
Cold Weather and Health: A Primer for Community Organizations



The Lower Mainland has been experiencing extreme rain, wind, and snow conditions more often than previously. It is projected that the Fraser Health region will experience more of these conditions due to the changing climate.

Extreme cold poses significant health challenges. These challenges impact many community members, and disproportionately impact our marginalized residents.

The purpose of this primer is to articulate the health impacts of extreme cold as a public health issue and to provide recommendations/resources to support those who work to ensure residents have access to warm and safe spaces.

Health Impacts of extremely cold/wet weather

Direct Health Risks

Hypothermia is one of the more commonly known risks of extreme cold. This can occur at temperatures as high as 0 to 10 degrees. Hypothermia can be mild, moderate, or severe. It occurs when the body's temperature drops below 35 degrees. In early stages, it can cause shivering, confusion, slurred speech. More severe illness can result in decreased breathing rate, lack of shivering, and loss of consciousness. Hypothermia can be life threatening even before a loss of consciousness. People most likely to experience hypothermia include older adults, infants, and people spending a lot of time outside.

Frostbite can occur at temperatures at or below zero, depending on wind-chill. Freezing injuries occur when body tissues freeze as blood vessels narrow, reducing blood flow to extremities such as hands, feet and nose. It can cause painful blisters. Severe frostbite can cause permanent nerve damage and can lead to infection and/or amputation.

Trench foot is a condition that results from reduced blood supply when wet feet encounter cold conditions near freezing temperatures. Skin tissue begins to die because of lack of oxygen and nutrients and a buildup of toxic products. Symptoms of trench foot include reddening of the skin, numbness, leg cramps, swelling, tingling pain, and blisters or ulcers. It can also lead to bleeding under the skin and/or gangrene. Trench foot is associated with increased infections, raising the chances of further sickness or mortality.



Scan QR code to view
Fraser Health's [Frostbite Fact Sheet](#)

Note: These
factsheets can be
shared with
community members



Scan QR code to view Fraser
Health's [Hypothermia Fact Sheet](#)

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Health Impacts of Extremely Cold/Wet Weather

Indirect Health Impacts

Cold weather can aggravate certain respiratory illnesses, such as asthma, chronic bronchitis and emphysema. The health of people with cardiovascular illnesses can also worsen due to cold temperatures. People with angina or those who have already suffered a heart attack or stroke can experience worsening of symptoms such as:

- Chest pain or pressure
- Increased heart rate
- Shortness of breath
- Increased blood pressure
- Women may experience stabbing pain instead of pressure and/or stomach pain

Heart disease can be especially severe for people who are experiencing food insecurity, mental illness, and homelessness. Further, housing insecurity during cold weather poses negative impacts on psychological health, and can increase feelings of stigmatization and isolation.

Mental Health Impacts

The shorter, darker days of winter can get us down. Winters can be colder than usual, and people can feel more isolated if it is not safe to go out. The holidays can also be a difficult time for many people. It's important for clients to know they are not alone.

- [Dark days can get us down](#). Staying indoors most of the time can make us feel tired and lower our mood and self-esteem. There are things we can do to help.
- [Mental health and substance use supports](#). Fraser Health has a wide variety of programs to help.
- [Get help in different languages](#). Learn about cross-cultural and multilingual mental health and substance use resources.
- [Find out where to call](#) if you're worried about yourself or someone else and need to talk.
- Avoid the holiday blues with these [tips from Canadian Mental Health Association](#).
- Learn about diagnosis and treatment of [Seasonal Affective Disorder](#) from HealthLinkBC.
- Find tips from HealthLinkBC for dealing with [depression and the holidays](#).



Scan QR code or visit the Fraser Health [Mental Health and Substance Use](#) webpage for more information.

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Impacted Populations

All residents can be affected by cold weather but those most at risk of cold-related illness/harms include:

- People who are experiencing homelessness
 - People who may use substances
 - People with pre-existing heart conditions, chronic respiratory illness or those with chronic conditions that impact circulation, such as diabetes.
 - Older adults, particularly those who may not have adequate clothing or housing
 - Young children
 - People who work or do physical activity outside for extended periods
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People Experiencing Homelessness

More than half of all deaths of people experiencing homelessness in British Columbia occurred on the street, compared to the shelter; however, there may be a greater number of non-fatal impacts of cold exposure, especially for those experiencing homelessness. Low temperature, wind, wetness, individual behaviour, existing comorbidities including chronic conditions such as the presence of cardiovascular illness, diabetes and depression, put people at risk of frostbite and hypothermia.”

People Who Use Substances

People who use substances are likely to be more at risk of cold related harms for many reasons. Using substances may also cause people to be less aware of the cold and stay out longer in unsafe conditions. Some opioids can also restrict breathing, which is already harder in the cold. Similarly, alcohol can cause changes to the body that increase loss of heat. This can be a risk factor for hypothermia (discussed on page 1).

People are at a higher risk of toxic drug poisoning event (also known as overdose) after:

- A period of not using or reduced use
- A previous toxic drug poisoning event
- A recent illness (including COVID-19)
- If multiple substances, including medications, are used.

