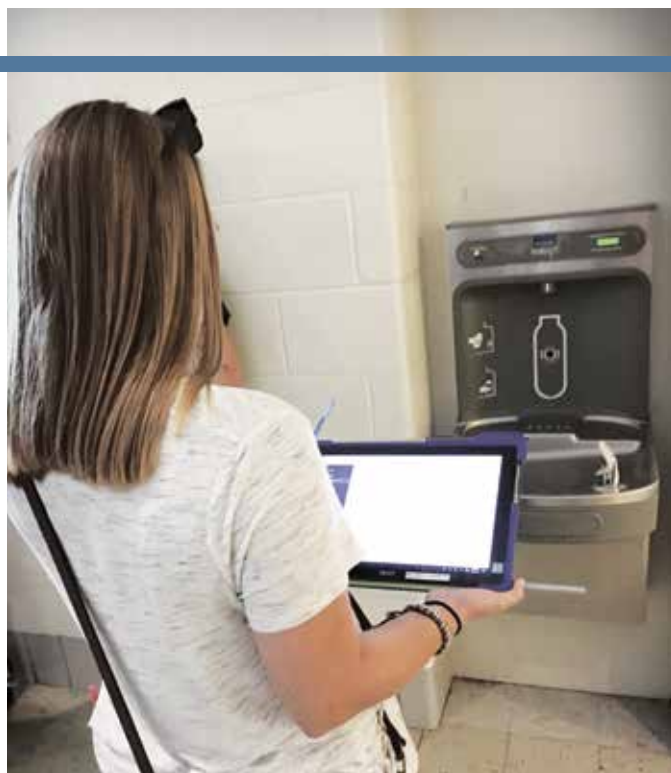
“The average remediation cost per school identified with fixtures containing elevated lead levels was \$550,” McGoff said.

It is up to water treatment professionals to continue to advocate for rigorous testing and solution implementation.



Left: 120WaterAudit tracked lead sampling in Indiana schools through their database.

Right: 57,000 samples were collected from 915 school buildings statewide.



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The program was unique because results were delivered with an action plan and corrective action was enforced, Glover said.

“I would say that’s the biggest lesson learned: you have to think about these programs in their totality and ensure you have the right plan, both for a remediation water quality plan as well as a communication plan to back it up,” Glover said.

IFA plans to use EPA Water Infrastructure Improvements for the Nation Act funding to extend the lead sampling program in the future. In the meantime, other states can pursue similar programs and proactively test for lead in drinking water at schools and daycares.

“We believe this program can be a model for other states who are considering a testing program because it’s proactive in the absence of policy, leverages available federal and state funding resources specific to water quality improvements, and provides assistance to schools via resources and guidance to help them participate in testing and implement remediation when applicable,” McGoff said.

Because of the lack of standardization in lead testing and remediation standards across the nation, states, municipalities and schools are developing their own standards. It is up to water treatment professionals to continue to advocate for rigorous testing and solution implementation, particularly for schools. **WSP**

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