

STANDING COMMITTEES:

Natural Resources & Energy, Chair
Transportation, Veterans, & Military Affairs

JOINT COMMITTEES:
Audit Committee, Co-Chair

ROBERT L. COWLES

Wisconsin State Senator
2nd Senate District

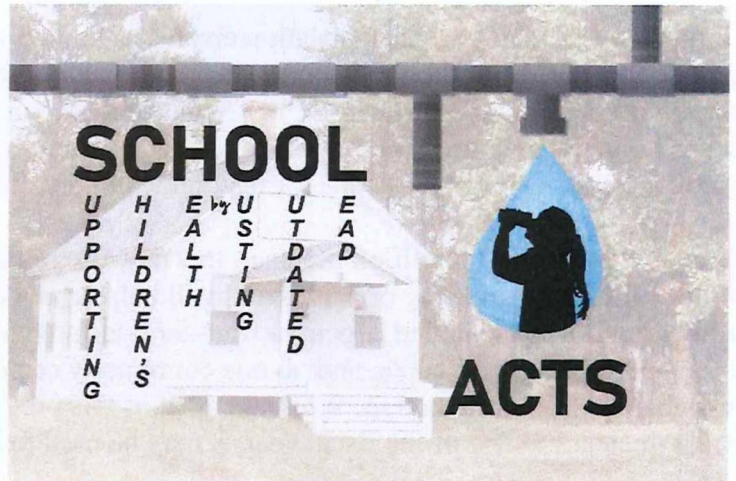
Testimony on 2019 Senate Bill 423

Senator Robert Cowles

Senate Committee on Natural Resources and Energy – October 1, 2019

Thank you, committee members, for allowing me to testify on 2019 Senate Bill 423. This bill would address lead in school drinking water by requiring testing and, if necessary, requiring that contaminated water sources be taken offline and replaced with clean water sources while incentivizing long-term remediation by buying down the interest rate of BCPL loans.

Overexposure to lead can be bad for anyone’s health, but children are particularly susceptible to negative health consequences from the consumption of lead. These health outcomes from lead have lasting impacts not only on the children, but on the entire community as the children’s development can be stunted, impacting both their physical and mental growth. Numerous studies, including a 2014 report by our state’s Department of Health Services, found that increased behavioral issues such as truancy or dropping out, teen pregnancy, and juvenile delinquency were correlated to overexposure of lead as a child. By introducing the Supporting Children’s Health by Ousting Outdated Lead Acts, SCHOOL Acts for short, we’re looking to give our youth a brighter future by reducing lead exposure and giving parents and guardians the peace-of-mind that their kids will drink clean, safe water when they leave the house in the morning.



Wisconsin has been given an ‘F’ in 2017 and 2019 by a third-party interest group for failing to address the issue of lead in schools and other places frequented by children. Local efforts in Madison, Rock County, and Waukesha County have all shown that the issue of lead in schools varies in severity, but impacts all three of those communities and many other communities throughout the state.

Following a nation-leading effort last session known as the Leading on Lead Act which provided options to local governments to tackle residential lead laterals, these two bills are an effort to prevent Wisconsin’s youth from any future water lead poisoning when they leave the home. 2017 Wisconsin Act 137 had advocates for this legislation from both sides of the aisle that helped the Leading on Lead Act become law. We hope to expand off of last session’s successes and once again show that providing clean drinking water, especially to children, can lead to bipartisan laws to address these nonpartisan problems.

The first bill in the SCHOOL Acts, Senate Bill 423, requires all K-12 schools that receive public funding to test all sources of drinking water, referred to as potable water, for lead contamination to determine if the levels are above the federal standard of 15 parts-per-billion (ppb). Testing is phased in over three-years and allows the submission of tests completed in prior years if it meets the testing standards prescribed by this bill. Testing continues to be required every three years unless two consecutive tests show lead levels that are effectively negligible, defined as below 1 ppb.

Test results must be posted on the schools website or available for examination upon request if the school doesn't have a website. The test results must also be submitted to the Department of Public Instruction (DPI) within thirty-days of receiving results. If no potable source had lead levels higher than federal standards of 15 ppb, no further action is required until the next round of testing in three-years. However, if lead levels on any source of drinking water test above the federal standard, the source of water with lead contamination, such as a drinking fountain, must be taken offline and, if necessary, alternative sources of drinking water must be provided.

Additionally, a remediation plan must be developed, posted online or made available for examination upon request, and submitted to DPI within six months. If only one or a couple of drinking fountains or other sources are contaminated, as has happened in some of the limited known cases of testing in Wisconsin, producing alternative sources of drinking water or remediation may not be necessary and simply taking the source offline may suffice since other safe potable sources are available.

If remediation efforts are necessary and may not be absorbed in the current budget of a school district, Senate Bill 423 allows districts to go to referendum outside of a regularly scheduled election and to ask more than two questions in one-year if necessary and only for the purposes of lead remediation. This referendum limit exemption is similar to the current law exemptions for natural disasters.

To finance remediation, this legislation creates clear authority for schools to fund lead remediation by applying for a School Trust Fund Loan from the Board of Commissioners of Public Lands (BCPL). Finally, to incentivize remediation through BCPL, Senate Bill 423 utilizes 20% of the total funding from the Safe Drinking Water Loan Program (SDWLP), which is largely federally funded, for the purposes of buying down the interest rate of schools using BCPL loans for lead remediation efforts.

Estimated at about \$15 million per year, this new use of the SDWLP can be absorbed in the current budget while still funding existing priorities and will help school districts to provide clean drinking water while reducing some of the added expenses from long-term bonding. This funding must be distributed equitably among all eligible applicants, and no one community can receive more than 20% of the total funding made available for lead remediation. While the goal of this program is to buy down interest rates, if funding is still available near the end of the fiscal year, it may be used to buy down principal.

The Department of Natural Resources (DNR) has brought to our attention that their interpretation of the SDWLP may provide some hurdles towards using this funding as intended: for clean drinking water. We've been talking with both the DNR and the Environmental Protection Agency (EPA) to ensure those concerns are appropriately addressed. We've also had the pleasure of hearing from a number of stakeholders and residents with their support and input, and we intend on continuing to engage with all interested parties to ensure that the best legislation ensues and an appropriate rollout after enactment is well established.

Senate Bill 423 ensures that action is taken to deal with the issue of lead in drinking water while balancing this priority with the preservation of independence of local schools. The Legislative Fiscal Bureau has identified more than 25 unique statutory requirements related to health and safety already on school districts. This bill isn't the Legislature's first attempt to help ensure that students are healthy and safe in schools, but it is a very important addition to existing standards.

Senate Bill 423 is an important step to ensure the delivery of clean water and to protect the health and safety of Wisconsin's youth while still recognizing that the scope of this issue varies by community, therefore we must provide flexibility to break-away from a one-size fits all approach and instead allow local solutions driven by local engagement.

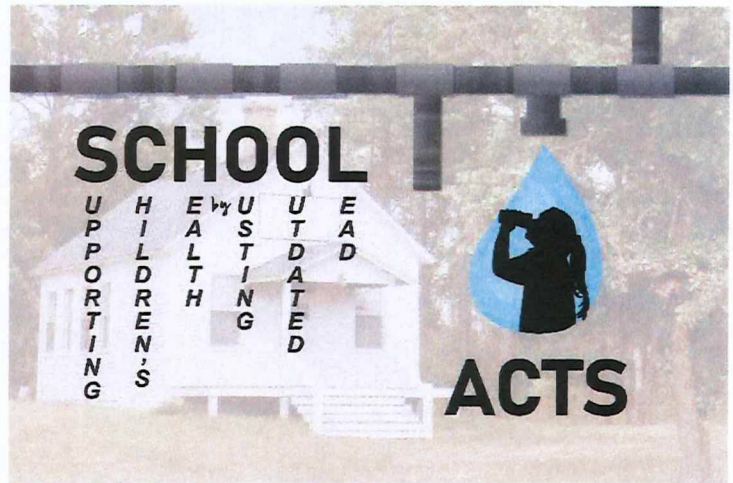
Testimony on 2019 Senate Bill 424

Senator Robert Cowles

Senate Committee on Natural Resources and Energy – October 1, 2019

Thank you, committee members, for allowing me to testify on 2019 Senate Bill 424. This bill tackles lead in the drinking water of daycares, group homes, and summer camps by requiring testing as a component of licensure and, if necessary, ensuring that contaminated water sources be taken offline and replaced with clean water sources to ensure we're using reasonable measures to protect children's health.

Overexposure to lead can be bad for anyone's health, but children are particularly susceptible to negative health consequences from the consumption of lead. These health outcomes from lead have lasting impacts not only on the children, but on the entire community as the children's development can be stunted, impacting both their physical and mental growth. Numerous studies, including a 2014 report by our state's Department of Health Services, found that increased behavioral issues such as truancy or dropping out, teen pregnancy, and juvenile delinquency were correlated to overexposure of lead as a child. By introducing the Supporting Children's Health by Ousting Outdated Lead Acts, SCHOOL Acts for short, we're looking to give our youth a brighter future by reducing lead exposure and giving parents and guardians the peace-of-mind that their kids will drink clean, safe water when they leave the house in the morning.



Wisconsin has been given an 'F' in 2017 and 2019 by a third-party interest group for failing to address the issue of lead in schools and other places frequented by children. Local efforts in Madison, Rock County, and Waukesha County have all shown that the issue of lead in schools varies in severity, but impacts all three of those communities and many other communities throughout the state.

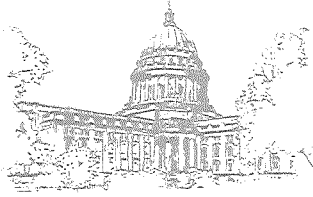
Following a nation-leading effort last session known as the Leading on Lead Act which provided options to local governments to tackle residential lead laterals, these two bills are an effort to prevent Wisconsin's youth from any future water lead poisoning when they leave the home. 2017 Wisconsin Act 137 had advocates for this legislation from both sides of the aisle that helped the Leading on Lead Act become law. We hope to expand off of last session's successes and once again show that providing clean drinking water, especially to children, can lead to bipartisan laws to address these nonpartisan problems.

The second bill of the SCHOOL Acts, Senate Bill 424, recognizes that schools aren't the only place that children spend a lot of time outside of the home. This bill requires lead testing of drinking water sources as a condition of an initial licensure or renewal or continuance of licensures for day care centers, day care providers, group homes, and summer camps. Tests that show lead contamination above the federal standard of 15 parts-per-billion (ppb) will not prevent licensure so long as contaminated sources are taken offline, clean sources of

potable water are provided, a remediation plan is developed, and six-month updates are submitted to the Department of Children and Families (DCF) or the Department of Agriculture, Trade, and Consumer Protection (DATCP) until test results show lead levels below the federal standard.

Testing methods and laboratories to use for testing are specified in the legislation, preventing the burdensome costs and lengthy delays of rulemaking. A quick survey of the State Laboratory of Hygiene and certified labs under the Department of Natural Resources (DNR) shows lead tests are not prohibitively expensive, costing around \$20 to \$40 for a test. If a test from a prior licensing cycle shows no more than 1 ppb of lead, no future testing is required for license renewal or continuance for day care centers, day care providers, group homes, and summer camps.

Senate Bill 424 compliments Senate Bill 423 by prescribing reasonable measures to protect children's health when they leave the home. By ensuring the delivery of clean water without revoking licensures and cutting off the revenue sources necessary for remediation efforts, we can protect children's health while eliminating the problem of lead laden water in daycares, group homes, and summer camps.



STATE SENATOR LaTonya Johnson

WISCONSIN STATE SENATE

6TH DISTRICT

Senate Committee on Natural Resources and Energy
Testimony on Senate Bill 423
October 1, 2019

Good morning members of the committee,

Toxic lead exposure in Wisconsin's children is a public health crisis. A 2016 Wisconsin Department of Health Services (DHS) report found that 5.0% of tested children under 6-years-old statewide had elevated blood lead levels. Flint, Michigan's rate of 4.9% in 2015 was declared a state of emergency. My hometown, Milwaukee, found a rate of lead poisoning at 10.8% of tested children under 6, including 13.2% for African American children. Other Wisconsin communities with significantly higher rates of lead poisoning than Flint include Watertown, Lafayette County, Rock County, Buffalo County, and Sheboygan County, ranging from 5.75% to 8.4%.

Lead poisoning is extremely harmful to young children, who absorb lead faster than adults. Lead poisoning can hurt a child's brain and nervous system and slow down growth and development. Exposure to lead can also affect almost every organ and system in a child's body. Further problems include learning or behavior problems, liver and kidney damage, and hearing loss. Extreme cases of lead poisoning may even cause seizures, coma, or death. The effects of lead exposure cannot be corrected, so it is imperative that we eliminate lead from facilities that serve our children to prevent lead exposures before they occur.

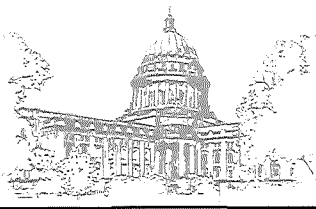
First, Senate Bill 423 requires school boards, operators of independent charter schools, and governing bodies of private schools participating in a parental choice program or in the Special Needs Scholarship Program to test all potable water sources in schools for lead concentration at least once every three years. If the results of a test shows a concentration of lead that is greater than the concentration considered safe for drinking water under the federal Safe Drinking Water Act (currently 15 parts per billion), the water source must be disconnected, a plan must be submitted for the remediation of the lead contamination and it must be made available to the public. Schools must show two consecutive lead tests of no more than one part per billion in order to satisfy the ongoing testing requirement.

Second, SB 423 allows districts to hold a special referendum to exceed its revenue limit in order to cover the costs of lead contamination remediation. The bill also authorizes the Board of Commissioners of Public Lands (BCPL) to use school trust funds to issue loans to school districts, municipalities, technical college districts, and cooperative educational service agencies for the purpose of remediating lead contamination in schools. Further, Safe Drinking Water Loan Program funds will be used to reduce principal and interest rates on BCPL loan to schools for lead remediation.

