

Lead in the Water: If We Don't Know, Can It Still Hurt Us?

By State Senator Virg Bernero

I've always had a lot of respect for Dave Dempsey, one of Michigan's foremost environmentalists and current policy adviser to the Michigan Environmental Council. But after reading his recent column concerning Lansing's lead problem, I have to wonder if he's been drinking water from a lead pipe.

It's not that his call for more attention to lead-based paint as a major source of childhood lead poisoning is off base. As he correctly points out, we've known for a long time that lead paint is a problem, particularly in older neighborhoods in cities like Lansing. And I agree that testing a mere 5% of Ingham County's children under age 6 for lead poisoning is insufficient. He's absolutely right; we have to do better.

That's why Governor Granholm last year convened a statewide childhood lead poisoning task force and why the Michigan Legislature is moving a comprehensive package of bills designed to ramp up screening for lead-poisoned children, clean up homes that still have lead-based paint, and hold landlords accountable for repeatedly renting properties with known lead hazards.

What disturbs me most is Dempsey's unquestioning, uncritical and out-of-character acceptance of the sweeping assurances offered by the Board of Water and Light and, regrettably, the Ingham County Health Department that lead levels in Lansing's drinking water pose no threat to public health. Not only does Dempsey have his facts wrong, his unequivocal conclusion that there is no danger whatsoever to anyone in Lansing due to lead-tainted drinking water may be dangerously misplaced.

In his column, Dempsey asks the rhetorical question: is there an imminent threat to Lansing residents from lead-tainted drinking water? His answer: an "emphatic NO." The real answer is: we don't have the slightest idea, because the BWL has never conducted a single test of the lead service lines that supply drinking water to more than 14,000 Lansing homes. And that is one of the more disturbing findings my Safe Drinking Water Task Force has uncovered thus far.

At our last meeting, the task force heard testimony from the nation's leading expert on lead corrosion in municipal water systems. Dr. Marc Edwards of Virginia Tech told the group that BWL's current testing regime, known as first-draw sampling, is deeply flawed and tells us very little about the presence of lead in Lansing's tap water.

Dr. Edwards should know. His groundbreaking research revealed that the tap water in Washington D.C. is so tainted with lead that the water coming from some homes would have been classified as hazardous waste by the EPA. By challenging the conventional wisdom about how to test for lead-tainted water, Edwards uncovered a massive problem

that posed an imminent danger to the public health – the true extent of the problem would not have been revealed by a first-draw sampling program..

Equally disconcerting is the fact that Edwards' sampling techniques showed that lead levels in Washington's drinking water reached the highest levels after flushing the tap for 1 minute – precisely the amount of flushing time that water and health authorities were recommending to Washington residents. If people actually followed this advice, in many cases they would be exposed to more lead than if they had ignored the warnings altogether.

When we hear assurances from Dempsey and others that the source of childhood lead poisoning is lead-based paint, those assurances are largely based on the same tap water testing that fails to reveal the full extent of lead in drinking water. If we don't know with any certainty whether or not the water is tainted by lead, how do we know that drinking water doesn't contribute to lead poisoning in children? Once again, the answer is that we don't know.

We do know that lead is a zero tolerance poison. There is no known amount of lead that is safe for children. If water is making a contribution to lead poisoning in children, even in small amounts, we need to know so we can advise parents to take the proper precautions to protect their children's health. The lack of hard scientific evidence in this area suggests that additional research needs to be conducted to determine all the sources of childhood lead poisoning. Until that research is completed, we cannot rule out drinking water as a significant source of lead poisoning in children. In the meantime, I believe we should err on the side of caution and stop trivializing the issue of lead-tainted drinking water.

Based on Dr. Edwards' recommendations, I plan to introduce legislation later this year that will require water suppliers across Michigan to conduct tests that go beyond the flawed first-draw sampling technique. Only then will we truly know if we have a problem with lead-tainted water and only then can we provide the citizens of Lansing with scientific rather than speculative assurances that their tap water is safe to drink.

**Statement by Senator Virg Bernero
on BWL Lead Pipes and Malcolm Pirnie Test Results**

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When the public learned last summer that more than 12,000 Lansing homes get their household drinking water from a lead pipe, citizens were rightly concerned that a well-known toxic substance like lead might be present in the water consumed by their families on a daily basis. My office received phone calls and emails from Lansing residents who

wondered if it was safe to drink the water. I had to tell them in all honesty that I didn't know, but I intended to find out.

To investigate the matter, I convened a Safe Drinking Water Task Force that included MSU scientists, public health officials, utility representatives and workers, elected officials, school and neighborhood leaders, and others. The group set out to determine if Lansing residents faced any health risks from the lead pipes that supply drinking water to their homes.

In the course of the task force meetings, I learned a great deal about the state and federal rules that are designed to protect us from exposure to lead in our drinking water. In the end, I reached a troubling conclusion: the current rules and standards for safe drinking water are woefully inadequate and fail to protect the public health.

Early on in my investigation it became clear that the testing methods required by the U.S. Environmental Protection Agency (EPA) - and followed by local utilities like the Lansing Board of Water and Light - are deeply flawed. The task force learned that the "first draw" sampling technique prescribed by EPA rules for testing the amount of lead in household drinking water fails to detect the presence of lead that may be leaching into the water from the lead service line that connects the household plumbing system to the water main.

The task force heard testimony from Dr. Marc Edwards of Virginia Tech, an internationally acclaimed expert on lead contamination in municipal water supplies. Dr. Edwards demonstrated that a more extensive testing protocol, known as profile testing, is required to determine how much lead is present in household tap water. Profile testing involves taking multiple samples over time as the water flows from the tap. The samples are then analyzed to determine when lead levels reach a peak and when they subside.

