

Toronto Public Health Cold Weather Response Plan 2019/20

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1. Purpose

The purpose of the Cold Weather Response Plan is to prevent harmful health impacts of cold weather on residents of Toronto by providing a framework for implementing and co-ordinating cold weather preparedness and response activities. The activities focus on reducing the negative health impacts of cold weather conditions.

2. Objectives

The Plan's main objectives are to:

- Alert those most vulnerable that cold weather conditions are either expected or currently exist;
- Enable those most vulnerable to take appropriate precautions;
- Trigger response actions by agencies who are in a position to provide services or alter operations in such a way as to protect vulnerable people from cold weather; and
- Prevent direct impacts of cold exposure on people experiencing homelessness.

3. Background

Each year, winter weather brings cold temperatures and conditions, including: snow, freezing rain and very low wind chill values. Cold weather can adversely affect the health and wellbeing of many of Toronto's residents. Some of the health impacts of cold weather include hypothermia, frostbite, frostnip, and trench foot.

Hypothermia occurs when the body's core temperature drops below 35 °C. At first, hypothermia causes shivering, confusion, and stumbling. With longer exposure, hypothermia can have severe consequences including organ failure and death.

Frostbite and Frostnip occur when skin and other tissues freeze and die because blood and oxygen can no longer circulate. Frostnip and frostbite can affect any area of exposed skin, such as the cheeks, ears, nose, hands and feet. Of particular concern is the prolonged exposure of extremities, such as fingers and toes, to extreme cold. If left untreated, frostbite can lead to permanent nerve damage, blisters, infection, and even the loss of limbs.

Trench foot results from prolonged exposure to a damp or wet environment and can lead to numbness, leg cramps, swelling, tingling pain, blisters or ulcers, bleeding under the skin, and even gangrene.

In 2016, Public Health Ontario published findings that up to 10% of hospitalizations in Ontario for hypertension may be cold-related. These impacts may occur because the

body protects its core temperature from cold weather by restricting blood flow to extremities, which increases overall blood pressure. There is also some evidence that cold increases the risk of respiratory conditions including asthma and chronic obstructive pulmonary disease, as well as the risk of a stroke.

Any Toronto resident may experience health impacts from cold weather; however, some residents are especially vulnerable. Studies in countries around the world including many northern countries find that the risk of premature death or hospitalization increases in the general population as temperatures get colder. Periods of especially cold weather that are unusual relative to normal conditions are also linked with higher rates of premature death and hospitalization. While the highest risks are associated with extremely cold days, recent research shows that exposure to moderate cold can also result in important impacts on the health of both the general population and people experiencing homelessness. The research consistently shows that these effects occur several days and up to several weeks after exposure to cold weather. The temperature-related impacts persist even when the contribution of wintertime influenza to mortality and illness is considered.

Although the general population may experience health impacts from cold weather, vulnerable populations are at increased risk. Specifically, people experiencing homelessness are at high risk for cold-weather injuries because they are likely to spend long periods of time outside, resulting in increased exposure. Exacerbating the lengthy time exposed to outdoor elements, people experiencing homelessness experience many chronic problems including inadequate clothing, malnutrition, and underlying infection increase the risk of developing and dying from hypothermia or suffering from frostbite. Some factors that contribute to the risk of homelessness, such as alcohol use, psychiatric disorders, and use of certain medications can also increase the risk of cold weather injuries.

In addition, the elderly and those with pre-existing health conditions, especially heart conditions, may be at particular risk from exposure to the cold. A World Health Organization report estimated that those over 75 years of age may have a winter excess mortality of about 30%. Some evidence suggests that socioeconomic factors such as deprivation also increase the risk of hospitalization or death due to cold. Other groups specifically at risk of developing cold-related injuries include individuals who are outdoors for long periods of time, including outdoor workers and enthusiasts; people who have consumed alcohol and other drugs or medication; people wearing inadequate or wet clothing; and both the very young and very old (Toronto Public Health, 2014).

A 2005 analysis for Toronto concluded that cold contributes to an average of 105 premature deaths each year in the city. Separate analyses also suggest that for Toronto's elderly population, the risk of cold-related death could be up to six times the risk that exists for the general population. These findings may underestimate the impact of cold weather as they did not account for more recent evidence that the effects of cold weather on mortality and morbidity can occur days and even weeks after exposure (Toronto Public Health, 2014).

