

Manitoba Residential Lead Monitoring Program



Office of Drinking Water
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Lead

- Lead is a metal found naturally in the environment
- Lead can be found in the air, soil, food, water and in certain consumer products
- Environmental lead levels have decreased significantly over the past few decades
- Lead is not found in natural water sources used for drinking water



Lead in Drinking Water

- Lead can be released into drinking water from components containing lead in water distribution or internal plumbing systems
- Lead service lines (LSLs) are the most significant source of lead in drinking water
- Plumbing materials and fittings such as solder, faucets, or valves may contain lead

Lead in Drinking Water

Many things can affect the amount of lead released in drinking water:

- Chemistry of treated water
- Water temperature
- Changes in source water or treated water quality
- Age of distribution or plumbing system
- Length of time the water sits in the pipes



Figure: Alameda County Public Health Department

Lead in Drinking Water

A water service line may be made of lead or contain lead if:

- its colour is greyish-black
- it is soft or easily dented when scraped with a knife or coin

Types of Water Pipes (Service Lines)

Lead – A dull, silver-gray color that is easily scratched with a coin. Use a magnet - strong magnets will not cling to lead pipes.



Galvanized – A dull, silver-gray color. Use a magnet - strong magnets will typically cling to galvanized pipes.



Plastic – White, rigid pipe.



Brass – Dark reddish brown to a light silvery color. Older pipes may be corroded and may contain lead.



Copper – The color of a penny.



Health Effects of Lead

- Fetuses, infants and young children are most at risk to the effects of lead exposure.
- Exposure to lead, even for a short period, may cause:
 - Effects on neurological development and behavior in children
 - Increased blood pressure or kidney problems in adults
- **Lead levels should be kept as low as reasonably achievable (ALARA).**