Over the biennium, Wisconsin will spend over \$15 billion on K-12 education, and I think we all believe strongly in the power of education to move our state forward and provide a prosperous future for our children. However, unless we are willing to take the necessary steps to prevent our children from losing IQ points at the school bubbler, our educational investments will continue to be undermined by toxic lead. While we often struggle to effectively address achievement gaps and other inequities in our state, negative outcomes resulting

from toxic lead exposures are truly low-hanging fruit. We know how to prevent them, we know they are already costing our state billions, and we know that delay will only increase the harms suffered by our state's children and their families in the future.

SB 423 provides our schools and the families they serve with the information and the financial mechanism to rid our school facilities of toxic lead once and for all. I would like to thank my co-authors, Senator Cowles, Representative Thiesfeldt and Representative Taylor for their work on this bill and thank you, committee members, for your consideration of this proposal.



STATE SENATOR LaTonya Johnson

WISCONSIN STATE SENATE

6TH DISTRICT

**Senate Committee on Natural Resources and Energy
Testimony on Senate Bill 424
October 1, 2019**

Good morning members of the committee,

Toxic lead exposure in Wisconsin's children is a public health crisis. A 2016 Wisconsin Department of Health Services (DHS) report found that 5.0% of tested children under 6-years-old statewide had elevated blood lead levels. Flint, Michigan's rate of 4.9% in 2015 was declared a state of emergency. My hometown, Milwaukee, found a rate of lead poisoning at 10.8% of tested children under 6, including 13.2% for African American children. Other Wisconsin communities with significantly higher rates of lead poisoning than Flint include Watertown, Lafayette County, Rock County, Buffalo County, and Sheboygan County, ranging from 5.75% to 8.4%.

Lead poisoning is extremely harmful to young children, who absorb lead faster than adults. Lead poisoning can hurt a child's brain and nervous system and slow down growth and development. Exposure to lead can also affect almost every organ and system in a child's body. Further problems include learning or behavior problems, liver and kidney damage, and hearing loss. Extreme cases of lead poisoning may even cause seizures, coma, or death. The effects of lead exposure cannot be corrected, so it is imperative that we eliminate lead from facilities that care for children to prevent lead exposures before it occurs.

Senate Bill 424 requires important lead testing requirements for state-regulated facilities that care for infants and children outside the home. The bill requires child care centers, child care providers, and recreational and educational camps to test for lead in drinking water and to provide potable water if lead contamination is found in order to obtain, renew, or continue a camp or child care center license or child care provider certification.

Given the high rates of childhood lead exposures across our state, it is critical that parents can feel safe sending their children to licensed facilities and care providers.

According to the DHS, our state would save \$7 billion if we made sure no Wisconsin kids are lead poisoned. This includes savings in medical care, special education, and even crime reduction among adults and youth.

SB 424 is common sense legislation that protects our state's most precious resources—its children—and I hope that we can pass it without delay. I would like to thank my co-authors, Senator Cowles, Representative Thiesfeldt and Representative Taylor for their work on this bill and thank you, committee members, for your consideration of this proposal.



State of Wisconsin
Department of Health Services

Tony Evers, Governor
Andrea Palm, Secretary-designee

TO: Senate Committee on Natural Resources and Energy

FROM: Andrew Hoyer-Booth, Deputy Legislative Director

DATE: October 1, 2019

RE: 2019 Senate Bill 423, relating to: lead testing of potable water sources in certain schools; providing loans for lead remediation in certain schools; and providing an exception to referendum restrictions for lead remediation &

2019 Senate Bill 424, relating to: testing for lead in drinking water in facilities used for recreational and educational camps and child care

Good morning, Chairman Cowles and committee members. My name is Andrew Hoyer-Booth and I am the Deputy Legislative Director at the Wisconsin Department of Health Services. With me today is Mark Werner, Director of the Bureau of Environmental and Occupational Health within the Division of Public Health. The Department would like to provide testimony for information only on both Senate Bill (SB) 423 and Senate Bill 424 to share the lessons that we have learned about assessing for, and responding to, risks from lead in drinking water.

Accelerating efforts towards eliminating childhood lead poisoning in Wisconsin is a major priority for our department and for Governor Evers. We appreciate that both SB 423 and SB 424 focus on this important issue and seek to protect children in Wisconsin by addressing lead in drinking water.

Both SB 423 and SB 424 would establish testing requirements to characterize the risks of lead in drinking water at the places where Wisconsin children grow, learn, and play. For any risk assessment of a hazardous substance, we believe it is critical that the assessment yields reliable, actionable data. While testing for some water contaminants, like nitrate and bacteria, is relatively straightforward, assessing the risks of lead in drinking water can be challenging, complex, and costly.

Lead levels in water are affected by many factors, including materials present in the plumbing system, water temperatures, water use, and disturbances of the water system. This means that water lead levels can fluctuate unpredictably. For these reasons, reaching conclusions about the health risks associated with a particular water source based on a single test result is challenging.

The best approach for assessing the risk of lead in water will vary by size and type of facility. Larger schools and child care facilities are less likely to have a lead service line, so plumbing components, especially fixtures and drinking water outlets, may represent a greater lead in water concern. In smaller facilities and family child care providers, where a lead service line is likely present, the collection of a single water test is unlikely to yield reliable, actionable data. For that reason, DHS recommends a plumbing assessment at these smaller facilities in lieu of testing. The results of an assessment may provide sufficient information to inform remediation measures for protecting health without needing to collect water quality data.

Additionally, because testing results can vary at individual outlets across a building, evaluating the exemption and re-testing of water sources individually should be considered. This would allow each faucet to be either included or exempted from additional testing requirements depending on measured lead levels.

Both SB 423 and SB 424 propose relying on two action thresholds: one for when a remediation plan is required and a lower threshold of 1 part per billion (ppb) for determining when a school or facility can be exempted from testing. Because of the high variability associated with any single water sample for lead, it is our concern that systems with lead water concentrations that correspond to an acceptably low health risk may fail to comply with the 1 ppb threshold and be subject to unnecessary financial burdens. We would propose that using a threshold consisting of consecutive test results below 5 parts per billion with no upstream lead sources identified as a more achievable and justifiable standard.

We appreciate that SB 423 recognizes the importance of funding for schools to generate the necessary resources to support remediation. Because child care facilities are known to operate on thin financial margins, funding options for SB 424 could be considered as well. Older buildings in disadvantaged communities may be disproportionately impacted by the testing requirements and exemption thresholds in both bills because of the greater likelihood of lead in water concerns being present and the limited financial capacity of these systems and the communities they serve to adequately cover the cost of testing and addressing any identified issues. Without funding assistance for testing and remediation, the viability of these facilities, particularly smaller operations in older buildings, may be affected.

Choices about assessment approaches, testing frequency, and action thresholds have significance for the health of children that attend the facilities that fall under these requirements, as well as the viability of the facilities themselves. The Department of Health Services has devoted a significant amount of effort over the past few years to better understand the risks posed by lead in water and identifying reliable approaches to assess those risks and respond accordingly. The information shared today represents much of what we have learned and it is our hope that the committee finds this information helpful as discussion on SB 423 and SB 424 proceeds.

We appreciate the engagement of the bill authors and this committee on this legislation and, with that, we'd be happy to answer any questions.

Health Effects of Lead
Testimony presented by Elizabeth J. Neary, MD, MS, FAAP
Wisconsin Representative for Pediatric Environmental Speciality Units, Region 5, EPA
Senate Committee on Natural Resources and Energy
October 1, 2019

Dear Chairman Cowles and Members of the Committee:

I appear before you today in support of Senate Bills 423 and 424.

As a physician and researcher, I am deeply concerned about exposure of children to lead and its health effects. I commend Senator Cowles' for his leadership on 2017 Wisconsin Act 137 and for continuing to protect our children from lead poisoning. This is so important as there is no national mandate to test drinking water of daycares, camps, and schools. Only 9 states and the District of Columbia have set standards, so again Wisconsin can Lead on Lead.

Lead is toxic to all cells, but especially the developing brain. Its damage is long lasting and it can even affect the next generation. The health effects can be seen in all age groups, but are particularly devastating to the brains of young children and the developing fetus.

The 2 main sources of lead poisoning in the US are lead paint, found in older homes and lead in drinking water, caused by leaching from lead pipes, fixtures or solder. Lead poisoning is 100% preventable.

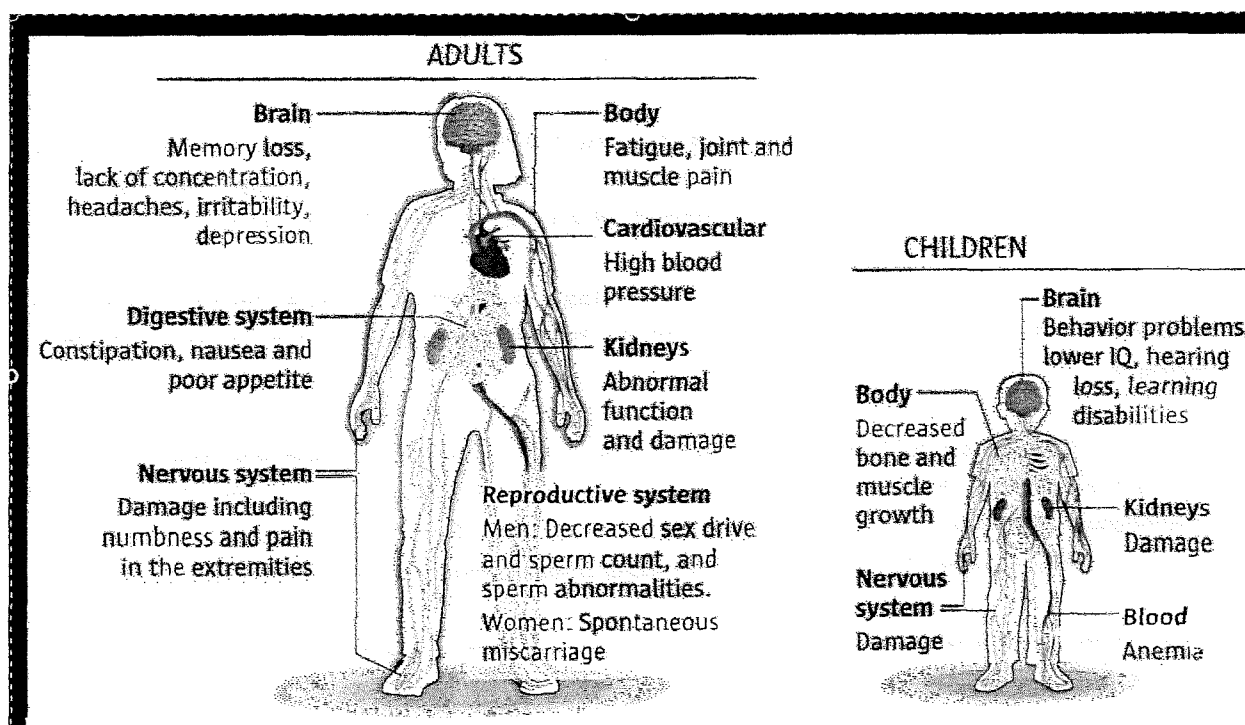
New research has shown evidence of damage to the brain at very low blood lead levels. Children are considered lead poisoned if their blood level is 5 ug/dl. However, the CDC acknowledges that there is NO safe level of lead in the blood. Even children with levels below 5 ug/dl are at risk of adverse health effects, including developmental delay.

Some key facts about the metabolism of lead are important to understanding why eliminating environmental exposure to lead is critical.

- 1) Lead in a liquid form is more easily absorbed than in a solid form.
- 2) Young children can absorb lead more easily than adults. Children absorb 40-50 % of a dose, whereas an adult absorbs about 10%.
- 3) Formula fed infants under 6 months are at the highest risk of lead poisoning because of their small size, their rapidly developing brain and the fact that their entire diet consists of formula made from contaminated water.
- 4) Some lead is excreted, but the vast majority of lead remains in the body. It is stored in the bones in the same way that calcium is. This reservoir of lead in the bones can be released back to the blood. During pregnancy, calcium from a mother's bones is released to the blood and contributes to the skeleton of their developing fetus. Lead stored in the bones can do the same. So, a lead poisoned child of today can poison their developing fetus in the future.

Lanphear BP, Hornung R, Khoury J, Yolton K, Baghurst P, Bellinger DC, Canfield RL, Dietrich KN, Bornschein R, Greene T, Rothenberg SJ, Needleman HL, Schnaas L, Wasserman G, Graziano J, Roberts R. Low-level environmental lead exposure and children's intellectual function: an international pooled analysis *Environ Health Perspect.* 2005 Jul;113(7):894-9. PMID: 16002379 <https://ehp.niehs.nih.gov/doi/10.1289/ehp.7688>

National Toxicology Program (US Dept of Health and Human Services) Monograph on Health Effects of Low-Level Lead (June 13, 2012) https://ntp.niehs.nih.gov/ntp/ohat/lead/final/monographhealtheffects/lowlevellead_newissn_508.pdf





Senate Committee on Natural Resources and Energy

2019 Senate Bill 423

Relating to Lead Testing of Potable Water Sources in Schools

October 1, 2019

Good morning Chairman Cowles and members of the Committee. My name is Jim Ritchie, and I am the Section Chief of the Environmental Loans Program with the Wisconsin Department of Natural Resources. Joining me today from the Department of Natural Resources is Becky Scott, the Federal Liaison and Policy Analyst for the Environmental Loans Section. The Department of Natural Resources and the Department of Administration jointly and collaboratively manage the State's Environmental Improvement Fund, which includes the Clean Water Fund Program and Safe Drinking Water Loan Program. Thank you for the opportunity to offer this testimony for informational purposes on Senate Bill 423 (SB 423), which relates to lead testing of potable water sources in schools.