Additional information about the health impacts of exposure to cold weather are available in a technical report called [Health Impacts of Cold Weather](#).

4. Authority

Extreme Cold Weather Alerts were first implemented in Toronto during the winter of 1996/97, and arose from a June 1996 report of the Homeless Emergency Action Task Force to respond to the increased number of homeless people who needed services.

Between 2004 and the winter of 2013 - 2014, Toronto's Shelter, Support and Housing Administration Division was responsible for issuing Extreme Cold Weather Alerts and co-ordinating the response to protect people experiencing homelessness from the adverse impacts of exposure to cold weather.

In July 2014, Toronto City Council approved the transfer of responsibility for co-ordinating Toronto's Extreme Cold Weather Alerts from Shelter, Support and Housing Administration to the Medical Officer of Health.

The transfer of responsibility to the Medical Officer of Health aligns with the requirements under the Ontario Public Health Standards which states that Boards of Health are required to increase awareness around the risks associated with extreme weather, and assist community partners in developing healthy policies related to reducing exposure to extreme weather.

5. Components of the Plan

Toronto Public Health (TPH) is responsible for the annual review and revision of the Cold Weather Response Plan. The Plan is a living document which is updated to reflect new and emerging evidence, developments and enhancements over time. The Plan's key components reflect current understanding of extreme cold weather and expectations of City and community partners.

The Cold Weather Response Plan is a public document and is available from Toronto Public Health's [Extreme Cold Weather](#) internet page.

5.1. Extreme Cold Weather Alerts

The Cold Weather Response Plan is in effect each year between November 15 and April 15. During this time, the Medical Officer of Health will issue an Extreme Cold Weather Alert when Environment and Climate Change Canada forecasts temperatures of -15°C or colder and/or wind chill of -20°C or colder in the next 24 hours.

Extreme Cold Weather Alerts will be declared by the Medical Officer of Health when the above conditions are expected to be associated with elevated health risks for vulnerable individuals. The intent of calling an alert is to:

- Warn people who are vulnerable to cold weather and their service providers and caregivers that such conditions are expected or already exist in the City;
- Urge vulnerable people to take measures to protect their health;
- Trigger response activities by City and community partners to protect vulnerable people within the city (e.g., enhance services).

At all times, the Medical Officer of Health will apply the guidelines with some discretion after consideration of current and expected weather conditions. This discretion is intended to enable response services to be maintained when conditions warm up briefly between cold spells or prevent them from being mobilized when temperatures dip for brief periods during otherwise moderate weather conditions.

The Medical Officer of Health also considers other factors that increase the impact of cold weather on health such as precipitation, low daytime temperatures, days/nights of cold weather in a row, and sudden cold weather. This enables TPH to take a precautionary approach to call alerts, recognizing that forecasts may not always be correct and that weather conditions may change quickly.

Shelter, Support and Housing Administration retains the ability to extend additional services to clients at any time when weather conditions are perceived to create a risk for the populations served, regardless of whether an Extreme Cold Weather Alert has been declared.

5.2. Notification of Cold Weather Response Plan Partners and Stakeholders

TPH is responsible for issuing and terminating Extreme Cold Weather Alerts. Once the Medical Officer of Health issues an alert, prompt notification to the public and organizations participating in the Cold Weather Response Plan is critical. This will ensure that individuals and organizations can respond to protect themselves and their clients in a timely manner.

Public notification of Extreme Cold Weather Alerts occurs through media releases issued to news outlets 7 days a week, news releases issued through the City's Strategic Communications Division, live updates to TPH and City of Toronto web pages, through Toronto Public Health social media pages, and via direct email to interested individuals.

Organizations that carry out cold weather response activities must subscribe to receive direct notification from TPH when an Extreme Cold Weather Alert is issued or terminated by [registering for email updates](#). These groups include, but are not limited to:

- Key response partners. This group includes Shelter, Support and Housing Administration, Toronto Paramedic Services, and TPH Strategic Support.

- Cold Weather Response Plan partners that provide direct services or response actions as detailed in the Cold Weather Response Plan. This group includes specific TPH directorates or programs and select City divisions.
- Community partners, agencies, and individuals that service vulnerable populations, and various City staff.

