# Unsafe lead in water is widespread in Vancouver Island daycares

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Nearly half are affected, tests show. Managers say finding fixes is confusing and frustrating. A Tyee investigation.
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EXCERPTS

Lead in the water of child-care facilities is a problem on Vancouver Island, one far bigger than in some other areas of the province. The government has known about it for years. Its own testing program proves it. But when it comes to dealing with the threat, people affected are running out of patience at the trickle of response from officials.

One method health authorities commonly advise — just turning on the taps and running water for a while before letting staff and kids use it — is called no solution at all by experts.

Which further troubles people working in affected daycares. Some told The Tyee they are worried, wrung out and want action.

Among 1,049 licensed child-care facilities in the Island Health region, nearly half have unsafe lead levels in their water according to testing done between January and March of 2020 by Vancouver Island Health Authority.

In 480 child-care facilities the water had lead levels above Health Canada's recommended maximum of five parts per billion, or 5 ppb.

The testing was part of the Lead in Water Child Care Project that started in early 2020, when the ministry directed all licensed child-care facilities to probe their water for lead.

"I'm deeply concerned," said Rebecca Beauchamp, a team lead and manager of the XaXe SŦELIŦKEL Childcare Centre in Victoria. Her daycare is one that tested above the guideline. "Water is essential. And the tests show the fact that there is a lot of lead in our water."

Beauchamp echoed what The Tyee heard from others at affected daycares when we reached out to them. Child-care staff across Vancouver Island expressed frustration with the lack of clarity, followup, funding or urgency to implement long-term solutions.

"I don't know where to go from here," said Tina Alyward, licensee and owner of Kid's Place Childcare Center in Nanaimo. Recent testing found lead in the water at her child-care facility.

Alyward said her daycare was already using water coolers for all the drinking water but she wants a longer-term solution. Unresolved questions swirl in her mind. "How do we fix this and what are the costs of fixing it? What's the best way to fix it? What kind of filter system is good?"

But answers too often prove beyond the reach of child-care administrators strapped for time and money.

**Even low lead levels a threat: expert**

"There needs to be much more urgency, particularly because young children absorb lead more readily than older children and adults," said Bruce Lanphear, a professor of health sciences at Simon Fraser University. He's been researching the impact of lead and toxins in children for over 25 years.

In children, lead can affect the development of the brain and nervous system, causing learning problems and behavioural disorders. While the Canadian guideline for lead in water is set to five ppb, there is no safe amount of lead exposure and young children are especially vulnerable.

Lanphear said even very small amounts of lead will have major health implications for populations of young children.

"One of the things we worry most about with low levels of lead exposure is how it damages the brain, particularly the young brain," the researcher told The Tyee and APTN News whose reporter also was present for the interview.

"So the brain is undergoing rapid growth during early child development," Lanphear said. "And when tissue is undergoing rapid growth, that's where they're most vulnerable to poisons, like lead."

**Vancouver Island a hot spot**

The instances of high lead levels found by Vancouver Island's health authority were far more common than discovered in B.C.'s Interior.

Interior Health Authority's testing done in June to March 2021 revealed only three facilities or one per cent of 296 child-care facilities had lead in their water above five ppb, compared to 46 per cent of such facilities on the Island.

The Health Ministry said results from Fraser Health, Vancouver Coastal and Northern Health have been delayed because of "capacity constraints caused by the COVID-19 response."

The spokesperson was not able to explain why there was such a large discrepancy between results of testing by Island Health and Interior Health, but provided a list of possibilities.

One is that coastal water is "generally softer" and more likely to leach lead from plumbing, whereas water in the Interior can be harder and less likely to cause leaching.

Another possible reason is that older buildings are more likely to have lead in the plumbing.

Lead risk known at least five years: FOI

Lead has been found in water at child-care facilities on Vancouver Island for years before the government-ordered testing of 2020, records obtained by The Tyee reveal.

Documents obtained through a Freedom of Information request by The Tyee and the Institute for Investigative Journalism show partial test results on Vancouver Island going back to 2016. They include findings that water in one daycare registered 75 ppb — more than 15 times the current recommended minimum. In 2019, Health Canada changed the maximum acceptable concentration for lead in water from 10 ppb to five ppb.

Cowichan Tribes is the largest First Nation band in the province. According to an FOI, the First Nations Health Authority was supposed to work with Cowichan Tribes to address the issue of high lead levels in their water in 2016.

Tests done in 2016 showed their community daycare had a drinking fountain with 25.6 ppb, more than five times today's limit.