The DNR appreciates the legislature's interest in supporting the health of Wisconsin citizens by identifying and remediating sources of lead in potable water in schools.

As currently written, the primary purpose of the bill is to require testing of all potable water sources in schools for lead concentration at least once every three years. If the results of a test show a concentration of lead that is greater than the concentration considered safe for drinking water under the federal Safe Drinking Water Act, the school board, operator, or governing body may have to take remedial action.

Senate Bill 423 allows the Board of Commissioners of Public Lands (BCPL) to use school trust funds to issue loans to school districts, municipalities, technical college districts, and cooperative educational service agencies for the purpose of remediating lead contamination in schools.

Senate Bill 423 further allows Safe Drinking Water Loan Program (SDWLP) funds to be used to reduce the principal and interest rates on Board of Commissioners of Public Land (BCPL) loans made for the purpose of remediating lead contamination in schools. This provision of SB 423 is the focus of our testimony.

The SDWLP in Wisconsin provides financial assistance in the form of reduced principal and interest rates on loans to municipalities for drinking water infrastructure projects. Funding for the program consists of an annual Drinking Water State Revolving Fund (DWSRF) capitalization grant from the U.S. Environmental Protection Agency (EPA), 20% state matching funds in the form of revenue bonds, repayments from previous loans, and other proceeds from the sale of revenue bonds. The program is regulated by EPA.

While we fully support efforts to remove lead from drinking water, the use of SDWLP funding as proposed in SB 423 would be contrary to the federal regulations that govern the use of the funding as established by the U.S. Congress.

Because components of SB 423 are not consistent with federal regulations, the EPA has indicated to DNR that this legislation would jeopardize the annual DWSRF capitalization grant awarded to Wisconsin, which most recently was \$18,754,000. By accepting capitalization grants from EPA, Wisconsin agrees to comply with DWSRF provisions as well as federal appropriation law requirements. Failure to comply could result in Wisconsin losing the SDWLP's annual capitalization grant and could jeopardize the state's ability to receive other federal grants [see 40 CFR § 31.43(a)(1)-(5)]. In addition, losing the capitalization grant could also jeopardize the state's ability to issue revenue bonds for the program.

The following four components of SB 423 run contrary to the regulations guiding federal funding of the programs:

1. Generally, schools are not eligible loan recipients.
2. Premise, or interior, plumbing projects not eligible expenditures.
3. The proposed allocation amount of up to 20% could exceed allowable amount of additional subsidization.
4. Buying down interest on BCPL loans may not be an eligible use of the DWSRF.

Senate Bill 423, as written, would also impact the long-term health of the SDWLP. Due to the revolving nature of the SDWLP, removing \$20 million (20% of the estimated funds available) just once from the repayment stream would reduce future available funding in the SDWLP by \$63.1 million, and would defy the current Federal requirement that the DWSRF be a revolving loan fund in perpetuity.

The challenges presented here relating to SB 423 are unique due to the proposed use of federal funding.

Currently, the DNR also administers the Small Loan Program under the Clean Water Fund Program (CWFP). This program under the CWFP allows payments to be made to BCPL to reduce principal and/or interest payments on loans to local governmental units made by BCPL for waste water infrastructure projects. A key component in this provision is the use of state monies – no federal funds are involved. A similar mechanism does exist in the SDWLP; however this provision has never been implemented due to lack of state funds. If a state source of funding could be identified rather than federal funds from the DWSRF, a version of SB 423 could be administered through the SDWLP in a similar fashion to the Small Loan Program.

We are committed to working with the bill authors and their offices to find a workable alternative and have already had a number of conversations with them regarding SB 423's interactions with the SDWLP. We look forward to this continued dialogue and collaboration.

DNR remains committed to addressing lead contamination in public drinking water systems and we are encouraged this issue is receiving attention. Please also know that the fiscal estimate for this bill is in the process of being finalized and will provide some additional detail. Thank you again for the opportunity to provide comments. We would be happy to answer any questions you may have.



201 East Washington Avenue, Room G200
P.O. Box 8916
Madison, WI 53708-8916
Telephone: 608-422-7000
Fax: 608-422-7161

Governor Tony Evers
Secretary Emilie Amundson

Secretary's Office

TO: Honorable Members of the Senate Committee on Natural Resources and Energy
FROM: Dianne Jenkins, Executive Policy Advisor, Department of Children and Families
DATE: October 1, 2019
SUBJECT: 2019 Senate Bill 424

Good morning Chairman Cowles and members of the Committee. I am Dianne Jenkins, Executive Policy Advisor for the Department of Children and Families. I am joined today by my colleagues in the Division of Early Care and Education: Mr. Mark Andrews, Director of the Bureau of Early Care Regulation, and Ms. Tina Feaster, Licensing and Certification Specialist. Thank you for the opportunity to testify today. I would like to provide information regarding Senate Bill 424 related to testing for lead in drinking water in child care facilities and educational camps.

DCF's vision for early childhood care and education is that all children have access to high-quality early care and education. Our role in the early care and education system is to (1) regulate child care programs to ensure the health and safety of children and ensure their optimal development while in care; (2) administer a child care subsidy program for low-income parents; and (3) improve the overall quality of child care through a quality rating system and by providing training, technical assistance and other resources for child care providers and programs to improve and maintain a high level of quality.

The health and safety of children in early care and education programs is of paramount importance, and the proposed requirements will help to protect our most vulnerable children. Current law requires that licensed child care centers, day camps and group homes that use a private well as their water source test their drinking water for lead. Family child care programs

are not required to do so. DCF currently monitors covered programs for compliance with these requirements. The proposed legislation extends drinking water testing requirements to all regulated child care programs and group homes, including family child care homes, regardless of water source. This proposed legislation will also extend DCF regulatory compliance monitoring to these programs.

We defer to DHS regarding best practices for testing approaches, testing intervals, and appropriate remediation strategies. While the fiscal impact on DCF of this proposed legislation is indeterminate, we believe we will be able to absorb the costs of monitoring compliance within current resources.

However, we would be remiss if we did not voice our urgent concern regarding the potential fiscal impact of this legislation on child care providers and programs. More than half (58%) of Wisconsin zip codes meet the definition of a child care desert: areas where the number of regulated child care slots is insufficient to reach at least one-third of children under age 5. As such, many families across the state have limited or no access to regulated child care programs. The fiscal impact would be felt disproportionately in the western and northern parts of our state, where access issues are most apparent. Without financial support, child care providers could close, temporarily or permanently, or they may pass on these increased costs in the form of increased rates for parents. Either decision risks a parent having to make suboptimal choices about their children's care. This is especially true for low-income families whose choices are further limited by their ability to pay.

DCF supports expansion of testing that will protect the health of children in regulated child care programs, when done according to best practices. We urge you to find the means to offset the costs of testing and remediation in ways that don't require child care programs to bear these costs alone.

On behalf of the Department of Children and Families I would like to thank you for your time. I am happy to answer any questions you may have.



School Administrators Alliance

Representing the Interests of Wisconsin School Children

TO: Senate Committee on Natural Resources and Energy
FROM: John Forester, Executive Director
DATE: October 1, 2019
RE: SB 423 – Lead Testing of Drinking Water in Schools

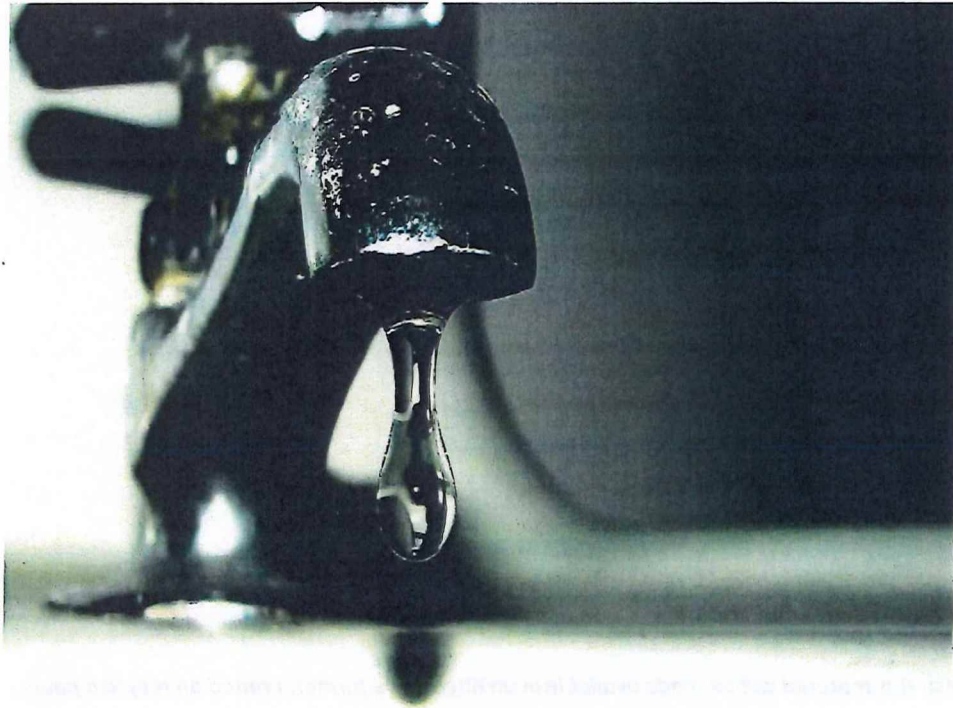
The School Administrators Alliance (SAA) is testifying for information only on Senate Bill 423, relating to lead testing of drinking water in schools. We greatly appreciate this opportunity to share the following thoughts, concerns and suggestions regarding the bill.

1. We believe SB 423 needs a clear definition of “potable”. If the intent is for school districts to test all taps used for drinking water and food preparation, as determined by the school district, then we should say so in the bill. We don’t want school districts facing potential litigation from the public because of lack of clarity or an imprecise definition.
2. The bill requires that schools test all potable water sources in schools for lead concentration at least once every three years. We believe a three-year testing cycle is too short and should be at least five years. School business/facilities officials have indicated to me that addressing and solving failed test locations can be very time consuming. Taking multiple samples at certain locations is not unusual, and with testing protocols and waiting for lab results, timelines can extend quickly. One inevitable result of this legislation will be significant competition for and greater pressure on the vendors capable of conducting the sampling and the limited number of certified labs qualified to evaluate the samples. And that will likely extend timelines as well. Finally, we believe there are other states that utilize at least five-year testing cycles.
3. The bill directs school districts to “disconnect” a failed water source. In this context, does “disconnect” include turning off the failed source, for example, through the use of an existing shut-off valve in the system? Is there a need to go to the expense of having a plumber disconnect faucets that can simply be turned off in this fashion?
4. The bill allows that if two consecutive lead tests in a school taken at least three years apart result in potable water sources in the school containing lead levels not higher than one part per billion, the district is not required to conduct any additional lead tests at the school(s). Several school business/facilities officials I consulted believe this language in the bill is ambiguous and does not clarify how many water samples in a building must attain the one part per billion standard to qualify. Is it the intent of the bill to base this determination regarding additional tests on each water sample, or some other measure? By extension, if all drinking water touchpoints in a school except for say two meet the standard, would

schools then only be required to conduct future lead tests on those two touchpoints in the building?

5. The bill allows the calling of a special referendum to address the costs associated with the remediation plan. Very simply, what if the public votes “no”? While I don’t believe the bill actually requires remediation, it will certainly be the expectation of parents and many other residents in the district. While we appreciate the author’s efforts to open up the referendum process for this purpose, the special referendum process is time-consuming, uncertain and costly. We believe a better alternative is to create a non-recurring revenue limit exemption for lead testing and remediation costs. School districts will absolutely incur costs in order to comply with the requirements in this bill. Therefore, it is imperative that the funding source established to help address these requirements be a reliable mechanism not subject to the uncertainty of a special referendum electorate. It should be noted here that such a revenue limit exemption was recommended by the Blue Ribbon Commission on School Funding.
6. We believe the intent of the bill is to require lead testing of schools that are currently in operation. It may be a good idea to clearly indicate that these requirements extend only to those buildings that children occupy.
7. Mr. Chairman, I think that most of the suggestions we make in this testimony reflect our belief that clarity leads to better compliance. Attached to my testimony is a model school lead testing plan and guidance document developed by the state of Minnesota for Minnesota schools. You might recall that I shared this document with you when I met with you and your staff on August 20th. At that time, I suggested this Minnesota approach as an alternative to the approach in SB 423. Today, I’m asking that you incorporate the development of a model plan and guidance document into your bill. Why do I think this is so important? We are experiencing tremendous turnover in the ranks of school administrators. I simply believe that such a valuable resource would provide many inexperienced and overburdened administrators with the guidance and support needed for better compliance and, ultimately, a more effective law.

Thank you for your consideration of our views. If you should have any questions on our thoughts on SB 423, please call me at 608-242-1370.



Reducing Lead in Drinking Water

A TECHNICAL GUIDANCE AND MODEL PLAN FOR
MINNESOTA'S PUBLIC SCHOOLS



DEPARTMENT OF EDUCATION

DEPARTMENT OF HEALTH

April 2018

Minnesota Department of Education
Division of School Finance – Long-Term Facilities Maintenance
1500 Highway 36 West
Roseville, Minnesota 55113
651-582-8779
mde.funding@state.mn.us
[Minnesota Department of Education \(http://www.education.state.mn.us\)](http://www.education.state.mn.us)

Minnesota Department of Health
Environmental Health Division – Drinking Water Protection
PO Box 64975
St. Paul, MN 55164-0975
651-201-4700
health.drinkingwater@state.mn.us
www.health.state.mn.us

Upon request, this material will be made available in an alternative format. Printed on recycled paper.