Organizations and individuals who would like to receive notifications when an Extreme Cold Weather Alert is issued and terminated may also [subscribe for email updates](#). Note: response plan members and organizations who share these notifications among their staff and clients should ensure that their internal distribution lists are up-to-date.

5.3. Health Promotion

A key role for TPH is to provide information about the health impacts of extreme cold weather and what people can do to protect themselves and others from these impacts. Information may include steps to be taken on extremely cold days as well as advanced planning and preparation that helps to reduce health risks from cold weather. This information is available from Toronto Public Health's [Extreme Cold Weather](#) internet page and includes:

- People who are most at risk from cold weather;
- The types of health impacts that may arise from exposure to cold weather, both among homeless populations and in the general population;
- Ideas on how to stay warm and dry to prevent health impacts of cold weather;
- Advice about how to help others;
- Web-links to helpful sites that provide information about how to be prepared for winter, including regular maintenance at home as well as emergency planning for the possibility of a power outage;
- Advice for groups and organizations that provide services or care for vulnerable groups;
- Contact information for staff at Toronto's Shelter, Support, and Housing Administration who deliver a suite of cold weather-related services for people experiencing homelessness;
- Direction to contact 311 Toronto if there is a need to report people at risk.

Additionally, Toronto Public Health provides communications to health care professionals, including physicians, in Toronto. This information can be used to advise vulnerable groups, such as elderly patients and those with pre-existing cardiovascular illnesses, of the health-effects of cold weather. These groups are at increased risk of developing cold-related injuries at moderate winter temperatures, which may be warmer than the temperatures that trigger Extreme Cold Weather Alerts. More information is available from the [Extreme Cold Weather Information for Health Professionals](#) internet page.

6. Cold Weather Response Committee

Members of the committee consist mainly of key partners who provide direct services under the Cold Weather Response Plan. The committee meets twice a year: ahead of the cold-weather season, to confirm the co-ordination and implementation of the Cold Weather Response Plan, and after the cold-weather season, in order to review the effectiveness of response efforts under the Cold Weather Response Plan.

Committee members are responsible for ensuring that all those involved in the response are familiar with the Plan and are subscribed to receive Cold Weather Alert Notifications when they are issued by the Medical Officer of Health. In addition, all plan members are encouraged to provide information to their own staff about how to avoid cold-related health impacts while on the job.

As the functions of the Hot Weather Response Committee and the Cold Weather Response Committee are similar, TPH co-ordinates meeting times for the two groups at the same time.

The roles and responsibilities of key partners under the Cold Weather Response Plan are outlined below as follows:

6.1. Toronto Public Health (TPH)

6.1.1. Healthy Environments (HE)

HE is the lead directorate within TPH and is responsible for the overall administration and coordination of the Cold Weather Response Plan. This involves:

- Issuing and terminating Extreme Cold Weather Alerts, including maintaining the subscription based email update notification system;
- Monitoring daily weather conditions and forecasts;
- Consulting the Medical Officer of Health as necessary when current or forecasted weather conditions indicate that an Extreme Cold Weather Alert should be called;
- Maintaining and chairing the Cold Weather Response Committee;
- Collaborating with partners in developing and maintaining cold weather educational resources that provide information about the health impacts of cold weather, vulnerable populations, and how to prevent adverse impacts from cold weather. This information will be available online and will be communicated through the media, including social media; and
- Investigating reports of incidents involving the death or transfer of a critical patient to hospital believed to be related to extreme cold environmental exposure.

6.1.2. Healthy Communities (HC)

In the HC directorate, Public Health Nurses communicate health promotion information targeted to vulnerable individuals about how to stay safe in cold weather, and how to prepare for wintertime emergencies through various methods, including:

- Collaborating with community providers to deliver presentations to groups of vulnerable individuals; and
- Disseminating cold weather and emergency preparedness tip-sheet cards to vulnerable individuals.

6.1.3. Strategic Support (SS)

The SS directorate advises and provides operational and administrative support to HE and the Medical Officer of Health, including:

- Issuing media releases and providing the City's Strategic Communications with electronic copies of these releases;
- Arranging media interviews for key spokespersons and making logistical arrangements for news conferences, as needed; and
- Developing social marketing campaigns and digital communications.