Almost four years after that, in 2020, testing revealed a drinking fountain at the same daycare had levels nine times the limit at 45 ppb.

Halalt First Nation had a similar timeline. In 2017 testing at the community daycare revealed a kitchen sink had just over 75 ppb, 15 times the maximum. In 2020, testing showed elevated levels in other taps in the community daycare with levels at 16 ppb and 30 ppb.

At least 11 of the child-care centres that serve Indigenous communities on Vancouver Island had elevated levels of lead according to testing in 2020. FNHA would not provide any specific details of what support was provided to communities to address the issue.

**Implementing fixes 'very complex'**

As part of the Lead in Water Child Care Project, licensees say they were given instructions on how to test their water. They were asked to send water samples in and the results of tests were shared with licensees in a report. If tests revealed their facility had lead in their water, a list of suggested solutions was included. Licensees were then required to submit a "corrective action plan" to VIHA.

The testing process was fairly straightforward, said Laura Court, executive director of Growing Together Child Care in Duncan. But the report she received with the test results was "very complex" and hard to understand. She had to weed through it to figure out what actions were specific to their child-care facility.

The list of corrective options suggested were confusing and many were not affordable for a "non-profit daycare centre on a shoestring budget," like the one where she worked, Court told The Tyee.

Over the phone, she read some of the suggested solutions out loud. "'You could add a filtration system. You could replace the specific plumbing fixtures or components. You may wish to consult with a water treatment company." She continued. "Replacing lead service lines to the water supply, contact your local government to find out.'" She paused. "Like I don't know who's going to take on these bigger ones."

And none come with guarantees, Court noted, because if you don't know where the lead is coming from, these solutions might not actually address the problem.

**Flushing the taps 'not really a solution'**

The most common and cheapest solution suggested by health authorities to child-care operators with elevated levels of lead was flushing or running water anywhere for two to 15 minutes before students arrive and after six or more hours of no use.

Flushing is meant to clear any stagnant water that has been sitting in pipes. The longer water has been sitting in any plumbing with lead, the more lead it could have in it.

Lead can leach into water because of pipes, soldering or faucets that could have trace amounts of lead. Older pipes that link buildings to the main water supply, known as service lines, could also be made of lead. Over the years, regulations across Canada have limited the use of lead in plumbing. The goal is to get lead to levels as low as "reasonably achievable" said Anne-Marie Nicol, associate professor in the faculty of Health Sciences at Simon Fraser University.

But while flushing is seen as an immediate, cost-effective strategy, it wastes water and takes up staff time. There's also not a lot of evidence on how effective it is.

Running the taps likely works as a short-term solution in most cases but lead can build up again in just 30 minutes, said SFU's Lanphear. In cases where there are lead services lines, flushing can actually increase the amount of lead in water.

For Lanphear, flushing is "not even really a solution" because it "is flawed in two ways.

"One is, it doesn't always work," said Lanphear. "Second, it's really difficult to stand there for two minutes, and let your water go while you're getting some water to make tea or just to have a drink. And invariably, people will stop doing it, because it's just so inconvenient. And then in some communities, if water is a problem [or] there's limited water, then that's going to be a real big issue too."

An internal email between Island Health staff reveals confusion around the different flushing recommendations given to child-care facilities by the health authorities with FNHA recommending 10 minutes and Island Health recommending two minutes.

Both Nicol and Lanphear agree that flushing is not a long-term solution. Instead, it's important to look at the specifics of each building and do more investigative testing to find the source of lead and address that.

"You really need to understand the piping system to be able to do this properly," said Nicol. "So in my opinion, while [flushing] is good for a short-term solution, it really is not the appropriate long-term strategy. We need to be considering changing pipes as the proper way to remove lead from drinking water."

**Complex layers of responsibility**

According to a consultation in 2017 done by Health Canada on lead in drinking water, schools and daycare buildings can be particularly difficult to assess for lead in drinking water because the plumbing is often complex and has lots of components. The document recommended that daycares and schools test their taps at least once per year.

By 2017, testing for lead in water at all B.C. schools became mandatory every three years.

Testing between 2016 and 2019 revealed that almost 45 per cent of public schools in the province had at least one water source above five parts per billion.

This investigation by The Tyee shows the problem, to similar degree, extends to child-care centres on Vancouver Island.

Regular testing for lead in water is still not required by law in child-care facilities in B.C.