In response to Dr. Edwards' compelling testimony, the BWL agreed to hire a nationally-recognized consultant to conduct more extensive testing of the water supplied through a lead service line to more than 12,000 Lansing homes. The Malcom Pirnie consulting firm was retained to perform those tests and to advise BWL on the best way to control the corrosivity of the water in their distribution system. The more corrosive the water, the more lead it may cause to leach into household drinking water.

Tests were conducted from January to April on a sample of 28 Lansing homes with a full lead service line, plus one home with a partial lead service line and one home with a newly installed copper line.

The results of those tests are only reassuring in the sense that knowing you have cancer is better than not knowing you have it. Sometimes bad news is good news because it means you have identified the problem and can now take action to resolve it.

From any standpoint, the results of the Malcom Pirnie study of Lansing's drinking water are disconcerting. When nearly one-third of the homes tested had lead concentrations in

their drinking water well above the federal action level, we have good reason to be concerned. When we see data showing that the level of lead continues to increase for several minutes as the water flows from the tap, it proves beyond any doubt that the source of the lead contamination is the lead service line.

More significantly, this finding raises serious concerns about the recommendations issued by public health and utility officials for flushing lead-tainted water from residential tap water. The BWL and Ingham County Health Department both have repeatedly advised Lansing residents that flushing a household tap for 30 seconds to 2 minutes is sufficient to eliminate the presence of lead in the drinking water. Public health officials and others offered the same assurances to citizens in columns published in local newspapers.

Unfortunately, the Malcolm Pirnie study demonstrates that these flushing recommendations are not just wrong, they are dangerously misleading. If Lansing residents who live in homes with a lead service line actually followed this advice, it turns out that they would very likely be exposing themselves to more lead in their drinking water, not less, and not just in trace amounts, but in concentrations that the EPA has characterized as an "an imminent and substantial endangerment to the health of children and pregnant women."

In addition, it is critical to note that these test results cannot be considered a thorough assessment of the scope of this problem. The extremely small sample size of 30 homes does not produce scientifically reliable data that can be extrapolated to the entire population of more than 12,000 affected homes. This important caveat is noted in the Malcolm Pirnie report. As a result, an abundance of caution must be used in drawing any conclusion that this data is representative of the lead concentrations in the tap water of all the affected homes. It is very likely, if not a certainty, that there are homes in Lansing where the maximum lead concentration is significantly higher than the levels found in the homes that were tested.

Even more important, these tests were all conducted during cold weather months. Seasonal variations in temperature can significantly impact the amount of lead that leaches from lead service lines into the water that passes through them. This important caveat is also noted in the Malcolm Pirnie report. It is very likely, if not a certainty, that tests of these same lead service lines, if conducted during the summer months when the ground is warm, would produce maximum lead concentrations substantially higher than those found during the cold weather testing.

Based on these facts, it is clear that this is not a threat to be taken lightly. It is one that demands our urgent attention to protect the health of children and pregnant women in Lansing.

To fully protect the public health, the BWL and Ingham County Health Department should immediately survey all 12,000 homes with lead service lines to determine the age of all occupants. Families with pregnant women or children under the age of 6 should be

directly and personally counseled to stop drinking water from the tap unless it is filtered. The BWL should offer these at-risk families the choice of bottled water provided at no charge, or an installed tap water filter, including a regular supply of replacement cartridges, also at no charge. The BWL should then implement an accelerated program of lead service line replacement for homes with pregnant women or children under six years of age. It is not enough to rely on efforts that depend on voluntary compliance by the affected families. Not everyone will get the message, even if both agencies undertake a significant public awareness campaign.

Though separated by several orders of magnitude in the maximum levels of lead found in household tap water, the experiences of Washington D.C. and now Lansing clearly demonstrate the abject failure of current testing methods to detect the full extent of lead in our drinking water and the complete inadequacy of state and federal rules that are supposed to be protecting the public health. In the wake of the Washington D.C. lead crisis, the EPA is now in the process of promulgating new rules for lead testing that will require every water utility in the nation to conduct more stringent tests to determine the extent of lead contamination in household drinking water, and to provide the public with more accurate information on how to protect themselves from the hazards of lead in our water.

With the results of the Malcolm Pirnie study now in hand, I am convinced that we can't afford to wait for the EPA bureaucracy to move forward with these new rules. I believe this situation warrants our urgent attention and immediate action to strengthen Michigan's safe drinking water rules and to compel our state Department of Environmental Quality to implement tougher standards for lead testing across the state.

For this reason, later this week I will introduce legislation in the Michigan Senate that will strengthen state testing requirements and public notification requirements for lead in our drinking water and, for the first time, require periodic testing of the drinking water in Michigan's elementary schools to ensure that the water our children drink when they are at school is safe.

In addition, I am today calling on our representatives in the U.S. Congress to compel the EPA to expedite their revision of the federal Lead and Copper Rule and to authorize additional federal funds to the states to help expedite the removal of lead service lines.

Furthermore, I am today calling on our state and local public health officials, water utilities and state environmental regulators to cease and desist from their ongoing attempts to trivialize the importance of lead in drinking water as a possible source of lead poisoning in children. This nation's scientific community long ago reached the conclusion that lead is a zero tolerance poison and that all sources of lead must be considered as a threat to the health of our children. Even though we know that lead paint is a major source of lead poisoning in children, there is no source of lead that is unimportant. We must stop arguing about which source is more important and start working together to prevent lead exposure from all sources.

When it comes to the health of our children, we cannot afford to wait. We cannot afford to accept the baseless conclusions and bland assurances of those who refuse to accept, for whatever reason, that we need to be concerned about the presence of lead in drinking water. We must not delay. We must act now.