6.2. City Divisions and Roles

6.2.1. Shelter, Support & Housing Administration (SSHA)

SSHA services play a significant role in supporting people experiencing homelessness during winter months and cold weather conditions by providing safe spaces for people who are otherwise vulnerable to extreme cold and winter-related events.

During an Extreme Cold Weather Alert, SSHA will activate local services that focus on getting and keeping vulnerable residents inside, including:

- Opening the Metro Hall Warming Centre at 7 p.m. the day an alert is called, and remains open continuously until noon on the day an alert is terminated;
 - Libraries, malls and civic centres will be open during regular business hours
- Communicating the Extreme Cold Weather Alert to SSHA Shelters, Respite, and 24 Hours Drop-ins to relax any service restrictions;
- Providing additional transit tokens to Drop-ins; and
- Increase overnight street outreach, as follows:
 - Four (4) Streets to Homes teams (24 hours);
 - Albion Neighbourhood Services Association (4 p.m. to 12 a.m.);
 - Agincourt Community Services Association (4 p.m. to 12 a.m.);
 - Native Men's Residence (4 p.m. to 12 a.m.).

Community organizations and agencies that work with vulnerable populations (more than 100) are notified by SSHA to prepare for Extreme Cold Weather Alerts and made

aware of available enhanced services offered by SSHA. Throughout the year, 24-hour respite sites provide meals, places to rest, and service referrals at welcoming locations across the city. Residents can call 311 Toronto for locations and connect to Central Intake for a referral. More information is available from the City's [Homeless Help](#) web page.

6.2.2. Municipal Licensing and Standards (MLS)

MLS enforces Toronto Municipal Code, Chapter 497 Article 1, which requires landlords to provide heating up to at least 21°C between September 15 and June 1 of each year. MLS is responsible for investigating complaints from tenants of no heat or low-heat. In the event of an Extreme Cold Weather Alert, front line officers are prepared to respond to an increase in such calls.

6.2.3. Municipal Licensing and Standards - Toronto Animal Services (TAS)

TAS develops and disseminates cold weather safety messages for pet owners and attends to sick or injured stray dogs or cats if confined or immobile, and critically sick, injured or distressed wildlife if confined or immobile and attended by someone.

Toronto Municipal Code, Chapter 349, prohibits allowing domestic animals to remain outdoors during extreme weather unless the animal has access to an enclosure that will adequately protect the animal from the elements. TAS responds to complaints about animals exposed to extreme weather on a priority basis.

6.2.4. Toronto Paramedic Services (PS)

PS maintains the ability to activate a Division Operations Centre (DOC) in the event of a severe and prolonged cold event. If activated, the DOC can be fully operational within a couple of hours to help coordinate the City's Extreme Cold Weather Response. As well, PS has agreed to report critical incidents involving the death or transfer of a critical patient to hospital believed to be related to extreme cold environmental exposure to TPH for investigation.

6.2.5. Toronto Office of Emergency Management (OEM)

The OEM maintains the City's Emergency Operations Centre (EOC) in a state of operational readiness to support any required action to address an emergency situation. Additional details about the potential role of the EOC in a cold-weather emergency are described under [Section 7.1.: The City of Toronto Emergency Plan](#) in this document.

6.2.6. Toronto Parks, Forestry and Recreation (PF&R)

During Extreme Cold Weather Alerts, community centres are available as places for people to warm-up during regular business hours. As well, Park Ambassador staff connect with potentially vulnerable individuals in City parks and public green spaces and may notify Streets to Homes staff, who provide and coordinate mobile street outreach services.

6.2.7. Toronto Police Service (TPS)

When notified of an Extreme Cold Weather Alert, TPS ensures that its members direct special attention to areas where vulnerable citizens at risk of cold-related impacts are found and encourages them to go to a safe place.

6.2.8. 311 Toronto

311 Toronto offers a 24/7 telephone service to provide information about City services and programs, including cold weather response.

6.3. External Partners and Roles

6.3.1. Home and Community Care (HCC) - Toronto Central Local Health Integration Network

HCC delivers home and community health care and connects people to other services in our community. HCC integrates consideration of indoor temperatures into regular in-home assessments conducted for vulnerable clients. Should a home environment be identified as too cold, follow-up will occur with the client's identified contact to address any concerns. HCC further encourages Cold Weather Response Plan partners who encounter individuals in the community and may require additional support, to refer that person to HCC for a home risk assessment and case management and/or referral to other community services that may better meet their needs.