Foreword

Reducing potential lead risks in school drinking water

We are pleased to present this guidance and model plan, *Reducing Lead in Drinking Water: A Technical Guidance and Model Plan for Minnesota's Public Schools*. This plan reflects the commitment of public health, education, and legislative leaders, as well as those directly responsible for operating school drinking water systems, to reduce the chance that children are exposed to the health hazards of lead through school drinking water. It provides information on both required steps (testing, reporting) and flexible guidance that schools can consider to meet their individual needs. Reducing lead exposure is a high priority for all of us.

When children take in even small amounts of lead, there can be detrimental health effects. The longer children are exposed to lead, or the higher the dose, the greater the impact. While current science has not found a safe level of lead exposure, lead is still present in many areas of our environment, making it very difficult and costly to reach a point of zero exposure. That is why it is so important for those of us who are concerned for the health and safety of our children to do what we can to reduce lead exposures for children.

While the greatest risks, by far, for children to be exposed to lead are typically in their own homes from a source such as lead paint, under certain conditions children can be exposed to lead through school drinking water. This manual builds on existing guidance that schools have used since 1989. It is designed to help schools develop and implement plans to test for lead in drinking water and communicate results to parents and the public – fulfilling the requirements of a new state law passed in 2017. Further, the manual describes steps schools may take to reduce lead in drinking water.

We recognize the challenges school managers will face in executing lead testing, communicating results, and taking action to reduce lead in drinking water. Many schools have already taken steps to reduce lead in drinking water and we are learning from their experience. If all schools take appropriate actions and continue to follow best practices, potential exposures across the State can be greatly limited and children protected from the life-long negative impacts of lead exposure. Staff in both of our agencies are available to provide assistance to help school staff to address these challenges.

We look forward to working with all schools in Minnesota to create a more lead-free future for our children.

Brenda Casselius
Commissioner of Education

Jan Malcolm
Commissioner of Health

Contents

Introduction	1
Purpose of this Technical Guidance and Model Plan	1
Who is Required to Use this Technical Guidance and Model Plan?.....	1
Health Information	2
Why Worry About Lead in Schools?	2
Health Risks of Lead	2
Common Sources of Lead	3
How Does Lead Get Into Drinking Water?.....	3
Why is Lead a Special Concern for Schools?.....	3
What Can Be Done to Reduce Lead Levels in Drinking Water?.....	4
Regulations and Guidance.....	6
Minnesota State Statute 121A.335.....	6
The Safe Drinking Water Act, Lead and Copper Rule	7
The Lead Contamination Control Act.....	7
The Safe Drinking Water Act, Reduction of Lead in Drinking Water Act.....	7
MDH Guidance	8
3Ts (Training, Testing and Telling)	8
Guidance Values of Lead.....	8
Model Plan for Lead Testing.....	10
Required Components of a Model Plan.....	10
MDE Support for Lead Reduction Activities.....	10
Step 1- Sampling Program Development:	10
Step 2- Conduct First Draw Tap Monitoring:.....	13
Step 3- Communicate Results:.....	14
Lead Hazard Reduction Options	15
Guidance on Interpreting Results and Recommended Lead Hazard Reduction Options	15
Step 4- Interpret Sample Results:	16
Step 5- Lead Hazard Reduction Options:.....	18
Step 6- Reassess:.....	20
Glossary of Terms and Abbreviations	21

Introduction

Purpose of this Technical Guidance and Model Plan

This technical guidance is designed to assist Minnesota's school districts and charter schools in minimizing the exposure of students and staff to lead in drinking water. It also contains the model plan for lead testing of school drinking water as required under Minnesota Statutes, section 121A.335. The specific text of the statute can be found at:

- Lead in School Drinking Water (<https://revisor.mn.gov/statutes/?id=121A.335>)

Minnesota Statutes, section 121A.335 requires schools to either adopt the model plan outlined in this document or develop and adopt an alternative plan that accurately and efficiently tests for the presence of lead in water in public school buildings serving students. The statute further directs that this technical guidance be based on "standards established by the United States Environmental Protection Agency (EPA)" and current Minnesota Department of Health (MDH) guidance. In addition to describing required aspects (planning, testing, reporting), the manual also presents flexible guidance that schools can consider to meet their individual needs most efficiently.

The Minnesota Department of Education (MDE) and MDH intend that school administrators consult this technical guidance and model plan when testing for lead in their drinking water and implement activities as needed to reduce exposure to lead. The school district is responsible for adopting and retaining the model plan/alternative plan and test results records, as well as making those results available to parents and the public.

Who is Required to Use this Technical Guidance and Model Plan?

This technical guidance and model plan are intended for use by all school districts and charter schools subject to requirements of Minnesota Statutes, section 121A.335.

School administrators, school boards and others in positions of governance should review this guidance. Beyond the model plan for lead testing, this technical guidance includes recommendations to reduce lead levels at taps used for drinking water and food preparation. The instructions for testing and suggested lead hazard reduction options are designed for school health, safety, and maintenance personnel, as well as consultants working with educational agencies.

If your school is served by a Community Public Water System (CPWS), i.e. municipality, you should contact your CPWS to learn more about lead in your water supply before testing your facility. It's important to develop a working relationship with your CPWS, including having a coordinated communications plan.

While this technical guidance and model plan pertains specifically to school districts and charter schools subject to Minnesota Statutes, 121A.335, other facilities serving infants, preschoolers, and children are encouraged to use this technical guidance and model plan to identify and reduce lead in drinking water.

Health Information

Why Worry About Lead in Schools?

Lead is a toxic material known to be harmful to human health if ingested or inhaled. Recent research has shown that exposure to lead is associated with adverse mental, physical, and behavioral effects on children. The current scientific consensus is that there is no safe level of lead exposure. For more background see:

- [Centers for Disease Control and Prevention \(https://www.cdc.gov/nceh/lead/\)](https://www.cdc.gov/nceh/lead/).

Therefore, any measureable blood lead level can have negative health effects. While water is just one potential source of exposure to lead in the environment, reducing lead in school drinking water can decrease an individual's overall exposure to lead.

Health Risks of Lead

While we have known that lead is toxic for many centuries, there has historically been a level of exposure presumed to be "safe." Over the years, the safe level has been reduced based on new research, but it was always there. However, in 2012, the Centers for Disease Control and Prevention dramatically changed the way lead toxicity is assessed. Instead of setting a safe level, the new approach acknowledges the fact that there is no currently known safe level of lead exposure and recommends a primary prevention approach (i.e., preventing a problem before it occurs) to reducing risk. This concept of "no safe level" is similar to the way we assess risks from carcinogens.

Health risks from carcinogens are managed by setting an acceptable risk probability (not zero) that balances the need to reduce exposure with the practicality of avoiding chemicals that are widely distributed in our environment. The new approach for lead hazard reduction is similar in that it balances the need to reduce exposure (i.e., primary prevention) while recognizing that lead is still present in many areas of our environment.

Children

Children are more susceptible to lead exposure because their bodies absorb metals at higher rates than the average adult. Children younger than six years old are most at risk due to their rapid rate of growth and ongoing brain development. Exposure to lead can cause damage to the brain, nervous system, red blood cells, and kidneys. Lead also has the potential to cause lower IQs, hearing impairments, reduced attention span, hyperactivity, developmental delays, and poor classroom performance.

The damage from lead exposure in children is permanent. Fortunately, the impacts of lead exposure can be minimized with good nutrition, a stimulating education, and a supportive environment.

Adults

High blood lead levels in adults have been linked to increased blood pressure, poor muscle coordination, nerve damage, decreased fertility, and hearing and vision impairment. Pregnant

women and their fetuses are especially vulnerable to lead exposure since lead can significantly harm the fetus, causing lower birth weight and slowing normal mental and physical developments. For more information on the health impacts of lead on children and adults, please see the Minnesota Department of Health lead page:

- [Lead \(http://www.health.state.mn.us/topics/lead/index.html\)](http://www.health.state.mn.us/topics/lead/index.html)

Common Sources of Lead

There are a number of pathways of exposure to lead in the environment. While this guidance focuses on lead in drinking water at schools, it is important to reduce exposure from all potential sources of lead. These include:

- Lead-based paint in older homes (i.e., built before 1978). This is the most common source for childhood lead poisoning;
- Lead-contaminated dust and soil;
- Imported spices, cosmetics, and medications contaminated with lead;
- Pottery or ceramics with lead glazes;
- Exposure through lead dust from a household member who has a job or hobby that involves lead, such as construction or shooting firearms;
- Swallowing items that contain lead, such as fishing sinkers; and
- Corrosion of plumbing materials including brass, solder and pipes.

Therefore, while water is not typically the most prominent source of lead exposure for an individual, reducing lead in drinking water can help in lowering an individual's overall exposure.

How Does Lead Get Into Drinking Water?

Lead found in drinking water comes primarily from materials and components associated with the water distribution system and plumbing. While public water distribution systems may have lead components, the highest concentrations of lead are typically found nearest to the tap. Lead may be present in various materials in a building's plumbing system such as lead solder, brass fixtures, valves, and lead pipes. Corrosion of these materials allows lead to dissolve into the water passing through the plumbing system. The amount of corrosion depends on the type of plumbing materials, water quality characteristics, electrical currents, and how water is used. The longer water remains in contact with lead materials, the greater the chance lead can get into the water.

Why is Lead a Special Concern for Schools?

Children are more vulnerable to lead

Children typically have higher intake rates for environmental materials (such as soil, dust, food, water, air, paint) than adults. They are more likely to play in the dirt and put their hands and other objects in their mouths. Children tend to absorb a higher fraction of ingested lead than adults, which can slow the normal physical and mental development of their growing bodies. In addition, the physical and behavioral health effects from lead exposure can impact student success and school function. While the most vulnerable age for lead exposure is for children

less than six years old, the brains of school-age children are still developing and can be significantly impacted by lead exposure.

Plumbing materials and water use patterns at schools

Lead levels in the water within the plumbing system of schools can vary greatly from tap to tap. Plumbing materials and usage patterns influence the amount of lead in drinking water due to the variety of materials in the system (e.g., lead or copper pipes, lead solder, and brass fixtures). The amount of time the water is in contact with various materials in the plumbing system may have a significant effect on the concentrations found as well. The “on-again, off-again” water use patterns of most schools can contribute to elevated lead levels in drinking water. Water that remains stagnant in plumbing overnight, over a weekend, or during a vacation has longer contact with plumbing materials and therefore may contain higher levels of lead.

What Can Be Done to Reduce Lead Levels in Drinking Water?

This section is relevant to any tap used for drinking water or food preparation. These are best practices in reducing lead concentrations and can be used at home, school, or at work.

When evaluating the best approach for protecting against lead exposure in schools, it is important to balance a number of factors:

- Current research has not identified a safe level of exposure to lead;
- Lead is still present in many areas of the environment, making it very difficult to eliminate all exposure;
- The risks of developing irreparable damage from lead in water increase with higher concentrations of lead and longer exposure times;
- School buildings across the state are very different, being old/new, big/small, busy/limited, targeted/multi-purpose, which impacts the likelihood of lead exposure; and
- Local school districts have the best understanding of their buildings and how they are used; they can work with parents, students, teachers, and administrators to come up with the best approach for their specific situation.

An effective response to lead in water must consider all of the factors listed above. Both MDE and MDH are readily available for technical assistance and consultation, but the local school district is in the best position to understand and implement an effective strategy for their specific situation.

Use only cold water for drinking and food preparation

Use only cold water for drinking, preparing food, and making baby formula. Hot water releases more lead from pipes than cold water. The water may be warmed before use in formula.

Let it run before use

Running water at a tap, prior to using it for drinking or food preparation, will typically help reduce lead levels in the water. This works by removing the water that has been in the longest contact with the plumbing materials, thus removing the water with the highest concentration of lead. Let the water run for 30-60 seconds before using it for drinking or cooking if the water

has not been turned on in over six hours. The only way to know if lead has been reduced after letting it run is to check with a test.

Other routine maintenance

Like any appliance, water systems require routine maintenance to function properly. Steps to help reduce the presence of lead in your water include:

- Clean faucet aerators on a quarterly basis - more often if debris buildup is observed - as lead-containing materials may accumulate in aerator screens;
- Use only certified lead free materials when performing plumbing work.
 - Lead Free Certification Marks
(<http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockkey=P100GRDZ.txt>) ; and
- Follow the manufacturer's recommendations for water softener settings to ensure an appropriate level of hardness. The hardness of the incoming water may have to be determined by asking your water supplier or having a sample analyzed.

Test the water for lead

The only way to determine how much lead may be present in drinking water is to have the water tested. Each tap or fixture providing water for drinking or food preparation should be tested at least every five years. Some form of lead hazard reduction should be implemented for taps where lead is found. Detailed instructions on testing water for lead and recommended lead hazard reduction options can be found later in this document.

Regulations and Guidance

Due to lead’s health effects and the special circumstances that make lead a concern in schools, a number of legal requirements and guidance materials exist that are applicable to reducing lead in school drinking water.

Table 1 displays the rules, regulations and guidance applicable to schools. They represent a range of laws, rules (enforceable) and guidance (not enforceable) developed over the past 30 years. Much has been learned over that time regarding lead health impacts, requiring an ongoing evolution in the way we address lead hazards. Each rule, regulation or guidance is explained in detail in the sections following the table.