People who use drugs encounter a drug supply that is highly toxic and unpredictable. Toxic drug poisoning events have occurred after using opioids, methamphetamine, ecstasy and cocaine. We are asking everyone to look out for each other as toxic drug poisoning events increase over the fall and winter months.

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Below is a collection of tips from experts, including people who use substances, on ways to reduce the risks of harm and death:

- **Check on neighbours and loved ones.** Recent [research](#) suggests cold snaps can raise the risk of fatal opioid overdose by 25%.
 - During the cold winter months, people are more likely to be socially isolated. Most people who die of drug poisoning do so inside and alone. [BCCDC has provided a guide for people who may use substances to avoid harms during the holiday season.](#)
- **Use a remote monitoring app** like Lifeguard, Brave or call the National Overdose Response Service (NORS).
 - Website information <https://www.nors.ca/> or you call/text to chat at 1 (888) 688-NORS(6677) or email weloveyou@nors.ca
- **Store substances safely**, including medications, where they cannot be reached by others.
- **Find a [site](#) that distributes harm reduction supplies or naloxone and stock up.**
- **Test the supply.** There are [many sites across the Fraser Health Region](#) to access test strips to screen for fentanyl. Many of these sites also allow drug checking for multiple substances with the FTIR machine.
 - If cold weather cuts people off from their regular supply, testing is even more needed.
 - **Benzodiazepines are in the drug supply.** Increased presence of [nonmedical benzodiazepines](#) in the drug supply has been recently documented. This increases the risk of drug poisoning and complicates overdose reversal. Intentional or unknown regular use of benzodiazepines can create tolerance and complicated withdrawal that needs medical management.
- **Plan ahead for safer supply or supervised consumption sites.** Services may have reduced or different hours of operation over cold periods and the holidays. Plan and call ahead for supports people might need.
- **Help people access tools to enhance safety.** This will look different for different people.
 - Know where offers [overdose prevention services](#), offer [episodic witnessed consumption](#) to help keep people safe.
 - Ask people what they might need to stay safer, acknowledging that there may be barriers in accessing some of the regular places that offer naloxone or harm reduction supplies.
 - Some people who are managing their substance use may rely on prescriptions. It is important to know that if someone is cut off from their regular prescription supply due to extreme weather, [there are ways to access it from other sites.](#)
- **Know the [signs of overdose](#) and [how to respond](#), including giving breaths.**
- **Call 9-1-1.** Anytime someone is not responsive it is a medical emergency.

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Within Fraser Health Authority, between Dec 1, 2021 and Jan 31, 2022, there were 154 Emergency Department (ED) visits for hypothermia and frostbite among the general public, compared with an average of 53 visits during the same time periods in the previous 6 years. For the unhoused population (those without a fixed address in the ED visit record), there were 61 visits, compared with an average of 14 visits in previous years. These numbers demonstrate a significant increase in the number of individuals physically impacted by the extreme cold weather during this season, with a proportionally higher increase among homeless individuals.

Fraser Health encourages local governments to work with service providers to establish long-term and emergency winter shelters, including partnering with NGOs to establish weather thresholds based on local needs. Once partnerships are established, Fraser Health may be able to assist shelter providers by:

- Providing connections to health services, such as mental health and substance use or immunization clinics, where possible
- Providing letters of supports for funding
- Providing guidance for infection control

*[A shelter list and helpline](#) is provided by BC 2-1-1 and updated daily. Homelessness Services Association of BC also sends out activation emails.

For more information on winter readiness, please visit www.fraserhealth.ca/winter-readiness

If you any questions, please contact your FHA contacts or send your inquiry to healthybuiltenvironment@fraserhealth.ca.

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Older Adults









Older adults, especially those who live on fixed incomes, may be more at risk of cold-related complications due to pre-existing heart or lung conditions, or circulatory issues. They may benefit from talking to a health professional about cold weather risk.

If their home requires weather-proofing, suggest they visit [BC Hydro's winter home heating tips](#) and investigate government subsidy programs including:

- [Better Homes B.C.](#)
- [CleanBC Income Qualified Program](#)
- [Empower Me](#), an energy conservation and education change program designed for and delivered by members of diverse, multilingual, and hard to reach communities

Clients should also be aware that during extreme weather and power outages there is increased risk of carbon monoxide poisoning. Carbon monoxide is a colourless, odourless, and tasteless gas that is released from the burning of fuel. Clients should not use fuel-burning heaters or other appliances in enclosed, poorly ventilated spaces. Carbon monoxide detectors are a good way to ensure protection.

Be aware of the signs and symptoms of CO poisoning:

 Dizziness	 Headache	 Nausea & vomiting	 Blurred Vision
 Loss of consciousness	 Confusion	 Shortness of breath	 Weakness



Scan QR code or visit Fraser Health's [Indoor Air Quality page](#) for more information.

Programs to check on more vulnerable or isolated clients during extreme weather or power failures are encouraged.

If you work for an organization that supports seniors, heating bills could be a concern for your clients. If clients are having difficulty, check if your city or town has a rent bank ([Surrey/Langley/White Rock/Delta, New Westminster/Burnaby/Pitt Meadows/Maple Ridge and Tri-Cities](#)). If this is not an option, the [BC Hydro Crisis Fund](#) may be of assistance.