6.4. Collaboration and Partner Engagement

Maintaining a robust Cold Weather Response Plan depends on the co-ordination and collaboration with organizations and individuals who play a role in education, planning, and response related to cold weather. Toronto Public Health will continue to develop a network of partners who are able to collaborate and contribute to the cold weather response for the City of Toronto. A process to engage organizations who may have a role in cold weather response (including conducting health promotion) will be vital to determine those that are best positioned to deliver cold weather responses, the types of

response actions that are feasible and effective, and identify where efficiencies and improvements can be made in delivering identified responses.

To carry out this engagement, TPH will continue to build on established partnerships related to climate change and extreme weather, and engage City agencies, boards, commissions, and divisions. Additionally, TPH will reach out to potential new partners that have an interest in the health impacts of cold weather and vulnerable populations in Toronto.

TPH will conduct additional consultations, promote relevant partnerships, and review and update the Plan to reflect longer-term goals that include:

- Improving co-ordination of response activities across City divisions and with external agencies;
- Developing additional partnerships and response actions that may be appropriate;
- Providing a forum for discussing the best means for communicating health risks for cold weather; and
- Providing a mechanism for regular review of the thresholds for calling alerts as more information becomes available.

The Cold Weather Response Committee will provide a mechanism for regular review, evaluation, and improvement of the City's cold weather response.

7. Related Plans, Protocols, and Programs

7.1. The City of Toronto Emergency Plan

When extreme cold weather conditions occur, the impact could be sufficiently severe and/or prolonged and therefore require action beyond what is outlined by this Cold Weather Response Plan. For example, extreme cold in combination with power or water shortages, or of extended duration could strain the capacity of the health and social services sectors to respond. As the magnitude of the response may escalate more rapidly than response organizations can manage, so may the requirement for additional support from within the City. In such an event, the MOH could request the Toronto Office of Emergency Management (OEM) to activate the City of Toronto's Emergency Operations Centre (EOC), as per the City's Emergency Plan. There is no pre-determined set of criteria that automatically triggers a cold-weather emergency.

The EOC will be activated and staffed to manage the strategic response to the emergency and to support emergency operations. In the event of an emergency, whether declared or not, the Toronto Emergency Management Program Committee (TEMPC) is authorized to undertake activities they consider necessary for responding to and recovering from an emergency.

The EOC provides an established and recognized point of authority to coordinate response resources, personnel and incident information. The seven functions of the EOC are:

- Effective policy and strategic direction to the emergency;
- Support of emergency operations at the site(s);
- Consequence management;
- Resource management;
- Coordination of management linkages to the emergency site, Divisional Operations Centre, external agencies and the Provincial Emergency Operations Centre;
- Information to the public and news media; and
- Business continuity for the rest of the City.

For more information, please visit the City's [Emergency Plan](#) web page.

7.2. Emergency Preparedness

The City of Toronto offers information about how to prepare for an emergency, as well as what to do during and after an emergency. Helpful information is contained on extreme cold, including preparing for the possibility of severe winter weather, power outages and utility disruptions. For more information, please visit the City's [Emergency Preparedness](#) web page.

7.3. Occupational Health and Safety

The City of Toronto is committed to providing and maintaining safe and healthy working conditions for all employees. Staff safety during cold weather, and in particular during Extreme Cold Weather Alerts is a priority. City employees (both management and staff) have access to further information on how to avoid harmful impacts of cold weather, which is posted on the City's web page by [Human Resources Occupational Health and Safety](#).

7.4. Climate Change and Severe Weather

Toronto is expected to experience more severe and unpredictable weather in the coming years as a result of climate change. Information about the health impacts of climate change is available in the document: [A Climate of Concern: Climate Change and Health Strategy for Toronto](#). In addition, further information about the City's plans and progress on reducing greenhouse gas emissions and on preparing for a changing climate can be found on the City's web page: [Climate Change: Creating a Low Carbon and Climate Resilient Toronto](#).

8. References

Ministry of Health and Long Term Care. [*Healthy Environments and Climate Change Guideline, 2018.*](#)

Toronto Public Health. [*Health Impacts of Cold Weather.*](#) Technical Report. June 2014.