However, the Ministry of Health said that all licensed child-care operators must ensure safe drinking water is available to children. In an email they wrote that some health authorities "require water screening as part of the licensing process for new child-care facilities" and "VIHA requires child-care facilities to conduct an initial water quality test for lead and complete regular lead testing as direct[ed] by the Community Care Facilities Licensing Program."

It seems "obvious" that we would want to reduce children's exposure to lead, said Nicol. "I don't see that we often have the political will to adopt what we know in science to be the right strategy."

"I think there needs to be definitely more action taken in regards to the safety of our water," said Rebecca Beauchamp.

Beauchamp's facility was using filtered water systems even before the test results showed their facility had lead in the water. But solutions beyond flushing take money and time beyond the capacity of many child-care centres, experts and daycare workers told the Tyee. Beauchamp suggested there be a specific fund for any facility that needs support.

The Health Ministry said there is money available to address the issue through various funds.

One source of funding, for example, is the Childcare BC Maintenance Fund, which has invested more than $5 million to support over 1,600 child-care providers since its creation in 2018 by the Ministry of Children and Family Development.

That comes to an average of $3,125 per facility spent on necessary repairs due to emergencies. In B.C, there are at least 4,400 child-care facilities. Fountains with filters can cost between $1,000 to $1,500 a piece. Simply equipping every B.C. daycare with such equipment therefore would exhaust the Childcare BC Maintenance Fund.

Some solutions might be beyond the control of the child-care facilities. If lead is found in city plumbing or if water is acidic, municipal action might be needed to address the issue. Experts say further investigative testing would make the most effective solution clear. Lanphear said that multiple levels of government have to work together to get it done. "I think it has to be a collaboration, and it has to be the schools and local and provincial public health authorities."

A 36-page guideline published by the Health Ministry's health protection branch, describes "the issue of who is responsible for lead in drinking water" as "complex."

There are multiple stakeholders involved and five statues that could apply to addressing lead in drinking water depending on whether the building is private or public and where the lead is coming from. Regardless of where the lead is coming from, health authorities are responsible for interpreting any test results and reviewing mitigation plans.

When The Tyee attempted to map responsibility for fixing the known problem of too high lead levels in B.C. daycares and schools, we reached out the province's various health authorities. All declined to answer questions. Instead, they directed us to the Health Ministry who answered questions via email.

The ministry told us that it has a, "very specific role" focused on drinking water policy development. It works with Health Canada, provincial

health authorities, other ministries and stakeholders to provide advice, education and advocacy around reducing lead in drinking water. The ministry agreed that flushing is a "short-term solution only" and recommended followup testing to develop a long-term solution.

The ministry provided summary results of testing but would not provide detailed results, such as the lead levels detected at each child-care facility. It directed us to file a Freedom of Information Request for more information on testing.

Lanphear believes this information should be made available to the public. "This is public health results; public health data isn't useful unless it's accessible to the public. The fact that you had to go get a FOI to see these results is a sad testament, I think, to the state of public health today."

**Water lessons**

The Indigenous perspectives that Beauchamp and her colleagues bring to their classrooms is rooted in acknowledging that water is sacred. Water is meant to cleanse us, replenish us and sustain us.

It's hard knowing that the water coming out of the taps at XaXe SŦELIT□K□EL Childcare Centre in Victoria is not safe to drink, says Beauchamp, who was born and raised in New Zealand and is Māori on her dad's side from the Ngāti Kahungunu Iwi.

She has found other ways to build a connection to water for her kids.

On some days, she takes the class down to the nearby Colquitz Creek to watch the stream run and release salmon fry. She wants to help young minds understand that water is more than just a drinking source; it's key to sustaining ecosystems, Beauchamp explained.

"Before colonization, anybody could have gone to streams and rivers and had water, right? And now they've put in all these systems that have tainted it."

**Region:** British Columbia [3]

**Tags:** health and safety [4]

Indigenous [5]

physical environment [6]

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**Links**

[1] https://childcarecanada.org/documents/child-care-news/21/10/unsafe-lead-water-widespread-vancouver-island-daycares [2] https://thetyee.ca/News/2021/09/27/Unsafe-Lead-Water-Widespread-Vancouver-Island-Daycares/?fbclid=IwAR0da_TByhLYaWnXGoxEojAF7A5r2jsoAXH61WQMriRqHGIva3RdK17RaSc [3] https://childcarecanada.org/taxonomy/term/7860 [4] https://childcarecanada.org/category/tags/health-and-safety [5] https://childcarecanada.org/category/tags/indigenous [6] https://childcarecanada.org/category/tags/physical-environment