Table 1: Regulations and Guidance Governing Lead in Schools Drinking Water

Type	State Statutory Requirement	Federal Laws and Rules			State Guidance	Federal Guidance (EPA)
Name	Minnesota Statute 121A.335	Lead and Copper Rule (SDWA)	Lead Contamination Control Act	Reduction of Lead in Drinking Water Act (SDWA)	Reducing Lead in Drinking Water	3Ts (Training, Testing and Telling)
Effective Date	2018	1991/2007	1988	2014	1989/2014	1994/2006
Applicability	All public and charter schools in Minnesota	Directly applies to schools served by their own water source (e.g., well) and serving 25 or more people	All schools	All schools	All schools	All schools

Minnesota State Statute 121A.335

The document you are reading was developed in response to Minnesota State Statute 121A.335. It requires public and charter schools to have a plan for efficiently and accurately testing for lead in drinking water using the model plan developed by MDE and MDH or by adopting an alternative plan. The law applies in addition to any other current testing requirements. The full Statute is found at:

- [Lead in School Drinking Water \(https://revisor.mn.gov/statutes/?id=121A.335\)](https://revisor.mn.gov/statutes/?id=121A.335)

Under the statute, **by July 1, 2018 school districts must:**

- Adopt the model plan from this document or develop and adopt an alternative plan to accurately and efficiently test for lead in school buildings serving students from prekindergarten to grade 12;

- Create a schedule for testing that includes all school district buildings and charter schools serving students where there is a source of water that may be consumed by students (used in cooking or directly by drinking). Each tap must be tested at least once every five years. Testing must have begun by July 1, 2018 and complete testing of all buildings serving students must be done within five years; and
- Make the results of testing available to the public to review and notify the parents and guardians of the availability of the information.

The Safe Drinking Water Act, Lead and Copper Rule

The Lead and Copper Rule (LCR) of the federal Safe Drinking Water Act (SDWA) was first passed in 1991, was updated in 2007, and applies to the public water system (PWS) supplying drinking water to a school building. Compliance with the LCR is based on the 90th percentile concentration value from samples collected at different points in the PWS. Compliance is a statistical calculation used to determine when a PWS must explore options to reduce lead in the water in the whole system. The LCR does not apply to individual taps.

Testing under the LCR is conducted based on a tier system, with the highest priority being individual residences. Therefore, a school served by a community water supply will not be tested under the LCR. However, if a school has a private well and has 25 or more staff and students, they are classified as a PWS and must test for lead under the LCR. More information on the LCR is at:

- [Lead and Copper Rule \(http://water.epa.gov/lawsregs/rulesregs/sdwa/lcr/index.cfm\)](http://water.epa.gov/lawsregs/rulesregs/sdwa/lcr/index.cfm)

The Lead Contamination Control Act

The Lead Contamination and Control Act (LCCA) - Public Law 100-572 was passed in 1988 and applies to all schools. The intent of the LCCA is to identify and reduce lead in drinking water at schools and relies on voluntary compliance by individual schools and school districts. In particular, it focuses on certain models of water coolers in existence at the time of the law's enactment, while also addressing lead risk reduction generally. Although compliance with the LCCA is voluntary, schools are encouraged to review its recommendations and consider implementation where appropriate.

More information on the LCCA is at:

- [Lead in Drinking Water in Schools Historical Documents \(https://www.epa.gov/dwreginfo/lead-drinking-water-schools-historical-documents\)](https://www.epa.gov/dwreginfo/lead-drinking-water-schools-historical-documents)

The Safe Drinking Water Act, Reduction of Lead in Drinking Water Act

The Reduction of Lead in Drinking Water Act (Public Law 111-380 amending Section 1417 of the Safe Drinking Water Act) became effective in January 2014. This law applies to all schools. The most common source of lead in drinking water is the corrosion of pipes and plumbing fixtures. In an effort to reduce this contamination source, the EPA amended the SDWA to mandate that

all pipes, solders, fittings, and fixtures be “lead free.” The Act revised the definition of lead free to lower the allowable amount of lead to a weighted average of 0.25% percent of the wetted surfaces of plumbing products and established a statutory method for calculating lead content; it retains a 0.20% lead limit for solder and flux. The law also created exemptions from the lead free requirements for plumbing products used exclusively for non-potable services as well as for other specified products. All plumbing fittings and fixtures must meet the NSF/ANSI Standard 61, Annex G.

More information on identifying lead free certification marks is at:

- [EPA How to Identify Lead-Free Certification Marks for Drinking Water System and Plumbing Materials \(http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100GRDZ.txt\)](http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100GRDZ.txt)

MDH Guidance

In 1989, MDH developed its first guidance document addressing lead in school drinking water based on the information in the 1988 EPA Lead Contamination Control Act. The latest revision in 2014 was based on new information in the 2014 EPA Reduction of Lead in Drinking Water Act. The 2014 version is superseded by this 2018 guidance.

3Ts (Training, Testing and Telling)

In 1994 the EPA developed the Lead in Drinking Water in Schools and Nonresidential Buildings guidance to assist schools in reducing the lead concentrations in their drinking water. In 2005, it was updated to become technical guidance titled “3Ts for Reducing Lead in Drinking Water in Schools and Child Care Facilities.” The 3Ts were designed to aid schools with the following:

- Establishing partnerships;
- Determining current water quality;
- Identifying potential problem areas;
- Developing a monitoring plan;
- Collecting and submitting water samples;
- Implementing corrective actions if lead is detected in any sample result; and
- Communicating and conducting public outreach.

The 3Ts guidance may be found at:

- [3Ts for Reducing Lead in Drinking Water in Schools and Child Care Facilities \(https://www.epa.gov/dwreginfo/3ts-reducing-lead-drinking-water-schools-and-child-care-facilities\)](https://www.epa.gov/dwreginfo/3ts-reducing-lead-drinking-water-schools-and-child-care-facilities)

Guidance Values of Lead

Lead is still present in many areas of our environment, including materials that were commonly used in plumbing systems. To help in understanding the risks posed by environmental lead, a variety of guidance values have been developed at different times by different organizations. Some of the values are relatively recent, others much older; some are health based, while

REDUCING LEAD IN DRINKING WATER

others are for statistical assessment of a water system. Table 2 summarizes guidance values frequently identified with public health protection.

Table 2: Lead in Drinking Water: by the Numbers

Guidance Value: ppb (parts per billion)	Description
0 ppb	<p>EPA has set a maximum contaminate level goal (MCLG) of zero for lead in water. <i>Note: analytical tests can only measure down to their detection limits; it is not possible to actually measure down to 0 ppb.</i></p>
1 ppb	<p>The American Academy of Pediatrics recommends this level be used as a standard for school drinking water taps. <i>Note: The minimum repeatable detection limits achieved by laboratories today are typically between 0.5 and 2.0 ppb.</i></p> <p>Illinois, Michigan and Washington DC use this value as a trigger for schools to implement lead hazard reduction or provide notification.</p>
5 ppb	<p>Health Canada has proposed this value as their new Maximum Allowable Concentration. See Health Canada (https://www.canada.ca/en/health-canada/programs/consultation-lead-drinking-water/document.html#a1)</p> <p>Is the International Bottled Water Association (IBWA) Bottled Water Code of Practice finished water quality product standard.</p>
15 ppb	<p>Public water systems sample for lead following the EPA Lead and Copper Rule. No more than 10 percent of a water system’s samples are allowed to be above this level. However, this is not a health-based value. It is applied as a statistical calculation to determine when a public water system must explore corrosion control treatment options to reduce lead in the water based on the laboratory detection limit available at the time of the rule making. This action level has not been updated since 1991.</p> <p>Several states have adopted this value in their school guidance in order to match the Lead and Copper Rule value.</p>
20 ppb	<p>This is the trigger value used in EPA’s Lead in Drinking Water in Schools and Nonresidential Buildings (1994), now the 3Ts (2005). This value has not been updated since the publication of these documents and is not a health-based value.</p>

Model Plan for Lead Testing

This section presents the model plan as required by Minnesota Statute 121A.335. If schools adopt the model plan, all steps should be implemented. If there are questions regarding the model plan, contact MDE at 651-582-8779 or MDH at 651-201-4700 for further information.

Required Components of a Model Plan

The model plan includes three required steps:

- Step 1. Sampling Program Development
- Step 2. Conduct First Draw Tap Monitoring
- Step 3. Communicate Results

All schools must complete these steps or formulate a plan that addresses the core concepts of a sampling plan, testing, and communicating results. An alternative plan must accurately and efficiently test for the presence of lead in water in school buildings serving pre-kindergarten students and students in kindergarten through grade 12.

Recommendations for interpreting results and possible hazard reduction steps, which must be tailored to meet specific local needs and conditions, are presented later in this document. The recommendations are presented as guidance and are not a required part of Minnesota Statute 121A.335

MDE Support for Lead Reduction Activities

MDE administers the Long-Term Facilities Maintenance Revenue program under Minnesota Statutes, section 123B.595. This program may be utilized to reimburse costs associated with lead testing and remediation. Funding does not cover staff time used to perform daily flushing or water use utility cost associated with flushing procedures. Memorandums from MDE, program guidance documents, spreadsheets and forms used to obtain approval to receive revenue are available at this link:

- [Long-Term Facilities Maintenance \(http://education.state.mn.us/MDE/dse/schfin/fac/ltfm/\)](http://education.state.mn.us/MDE/dse/schfin/fac/ltfm/)

Step 1- Sampling Program Development:

A program to assess and sample for lead in drinking water must incorporate, at a minimum, the following actions:

- **Inventory drinking water taps used for consumption (i.e., drinking water and food preparation):**
 - A drinking water faucet or tap is the point of access for people to obtain water for drinking or food preparation. A faucet/tap can be a fixture, faucet, drinking fountain or water cooler. Drinking water taps typically do not include bathroom taps, hose bibbs, laboratory faucets/sinks or custodial closet sinks; these should be clearly marked not for drinking.

REDUCING LEAD IN DRINKING WATER

- Taps used for human consumption should only be cold water taps.
- Hot water taps should never be used to obtain water for drinking water or food preparation.
- **Check all drinking fountains to ensure EPA has not identified them as having a lead lined tank under the LCCA.** This list can be found at:
Lead in Drinking Water Coolers (<http://tinyurl.com/kr8kppf>);
 - If a drinking fountain within the school is found on this list, it should be removed from use immediately.
- **Determine a schedule for sampling:**
 - All taps used for drinking water or food preparation must be tested at a minimum of once every five years.
 - If budget or resources do not allow all taps to be tested in the first year, it is suggested that taps be prioritized, with all high priority taps tested the first year, medium priority the second, and low priority the third. The fourth year should be used as a “make up” year, if needed.
 - Recommended priority levels are:
 - High priority: taps used by children under the age of six years of age or pregnant women (e.g., drinking fountains, nurse’s office sinks, classrooms used for early childhood education and kitchen sinks);
 - Medium priority: other taps regularly used to obtain water for drinking or cooking (e.g., Family and Consumer Science sinks, classroom sinks, and teacher’s lounges); and
 - Low priority: other taps that could reasonably be used to obtain water for drinking but are not typically used for that purpose
- **Determine logistics for sampling:**
 - Water testing should be done consistent with the established schedule. Prior to testing it must be determined if school staff or a contractor will conduct the testing.
 - If the school will be doing the testing itself, it will need to contact a laboratory or purchase field testing equipment.
 - Schools will also need to decide if they will use field analyzers or laboratories to analyze results. Either method is acceptable with appropriate quality control and experience.
- **Analysis by an Accredited Laboratory:**
 - Laboratory analysis typically involves a school district or consultant contracting with an accredited lab to obtain sample bottles. The laboratory will send instructions for sampling, sample bottles, and a chain-of-custody form to document time and date collected, collector name, and sample location.
 - Limitations:
 - Analytical costs. These vary from lab to lab. Currently, typical per sample costs for lead and copper analysis may range from \$20 - \$50, depending on a variety of factors;
 - May take longer to get results than using a field analyzer; and
 - Typically requires shipping.

○ Benefits

- District and/or consultant will not need to maintain instrument calibration records;
- Uses a Chain-of-Custody to ensure integrity of sample analysis process;
- Analysis done by third-party may provide more independent review/transparency;
- Accredited labs use EPA approved methods and have met industry standards for analysis; and
- Analysts are certified and trained.

A listing of accredited laboratories may be found at:

- [Accredited Laboratories \(http://www.health.state.mn.us/labsearch\)](http://www.health.state.mn.us/labsearch)

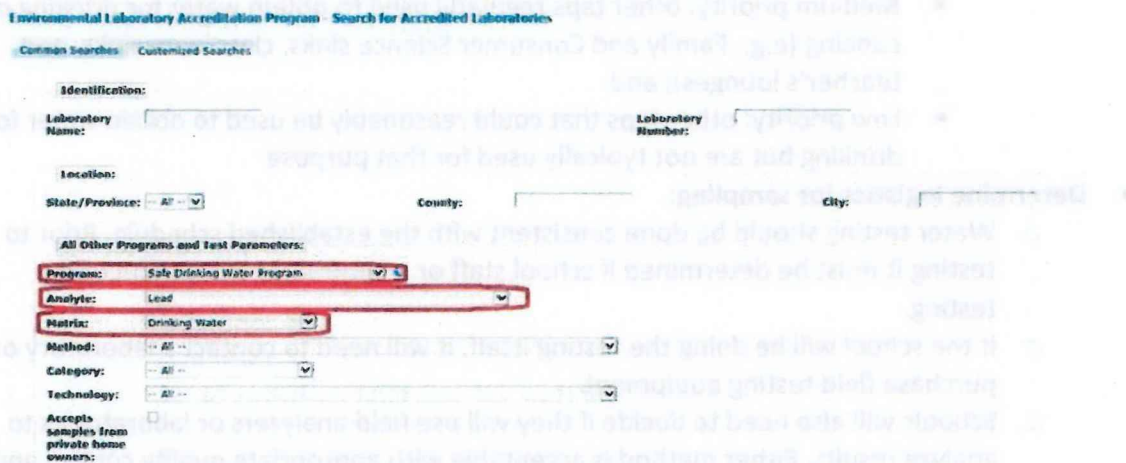
Figure 1 presents a screen shot from the MDH website on search terms for finding an accredited lab using a customized search.

Program = Safe Drinking Water Program

Analyte = Lead

Matrix = Drinking Water

Figure 1: Screenshot of Customized Searches from MDH website



- **Analysis Using Field Analyzers:**

A Field Analyzer can be a great tool for quickly and efficiently testing for lead in drinking water. If you or your consultant uses a field analyzer, it is important that you understand its limitations and proper use.