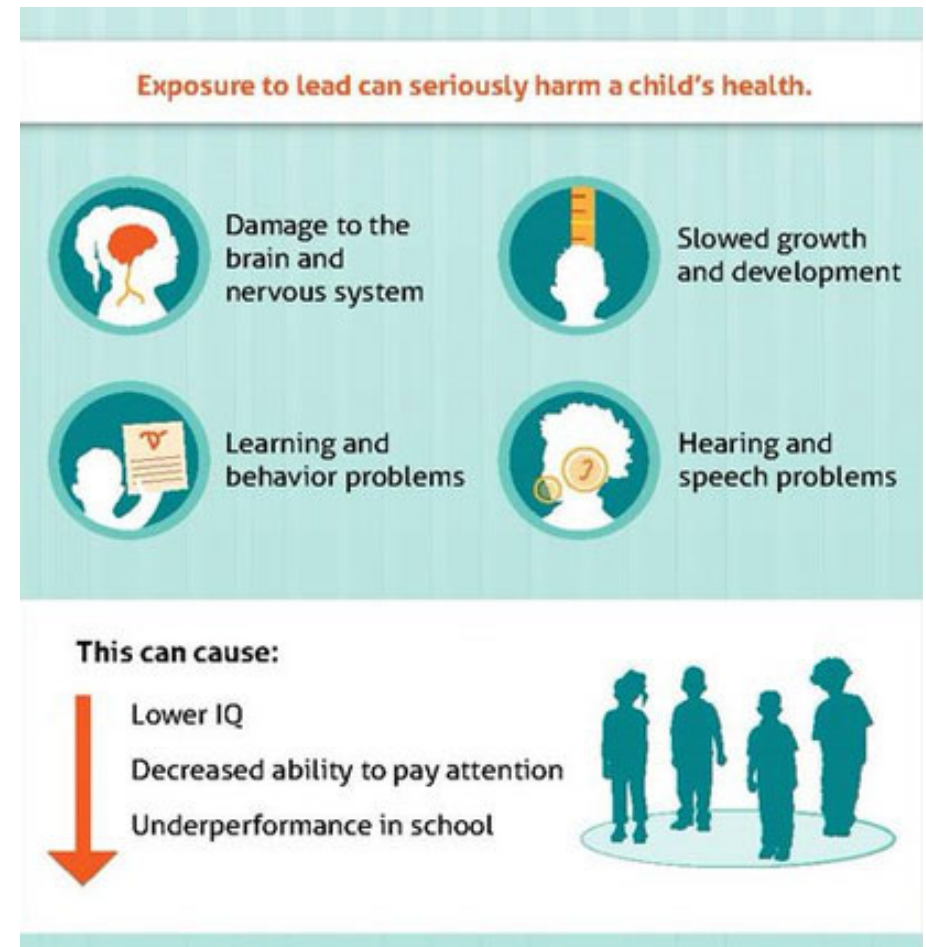


Figure: Centers for Disease Control and Prevention

Manitoba's Lead Standard

- In 2019, Health Canada lowered the lead health-based guideline from 0.010 mg/L to 0.005 mg/L, based on a water sample collected at the consumers tap.
- In 2020, Manitoba adopted Health Canada's guideline as a standard in the Drinking Water Quality Standards Regulation.

Residential Lead Monitoring

- Residential lead testing is being phased in
- Priority given to older, larger communities with known or suspected LSLs
- Public water system (PWS) Operating Licences contain lead monitoring requirements stating *as per the instructions of the Drinking Water Officer*

Residential Lead Monitoring

- Selected public water systems will receive notification from the Office of Drinking Water on when to begin their Residential Lead Monitoring Program



Operational Guideline

- Reviewing the Operational Guideline (OG) is the first step towards a successful Residential Lead Monitoring Program in your community
- The OG contains vital information on sampling, communication, and reporting

Residential Lead Monitoring

- If the Office of Drinking Water has contacted you about a Residential Lead Monitoring Program in your community, there are a few things you should know!

Minimum Number of Random Daytime (RDT) Samples per System

System size (Population Served)	Number of Sample Sites	Number of Sites* (Reduced Monitoring)
>50,000	40 sites per zone, 5 zones per year, where each zone serves a maximum of 50,000 people	20 sites per zone, 5 zones per year, where each zone serves a maximum of 50,000 people
10,001 – 50,000	40 sites per year	20 sites per year
5,001 – 10,000	30 sites per year	15 sites per year
501 - 5000	20 sites per year	10 sites per year
101 - 500	10 sites per year	5 sites every three years
≤ 100	5 sites per year	2 sites every three years

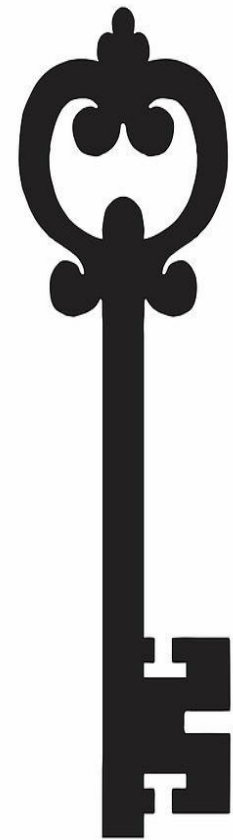
Residential Lead Monitoring

- Existing / known lead water service lines are high priority sample locations, followed by home-based childcare facilities and homes built between 1975 and 1990
- Create a sampling plan – know where and how many samples will be collected ahead of time, who will be collecting them, and which laboratory will be used.



Residential Lead Monitoring

- Communication is key! Your community should be made aware that lead sampling is occurring. If any of the results are found to be elevated, these locations will need to be made aware as well.
- All results will need to be reported to your Regional Drinking Water Officer at the end of each sampling year.



Reduction of Lead

- Best option: Completely remove lead service lines
- Short-term: Point-of-use filters, pitcher type filters
- Short / medium term: A corrosion control program may be a viable short / medium term option

Questions

- Your Regional Drinking Water is available to help and can provide answers to all your Residential Lead Monitoring Program questions!