○ Limitations:

- Some analyzers may not measure all forms of lead in drinking water. It is important that the instrument you use measures *total* lead (particulate and dissolved). If the instrument does not measure all types of lead in drinking water, your result could be biased low;

- Staff using an instrument need to ensure that the instrument is properly calibrated and maintained according to manufacturer's specifications, and that records of calibration and maintenance are kept;
 - Instruments may require chemicals which will need to be stored and that can expire;
 - Field instruments may not have limits of detection that are as low as an accredited laboratory. Be sure that the method you use can identify concentrations as low as 1 ppb; and
 - Some instruments may have interferences with other contaminants and, therefore, under or overestimate the lead level. This may require that additional tests for iron, manganese, hardness, alkalinity or other contaminants be done prior to use to ensure that the instrument will be operated as designed.
- Benefits:
 - Get results faster;
 - Useful when doing large numbers of samples or investigative sampling where many samples might be taken from one tap;
 - Can be done on-site (no shipping needed); and
 - Can be more cost efficient depending on frequency of use.

Step 2- Conduct First Draw Tap Monitoring:

Once the plan from Step 1 is set, water sampling must be conducted according to the established schedule and priority. Water from taps used for drinking or food preparation must be tested for lead using "first draw" samples. First draw means that the samples are collected before the fixture is used or flushed during the day. Use only cold water for collecting lead samples. It is necessary to consider the order in which tap samples are collected to avoid the potential of accidentally flushing a tap. Always start at taps closest to where the water enters the building.

Sample site preparation and sample collection must be performed consistent with the following conditions:

- Note that it may be necessary to collect samples over a number of days to ensure only first draw samples were collected;
- The day before sampling - normal usage of the sampling tap should occur;
- The night before sampling - secure the fixture from being used (e.g., hang a "Do Not Use" sign);
- Do not use sampling taps for a minimum of six hours. MDH recommends not exceeding 18 hours;
- Do not remove aerators or attachments;
- Collect the first draw sample using a 250 mL bottle. Be sure to start sampling at taps closest to where the water enters the building so that no accidental flushing occurs;
- Complete all scheduled sampling for that sampling period; and
- Have samples analyzed by sending to a laboratory or conduct analysis using field analyzers. Be sure to follow all instructions from the lab or field analyzer manufacturer.

Schools with active flushing programs or considering a flushing program may also want to collect a flushed sample in order to verify flushing effectiveness.

Step 3- Communicate Results:

Minnesota Statutes section 121A.335, subdivision 5 creates a reporting requirement for schools as follows - "A school district that has tested its buildings for the presence of lead shall make the results of the testing available to the public for review and must notify parents of the availability of the information."

In addition to testing for lead and meeting the reporting requirements, a lead hazard reduction program should include a comprehensive communication plan. The purpose of a communication plan is to provide a process for school employees, students and parents to address questions, report results and provide ongoing, up-to-date information regarding sampling efforts.

School management should:

- Assign a designated person to be the contact;
- Notify affected individuals about the availability of the testing and results within a reasonable time. School employees, students, and parents should be informed and involved in the communication process. Results of initial and any follow-up testing should be easily accessible along with documentation of lead hazard reduction options. Posting the information on a website is preferred, but the information should also be available to those without easily accessible internet access. Examples of other information venues are: meetings, open houses, and public notices; and
- Identify and share specific activities pursued to correct any lead problems. Local health officials can assist in understanding potential health risks, technical assistance and communication strategies.

MDE and MDH have developed an Education and Communication Toolkit to aid schools in implementing this Model Plan.

The three steps presented above constitute the required portions of the Model Plan. Guidance provided in the remaining sections of this manual, which are highly recommended but not statutorily required, can be used by schools to help ensure that results from required sampling are appropriately reviewed, interpreted, and communicated. Information is also presented to help school districts assess and implement effective and reasonable lead hazard control measures.

Lead Hazard Reduction Options

Information gathered as part of the required three steps of the model plan can be used to formulate actions to address and mitigate lead exposure. The options presented here are not a required part of Minnesota Statutes, section 121A.335. Recommended lead hazard reduction options include:

- Step 4. Interpret Sample Results
- Step 5. Take Corrective Actions
- Step 6. Reassess

Because individual school buildings vary tremendously across the state, it is imperative that final decisions on hazard reduction options are driven by local conditions and considerations. Actions that may be ideal in one district may not be appropriate for another district.

The recommendations in this section were compiled by MDE and MDH to assist school districts in choosing the best lead hazard reduction option to reduce exposure to lead in their schools. They should not be taken to be requirements, but may be implemented individually, in combination, or not at all, depending on the specific situation at an individual school. Because no two districts or buildings are exactly alike, best management practices will likely vary across the state.

Guidance on Interpreting Results and Recommended Lead Hazard Reduction Options

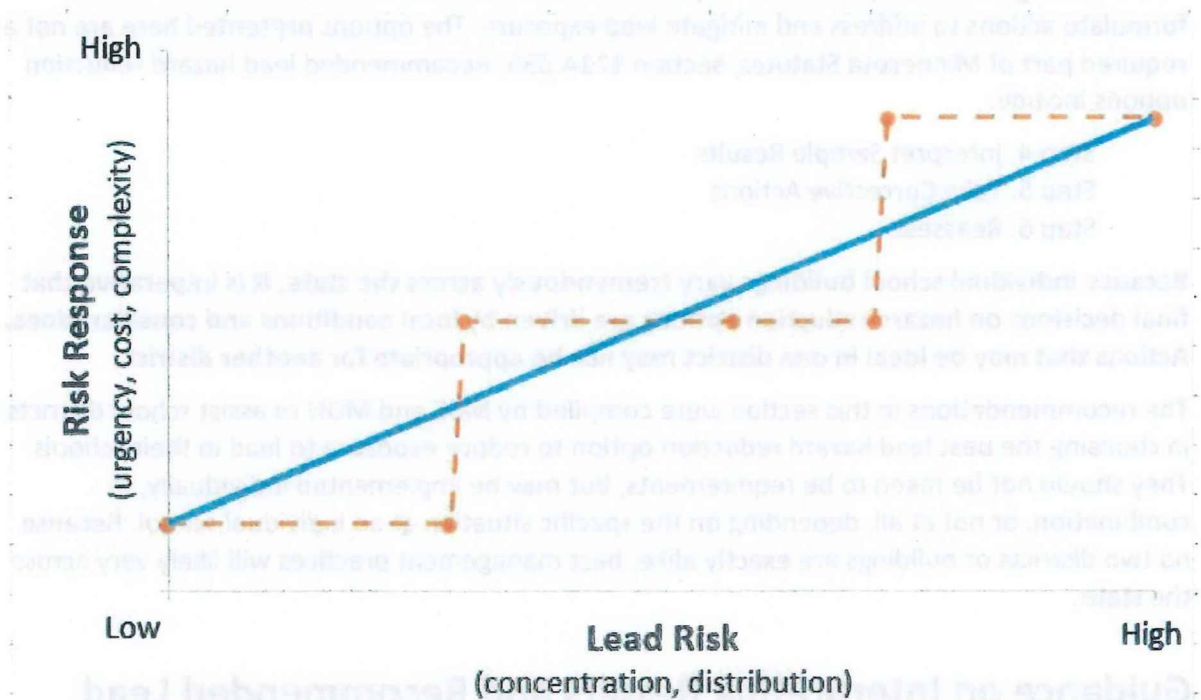
It is widely understood that there is no safe level of lead exposure from any environmental hazard, including water. When confirmed evidence of a lead hazard is identified, some response to manage the exposure (risk or harm) is necessary and appropriate. MDH encourages some level of response be taken for any plumbing fixtures identified as producing a detectable level of lead.

Districts should be prepared to communicate with parents about decisions made to address lead hazards. In their communication plan, schools should be prepared to speak to taking some action at every level. However, given that lead is still found in many environments and products, it is also important to recognize that attaining zero exposure to lead may not be reasonable, or even possible, under some circumstances.

In addition, it is critical to understand that health risks from lead do not abruptly change at varying concentration of lead. As lead concentrations, the duration of exposure, or the number of taps impacted (i.e., distribution) steadily increases, the risks posed to students steadily increase. Response options should consider vulnerability of those exposed, concentration of lead, duration of exposures, and current practices to reduce lead, among other things. The most accurate relationship between lead risk and appropriate responses follow a smooth path (i.e., solid line) as concentration increases (Figure 2). Therefore, a result of 19 ppb is not appreciably safer than a result of 21 ppb. The dashed line represents a standards-based approach (e.g. responses are similar up to a threshold, and then abruptly change). Both the risk

present and response options needed for lead exposure should be evaluated as a continuum and not be driven by specific numbers.

Figure 2: Relationship between Lead Risk and Risk Response



Mitigation strategies used will depend on the site-specific conditions of the school building such as building age, plumbing materials, water use pattern, incoming water quality, and population served. It may take a combination of options and multiple steps over a period of time to manage/remove lead in drinking water. Analytical results can be highly variable and a clear pattern should be identified before implementing any strategy. Schools may consider prioritizing strategies to prevent exposures to students and staff most at risk. The following discussion provides the most common hazard reduction options, but is not intended to be all-inclusive. EPA’s 3Ts guidance document is also an excellent resource for strategies on finding lead sources and implementing mitigation.

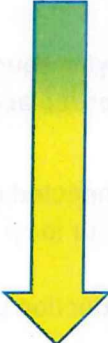
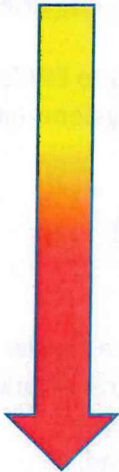
Step 4- Interpret Sample Results:

Once a school receives its sample results, it should verify that all results are expressed in parts per billion (ppb). For water samples, this will sometimes be stated as micrograms per liter ($\mu\text{g/L}$), which is equivalent to ppb.

Table 3 presents possible lead hazard reduction options for various lead levels. The intention of presenting the information is to provide perspective on possible actions in response to increasing lead concentrations in water. The concentration ranges represent increasing levels of lead and should not be used as strict thresholds. More comprehensive actions may be necessary to address health threats from higher concentrations. As there is no safe level of

lead, it is important to incorporate lead hazard reduction options and communicate at all levels of lead in order to raise awareness and reduce exposure.

Table 3: Recommended Lead Hazard Reduction Options

Lead Level At The Tap	Lead Hazard Reduction Options
<p>< 2 ppb or Non-Detected</p> 	<ul style="list-style-type: none"> • Lead was not detected. Tap may be used as normal; • Record result and test again in 5 years; and • Make all test results and lead education materials accessible to the community, such as on a website, or annual report, and available upon request. <p>The tap may be used for cooking and drinking water while steps are taken to reduce overall exposure. A higher number of taps with elevated results increases the urgency to implement hazard reduction.</p> <p>Options include:</p> <ul style="list-style-type: none"> • Retest the sample tap and attempt to more accurately determine the source of the lead; consider monitoring tap more frequently until the source of lead is found and removed; • Consider the feasibility of flushing or other steps to minimize lead exposure, including limiting softened water supplies to hot water taps only, taking into account other actions that the school may already have in place; • Make all test results and lead education materials accessible to the community, such as on a website, or annual report, and available upon request.
<p>2 ppb to 20 ppb*</p> 	<p>Action should be taken to reduce exposure. The specific action(s) taken will be dependent on individual school conditions.</p> <p>Options include:</p> <ul style="list-style-type: none"> • Remove tap from service until problem is demonstrably corrected by replacement, a flushing program, filtration, or treatment; • Do <i>not</i> use tap for cooking or drinking water; • Retest the tap and attempt to determine the source of the lead; If the tap is not replaced, consider monitoring tap more frequently, such as annually, until the source of lead is found and removed; • Implement a flushing protocol or other lead hazard reduction option; sampling should be use to evaluate effectiveness; • Make all test results and lead education materials accessible to the community, such as on a website, or annual report, and available upon request; and • Provide targeted communication and education to individuals, parents, and staff members that routinely use that tap.

* established by EPA 3Ts guidance; if EPA amends, Table 3 will be adjusted to be consistent with new value

Step 5- Lead Hazard Reduction Options:

In addition to possible lead hazard reduction options outlined in Table 3, the options further described here are in priority order of long-term effectiveness in reducing lead hazards. Some lead hazard reduction option needs to be implemented when lead is detected.

If the school receives its water from a Community Public Water Supply (such as a municipal water supply) the school is encouraged to work with them to assess the source contribution of lead coming into the school and if the school has a lead service line. For schools on their own well, the only way to characterize lead contribution from the water source is to do a test of water coming into the building.

Option 1. Removal of Lead Sources

Engineering plans and specifications for the plumbing system are useful for identifying sources of lead and helpful in determining if sources of lead can be removed from service or replaced with lead free fixtures. Options for eliminating lead sources include:

- Remove tap/fixture from service. If the tap is seldom used, it may be disconnected or removed from the water supply line, but first verify the tap is not required for local building code compliance;
- Replace with lead free fixture/plumbing component in accordance with Reduction of Lead in Drinking Water Act;
 - If the existing tap is suspected to be the source of contamination, replace with a lead free tap;
 - Replace other sources of lead, including lead pipe, lead solder joints, and brass plumbing components with lead free materials; and
 - To minimize the introduction of lead into drinking water systems, go to EPA's website to identify lead free certification marks for drinking water systems and plumbing materials.
 - [Lead Free Certification Marks](http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100GRDZ.txt)
(<http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100GRDZ.txt>)

Option 2. Implement a Flushing Program

Flushing the drinking water taps (letting the water run for a set amount of time on a regular basis) can effectively reduce lead concentrations in drinking water. A flushing program works to reduce lead concentrations by clearing the taps of water that has been in contact with plumbing components that may contain lead. While flushing can work to reduce lead, it requires staff time, diligence, and commitment to ensure effectiveness. Essential to any flushing program is monitoring after flushing to verify effectiveness.

There are two primary types of flushing programs: Individual Tap Flushing and Main Pipe Flushing.

Individual Tap Flushing Program

- May be implemented if lead concentrations are found to be high at certain taps;
- Flush individual taps that have been tested and found to have high lead levels. This procedure is to be followed each day the school is in session;
- During periods of normal use:

- Run each tap for 2 to 3 minutes in the morning before children arrive
- Run each tap midday for two to three minutes if the tap has been unused and stagnant for the morning period
- Periodic testing may be done prior to and after the midday flushing to ensure the lead concentrations have remained low throughout the morning hours. If they have not, the flushing time should be increased or another option should be implemented;
- After weekends or breaks, run each tap for ten to fifteen minutes before children return to school then return to normal use; and
- Frequency and duration of flushing should be reasonably documented.

Main Pipe Flushing Program

- May be implemented if lead concentrations are found to be high throughout the entire school or confined to a certain area of the school. This procedure is to be followed each day the school is in session;
- Begin by flushing the tap furthest away from the water source for at least ten minutes;
- Next flush the tap the second furthest away and continue in this manner until all taps have been flushed;
- Flushed samples should be periodically collected and analyzed for lead to confirm the effectiveness of flushing programs;
- It is recommended that midday samples and end of the day samples be taken periodically to ensure the lead concentrations have remained low throughout the day. If they have not, another option should be implemented; and
- Review the results upon receipt and continue to optimize the procedure to reduce lead.

More on Flushing

Flushing is a best management practice used to reduce lead levels by controlling the age of the water. It can be an interim or long-term option. This guidance presents flushing procedures that MDH has found effective in reducing the lead level in drinking water. Site-specific conditions will determine how long a tap needs to be flushed and the number of times a day a tap needs flushing. The key to using flushing as a best management practice is monitoring that demonstrates the lead level has been reduced.

Note that schools implementing a flush program may wish to identify non-consumptive uses for the flushed water (watering, cleaning, etc.) in order to make use of this resource.

Option 3. Treatment

Point-of-Use (POU) Treatment Device

A POU water treatment device may be installed at taps where lead has been detected. It is strongly encouraged that the POU device is approved to meet NSF Standard 53, NSF Standard 58, or an equivalent standard. It is to be installed, operated, and maintained in accordance with the manufacturer's recommendations. **POU treatment systems may be subject to Department of Labor and Industry (DLI) or local administrative authority plan review and approval prior to installation. Contact DLI at (651) 284-5063 for more information.**

Point of Entry (POE) Chemical Treatment

Adjusting the water chemistry may reduce the amount of lead absorbed by the water. This may be done by adding a chemical to the water as it enters the building. Typical methods of chemical treatment include addition of a phosphate-based or silica-based corrosion inhibitor or an adjustment to the water's pH or hardness. **All chemical treatment systems are subject to MDH plan review and approval prior to installation.** In addition, a school that installs POE corrosion control treatment becomes a public water system and is required to meet the regulatory requirements of the SDWA. As a public water system, the school would be responsible for meeting all of the water quality standards of the SDWA, be subject to inspection of the water distribution system, and be required to have a certified water operator.

Contact the Minnesota Department of Health Drinking Water Protection Program at 651-201-4700 to determine if additional requirements will apply to your school prior to installing treatment.

Step 6- Reassess:

All taps affected by a lead hazard reduction option should be retested to ensure the control options worked. A first draw sample is to be taken using the procedure outlined in Step 2.

Interpreting Post Control Option Results

- If the analysis does not detect lead, no further action is required, as long as the control option remains in place. The next sample should be collected within five years;
- If the analysis shows lead remains present, continue twice daily flushing. A midday sample, as specified in Step 5, should be collected to determine if flushing is effective. Alternatively, a new control option can be implemented followed by retesting as specified in Step 2.

MN Statute 121A.335 specifies that each building be tested at least once every five years. MDH and MDE recommend that schools repeat monitoring once every five years if results are below two ppb. If results show persistent elevated lead levels, testing should continue until the lead source is found and hazard reduction options implemented. The overall goal is to have MDH, MDE, school districts, parents, and students all work together to ensure that available resources are best targeted to minimize exposure to lead in drinking water.

Glossary of Terms and Abbreviations

Aerator - An aerator is found at the tip of the faucet. Aerators are screwed onto the faucet head, creating a non-splashing stream and delivering a mixture of water and air

Corrosion - A dissolving and wearing-away of metal caused by a chemical reaction between water and plumbing materials in contact with the water

Detection Level (DL) - The lowest concentration of lead that can be analyzed with a certainty of precision. Results below this level are often expressed as "non-detected," "nd," or "<DL." For the purposes of this document, 2 ppb is the maximum detection level recommended for lead analysis

Detected: An amount of lead above the detection level. A concentration of lead analyzed with a certainty of precision to be at or above the detected level

Drinking Water Faucet/Tap - Point of access for people to obtain water for drinking or food preparation. A faucet/tap can be a fixture, faucet, drinking fountain or water cooler. Drinking water taps typically **do not** include bathroom taps, hose bibs, laboratory faucets/sinks or custodial closet sinks when clearly marked

Field Analyzer - Instrument suitable for water quality analysis in the field and will provide results without the use of a laboratory

First Draw Sample - The first water drawn from a faucet/tap after the water has sat undisturbed in the plumbing system for at least six hours

Fittings - Plumbing components used to join sections of pipe or to join pipe to fixtures

Fixture - Exchangeable device connected for the distribution and use of water in a building. Examples: fountain, sinks, shower, tub, toilet, hydrant

Flush(ing) - Running the water at a faucet/tap or combination of faucets/taps to clear standing water from the plumbing system

Flush Sample - A water sample that has been collected following the flushing of a drinking water tap

Flux - A substance applied during soldering to facilitate the flow of solder. Flux used prior to 1986 contains lead and can itself be a source of lead contamination in water

LCCA – Lead Contamination Control Act, July 1989

LCR – Lead and Copper Rule, June 1991

Lead Free - Weighted average of not more than 0.25% in wetted surface material for pipe, pipe and plumbing fittings and fixtures and 0.2% for solder and flux. More information is available from the EPA website at the following link:

- [Basic Information about Lead in Drinking Water \(https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water\)](https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water)

Limit of Detection (LOD) – The lowest quantity of a substance that can be distinguished from the absence of the substance due to the instrument’s analytical process. It is usually lower than the detection level

MDE – Minnesota Department of Education

MDH – Minnesota Department of Health

Model Plan - The plan developed by the commissioners of health and education to accurately and efficiently test for the presence of lead in drinking water in public school buildings, as required under Minnesota Statutes 121A.335

Non-Detect: A lead result below the limit of detection, often expressed as “non-detected,” “nd,” or “<DL.”

pH - A logarithmic measure of acidity and alkalinity between 0 (highly acidic) and 14 (highly basic); 7 is neutral

Parts per Billion (ppb) - A standard unit of measurement commonly used to describe the concentration of lead in drinking water. Also expressed as micrograms/liter (µg/L)

Point of Entry (POE) - A water treatment device installed to treat all water entering a single school, building, facility or home. Example: water softener

Point of Use (POU) - A water treatment device intended to treat water for direct consumption, typically at a single tap or a limited number of taps. Example: faucet mount cartridge filter

Primary Prevention - aims to prevent disease or injury before it ever occurs. It is done by preventing exposures to hazards that cause disease or injury, altering unhealthy or unsafe behaviors that can lead to disease or injury, and increasing resistance to disease or injury should exposure occur

Public Water System (PWS) - A system that has at least 15 service connections or regularly serves an average of 25 individuals daily at least 60 days out of the year

- **Community Public Water System (CPWS)** - A PWS which serves at least 15 service connections used by year round residents or regularly serves at least 25 year round residents. Examples: municipalities, manufactured mobile home parks

REDUCING LEAD IN DRINKING WATER

- **Nontransient Noncommunity (NTNC) Public Water System** - A PWS that is not a CPWS and that regularly serves at least 25 of the same persons over 6 months per year
 - Examples: schools, childcare centers, factories

Schools - Minnesota's public and charter schools serving students in pre-kindergarten through grade 12

SDWA – Federal Safe Drinking Water Act

Service Connection - The pipe that carries tap water from the public water main to a building

Solder - A metallic compound used to seal the joints between pipes. Until 1988, solder containing up to 50% lead was legally used in potable water plumbing. Lead free solders, which can contain up to 0.2% lead, often contain one or more of the following metals: antimony, tin, copper or silver

United States Environmental Protection Agency (EPA) - Federal agency with a mission to protect human health and the environment; oversees implementation of the SDWA



**Wisconsin
Conservation
Voters**

**Testimony on SB 423
Jennifer Giegerich, Government Affairs Director
October 1, 2019**

Good morning. Thank you Chairman Cowles and members of the committee for allowing me to testify today. My name is Jennifer Giegerich. I am the government affairs director for Wisconsin Conservation Voters. We have offices in Madison, Milwaukee, Eau Claire, and Green Bay, where we work with our network of over 40,000 members and supporters to engage voters to protect our environment. We work in close partnership with many local conservation groups around the state.

We know at least 81 water systems in Wisconsin showed unsafe levels of lead when tested. We also know that between 1996 and 2016 more than 200,000 children were diagnosed as being lead-poisoned.

The threat is real and it can be devastating. Lead – even in the smallest amounts – interferes with the synapses in a child's brain. It, in the words of one researcher, "derails (the) brain's learning center." This damage manifests as decreased IQ, learning disability, and behavior dysfunction.

Lead leaches into water via lead water mains, lead laterals, old pipes, solder, and fixtures. While the state has taken steps in recent years to help homeowners remove lead pipes from homes where children spend the majority of their young lives, we have not made the same commitment to systematically removing lead pipes and fixture in schools, the other place where children spend a majority of their time.

The main value of this bill is to ensure that all schools are tested within three years of the bill's passage. Testing all drinking water in our schools for lead will give us an accurate picture of the true nature of the health threat facing our children. Having that information readily available to parents will hopefully galvanize greater urgency to fund lead lateral and fixture replacement in our schools.

While we support the bill, we have two suggestions to improve the bill:

- We would like to see the state adopt the most stringent health-based standard possible for determining if a school is meeting acceptable lead levels. The U.S. EPA is clear that there is no safe amount of lead where children are concerned. SB 423 has the Safe Drinking Water Act level, which is currently 15 ppb, as the threshold for when schools must remediate for lead.

But the 15 ppb is too high. We would recommend that the triggering limit, where schools have to remediate, be set at 1 ppb, a standard established in another part of the bill. We know there is some concern about schools being able to meet the 1ppm standard. As a fallback, the legislature could consider making the triggering standard at least 5ppm, which is the level that bottled water manufacturers are required to meet.

- We are concerned that school districts are already forced to make tough choices within their budgets. We appreciate the quick timeline required for school districts and charter schools to test. Depending on the size of the school district and the age of their buildings, they may have a significant expense that would not have been planned for the upcoming school year. As school districts are bound by levy limits, we would encourage the state to be more flexible with allowing schools to cover the costs of the tests outside of the levy limits and/or help provide funding for these tests. Clean water is imperative for our children's health, but high quality teaching and classroom support is also necessary.

We again thank Chairman Cowles for his leadership on this issue and urge members of the committee to support SB 423.

Thank you for your time and consideration.

###

For questions, contact Jennifer Giegerich at jennifer@conservationvoters.org or 608-208-1130.



Testimony to the Senate Committee on Natural Resources and Energy on Senate Bill 424, relating to testing for lead in drinking water in facilities used for recreational and education camps and child care

Key Message: The bill should be amended to provide funding for testing and remediation

October 1, 2019

For the leaders of the Wisconsin Child Care Administrators Association (WCCAA) and the Milwaukee Child Care Alliance (MCCA), our top priority is always the health and well-being of the children at our centers. We strive day in and day out to make this a reality, despite chronic underfunding by the state for the Early Care and Education field.

WCCAA, MCCA and its members are in favor of eliminating lead from the drinking water in the state, including at child care centers and educational camps. But the state should not be issuing an unfunded mandate to our small businesses. If the state believes this is a priority, the state must provide resources and funding for testing and remediation.

Some points to consider:

To test the water in a program, a center will need to **hire** a water specialist to draw the water samples and send them to a lab for testing. Cost will vary. The only cost that is included in this Bill is the cost for the lab testing, which does not include the water specialist who will need to draw the water for the test. This is a DNR requirement.

If lead shows up in the water, over the municipal level, centers will need to change out lead pipes in their building or use bottled water for drinking and food prep, or a combination of both. This will be **very** costly to programs who already are struggling with a tight budget. In some cases, if the expenses to remediate this problem run high, it could force a center to close. Funding **must** be available to help with this cost. Programs must also be given a sufficient timeframe in order to rectify a problem.

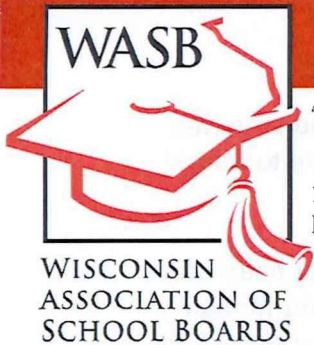
If high levels of lead show up in a program's water test, the DNR will help with remediation. But the DNR will be doing many follow up water tests, until they are satisfied the lead levels have dropped. The DNR can give you more specifics on this, but it will result in hiring a water specialist to draw the water test and sending the samples to a lab. More expenses for a child care program. Again, funding **must** be tied to this Bill.

Another concern is if a child care center rents the building they are in. What power will they have to force the landlord to comply with this bill?

Any child care program having a private well is already doing lead testing of their water per DNR recommendations.

Joan Beck, WCCAA President, jbeck@willowschristianchildscarecenter.com

Christine Larson Salerno, MCCA Chair, clarson@ymcamke.org



"Leadership in Public School Governance"

JOHN H. ASHLEY, EXECUTIVE DIRECTOR

122 W. WASHINGTON AVENUE, MADISON, WI 53703
PHONE: 608-257-2622 FAX: 608-257-8386

TO: Members, Senate Committee on Natural Resources and Energy
FROM: Dan Rossmiller, WASB Government Relations Director
DATE: October 1, 2019
RE: SENATE BILL 423, relating to lead testing of potable water sources in certain schools; providing loans for lead remediation in certain schools; and providing an exception to referendum restrictions for lead remediation.

Thank you for the opportunity to share thoughts and comments about Senate Bill 423. I am here to speak for information.

The Wisconsin Association of School Boards (WASB) and its 421 member school boards take the matter of student health, safety and well-being seriously. Lead contamination of drinking water is a serious matter. Children are particularly susceptible to negative health consequences of the ingestion of lead.

My member school boards are also mindful that there are costs associated with detecting and remediating of environmental hazards such as lead and other harmful substances and that it may be difficult for schools to bear those costs.

WASB members have adopted a permanent resolution in support of legislation requiring the state and federal governments to provide and fund mandated environmental hazard inspections for school facilities and remediation services when contamination is found.

The bill before you today would address lead in school drinking water by requiring testing and, if necessary, requiring that contaminated water sources be taken offline and replaced with clean water sources. However, the bill provides no state funding for this purpose and leaves it to schools and communities to address the costs associated with these mandates, which are largely unknown.

That said, the WASB appreciates that the bill attempts to minimize potential costs by providing flexibility regarding how schools are to address lead contamination when it is found.

We have several suggestions about how to improve the bill.

This bill requires all K-12 schools that receive public funding to test all sources of drinking water, known as potable water, for lead contamination at least once every three years. Testing would be phased-in over three years. We think this requirement could be clarified.

Rather than using the term “potable” water, which is not well understood, we recommend targeting water intended for human consumption instead. We believe this provides clearer direction to school officials and the public.

We further recommend that the bill specifically authorize each school board or governing body of a school subject to the testing requirement to designate which water sources are intended for human consumption and therefore subject to testing. Along with this change, we recommend that these boards or governing bodies be authorized to post signs identifying water sources within a school that are not intended to be used for drinking or other human consumption to indicate this to the public.

Under the bill, if any source of drinking water, such as a drinking fountain, is found to contain lead levels that exceed the federal action standard of 15 parts-per-billion, that water source must be taken offline and, if necessary, alternative sources of drinking water must be provided. Additionally, a remediation plan must be developed, posted online or made available for examination upon request, and submitted to DPI within six months.

The bill requires that the results of all tests conducted on all drinking water sources must be posted on the school or district’s website. We believe this may cause confusion, particularly in larger school districts with multiple schools due to the sheer numbers of results. The WASB suggests that this provision be amended to require website posting/notice of only those test results that show a concentration of lead a school is required to or intends to remediate. Our goal in making this suggestion is not to hide results but to make it easier for the public to identify the most problematic sources.

The bill also requires that when any drinking water source in a school produces a test result above one part per billion, the school must continue testing that water sources every three years until or unless the results are essentially negligible. In cases where the public water supply providing water to the school contains at least some background level of lead, it will be difficult for a school to achieve a negligible test result without taking some additional remediation steps. This raises the possibility that some unknown number of schools will either find themselves in a perpetual cycle of required testing or will have to install filtering devices on all water sources within the school that test above one part per billion or will have to provide an alternative supply such as bottled water, perhaps permanently.

I am not a hydro chemist, but it is my understanding that current testing is neither accurate nor reliable below certain minimal threshold levels. In other words, available testing methodologies are generally not able to differentiate levels of lead contamination below 5 parts per billion. If my understanding is accurate, below 5 parts per billion, a test cannot accurately or reliably indicate whether a sample contains one part per billion or four parts per billion. Perhaps there are other witnesses who will testify to the accuracy, reliability and sensitivity of current sampling and testing procedures. My point is that rather than specifying a numeric standard in parts per billion that triggers continued testing, the authors of the bill may want to consider referencing a standard that is based on the degree or level of sensitivity available tests are able to reliably detect. This presumably could change over time as more sensitive and more accurate tests become more widely available.

Earlier, I spoke about the costs of remediation efforts. Under the bill, if remediation efforts are necessary and cannot be absorbed in the school district’s current budget, the district would be allowed under the bill to go to referendum outside of a regularly scheduled election.

A school district would be allowed to ask more than two referendum questions in one year, if necessary, for the exclusive purpose of addressing lead remediation. An unanswered question is what a school district is to do if district voters turn down the referendums.

While the bill does not directly provide state funding, it would allow schools to finance remediation through a School Trust Fund Loan from the Board of Commissioners of Public Lands (BCPL). In addition, the bill would allocate 20 percent of the total funding from the Safe Drinking Water Loan Program (SDWLP), which is largely federally funded, for the purposes of buying down the interest rate of schools using BCPL loans for lead remediation efforts.

The bill, however, is silent regarding the priority assigned to how these loans are awarded or allocated. It is our understanding that it may be problematic for the Legislature to try to impose restrictions on the BCPL as the BCPL is a constitutionally authorized body. Therefore, we would ask the BCPL, in awarding these loans, to assign priority to the greatest extent possible to districts with the highest lead concentrations first and to districts with relatively lower per pupil spending levels or per capita income levels second.

Our concern is that districts with relatively lower concentrations of lead in their drinking water that are not required under the bill to take remediation actions but that wish to take action and are readily able to pass referendums might be able to effectively crowd out districts that would be legally required under this bill to take remediation actions.

Thank you in advance for your consideration of these recommendations.

Senate Committee on Natural Resources and Energy

October 1, 2019

**Department of Public Instruction
Statement on 2019 Senate Bill 423**

The Department of Public Instruction (DPI) appreciates the opportunity to provide comment for information only regarding 2019 Senate Bill 423, relating to lead testing of potable water sources in certain schools; providing loans for lead remediation in certain schools; and providing an exception to referendum restrictions for lead remediation.

Description of Senate Bill 423

This bill requires school boards, operators of independent charter schools, and governing bodies of private schools participating in a parental choice program or the special needs scholarship program to test all sources of potable water for lead contamination and post the results on the school board's, operator's, or governing body's internet site and provide the results of such tests to the DPI. If no potable water source yields a level of lead concentration to be higher than the federal standard of what is considered safe for drinking water, no further action is required. If lead levels on any source of drinking water exceed the federal standard, the source of water with lead contamination must be taken offline and, if necessary, alternative sources of potable drinking water must be provided. Additionally, a remediation plan must be developed, posted online or made available for examination upon request, and submitted to the department within six months.

A school board that conducts a test that shows lead contamination may call a special referendum to be held within six months of its submission of the lead remediation plan to the DPI and is not subject to current law restrictions on the scheduling of referenda, provided that the special referendum only includes costs associated with the lead remediation plan. Finally, the bill allows the Board of Commissioners of Public Lands to use school trust funds to issue loans to school districts for the purpose of lead remediation.

Analysis

The health and safety of all Wisconsin students is of the utmost importance. A recent report issued by the Wisconsin Department of Health Services¹ has found increased behavioral issues experienced by children that are exposed to lead in school, such as truancy and juvenile delinquency, and the negative physical and mental health impacts stemming from a child's

¹ Wisconsin Department of Health Services. 2014 Report on Childhood Lead Poisoning in Wisconsin. Madison, WI: Wisconsin Department of Health Services, Division of Public Health, Bureau of Environmental and Occupational Health, 2016. Accessed September 30, 2019.
<http://www.dhs.wisconsin.gov/publications/p01202-14.pdf>

exposure to lead are well documented.²

The testing provisions of this bill will aid schools in their efforts to address any potential problems arising from lead contamination. Given the impacts on children's health, the department is concerned with the bill's provisions requiring school boards to go to referendum to finance lead remediation projects if a school district's test yields a high concentration of lead in its water sources. Not only is time of the essence when dealing with lead exposure, it is not immediately clear what alternatives a school board would have to pay for lead remediation projects in the event a referendum does not pass.

The Blue Ribbon Commission on School Funding recommended in their recent report that additional financial resources could be provided to school districts under adjustments to the revenue limit calculation, including revenue limit adjustments for lead testing and abatement projects.³ The department asks the committee to consider similar provisions in this bill to allow school boards the ability to take the necessary actions to safeguard the health and well-being of students and staff.

Again, thank you for the opportunity to provide information on Senate Bill 423.

² American Academy of Pediatrics. "Lead Exposure in Children." Last modified August 28, 2019. Accessed September 30, 2019. <https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/lead-exposure/Pages/Lead-Exposure-in-Children.aspx>.

³ Blue Ribbon Commission on School Funding. *Recommendations of the Commission*. Madison, WI: Blue Ribbon Commission on School Funding, 2019. Accessed September 30, 2019. http://docs.legis.wisconsin.gov/misc/lfb/misc/206_recommendations_of_the_blue_ribbon_commission_on_school_funding_1_4_19.pdf.

TO: Senate Committee on Natural Resources & Energy
FROM: Heather Paradis, MD, Medical Director, Community Services, Children's Hospital of Wisconsin
DATE: Tuesday, October 1, 2019
RE: Support for SB 423 & SB 424—School and child care lead testing

Chairman Cowles and members of the committee - Thank you for holding this hearing today and allowing me this opportunity to submit testimony in support of both SB 423 and SB 424 regarding school and child care lead testing. My name is Dr. Heather Paradis and I am a practicing pediatrician and the Medical Director of Community Services at Children's Hospital of Wisconsin.

Lead is a significant public health issue in our communities across the state. At Children's, we understand firsthand the effects lead poisoning can have on a child's health and well-being, including learning difficulties, developmental delays and behavioral issues. There is no "natural" level of lead that comes from our diet or nature; therefore, any detectable level of lead in a person's bloodstream is there as environmental contamination. When it comes to lead and children, no level can be considered "safe." While much of Wisconsin's lead poisoning continues to stem from degrading paint sources, efforts to protect our water supply and identify other potential significant sources of lead on a case-by-case basis are critical to reducing incidence of this harmful condition.

At Children's, we are dedicated to providing the best care for children and we have implemented measures to increase testing and identification of children in need of care. We follow Wisconsin Lead Poisoning Prevention Program guidelines and recommendations for testing, including enhanced testing for children who live in areas with elevated lead poisoning risk, including children covered by Medicaid and those residing in the cities of Milwaukee and Racine. We have equipped each of our Primary Care sites with point-of-care instruments, so lead results are immediately known and shared with both families and the local health department at the time of testing. Lead testing compliance is one of our internal quality metrics for Primary Care, Children's Community Health Plan and the Care4Kids program serving children in out-of-home care.

Eliminating the lead risk in our community will continue to take committed and coordinated action by community, health and government entities. We are thankful that city and state officials are looking at this as a public health issue and we encourage and support focused efforts and resources on lead poisoning prevention, including increased testing efforts. SB 423 and SB 424 put in place a process for our schools and child care settings to test water sources for lead. Implementing standardized lead testing and remediation at locations where children spend much of their time will help prevent lead poisoning among children. While we can treat children for lead poisoning, the effects can have long-lasting impacts on a child's life which is why preventing lead poisoning is so critical.

Our children face so many potential threats to health and well-being during the first years of life – years that are foundational to their growth and development. Lead exposure is one threat that we have the ability to control and to mitigate the risks. Identifying and removing sources of lead is crucial to preventing the harmful effects of lead poisoning.

Chairman Cowles and committee members, I thank you again for the opportunity to submit testimony in support of SB 423 and SB 424. Children's is glad to serve as a resource on this important public health matter facing our state, and in particular, our most vulnerable community members. I am happy to answer any questions now.



If you have any questions, comments or concerns after the hearing, please feel free to contact me via email at hparadis@chw.org or via phone at 414-337-6916.

As you know, Children's Hospital of Wisconsin (Children's) serves children and families in every county across the state. We have inpatient hospitals in Milwaukee and the Fox Valley. We care for every part of a child's health, from critical care at one of our hospitals, to routine checkups in our primary care clinics. Children's Hospital also provides specialty care, urgent care, emergency care, dental care, school health nurses, foster care and adoption services, family resource centers, child health advocacy, health education, family preservation and support, mental health services, pediatric medical research and the statewide poison hotline.

Children's Hospital of Wisconsin is a not-for-profit organization that is committed to providing the highest quality of care for children and families. We are a member of the Children's Hospital Association and the American Hospital Association. We are also a member of the Wisconsin Hospital and Health Care Association. We are committed to providing the highest quality of care for children and families, and we are committed to being a part of the community that we serve.

Children's Hospital of Wisconsin is a not-for-profit organization that is committed to providing the highest quality of care for children and families. We are a member of the Children's Hospital Association and the American Hospital Association. We are also a member of the Wisconsin Hospital and Health Care Association. We are committed to providing the highest quality of care for children and families, and we are committed to being a part of the community that we serve.

Children's Hospital of Wisconsin is a not-for-profit organization that is committed to providing the highest quality of care for children and families. We are a member of the Children's Hospital Association and the American Hospital Association. We are also a member of the Wisconsin Hospital and Health Care Association. We are committed to providing the highest quality of care for children and families, and we are committed to being a part of the community that we serve.

Children's Hospital of Wisconsin is a not-for-profit organization that is committed to providing the highest quality of care for children and families. We are a member of the Children's Hospital Association and the American Hospital Association. We are also a member of the Wisconsin Hospital and Health Care Association. We are committed to providing the highest quality of care for children and families, and we are committed to being a part of the community that we serve.

Children's Hospital of Wisconsin is a not-for-profit organization that is committed to providing the highest quality of care for children and families. We are a member of the Children's Hospital Association and the American Hospital Association. We are also a member of the Wisconsin Hospital and Health Care Association. We are committed to providing the highest quality of care for children and families, and we are committed to being a part of the community that we serve.

