simcoe muskoka
DISTRICT HEALTH UNIT

Ontario Public Health Emergencies Science Advisory Committee Recommendations and Extreme Heat Events in Simcoe Muskoka

To Municipal CAOs, First Nation Chiefs, Indigenous and community partners;

Re: Communique from the Medical Officer of Health for the Simcoe Muskoka District Health Unit to partners regarding extreme heat events in Simcoe Muskoka

On July 26, 2023, the Ontario Public Health Emergencies Science Advisory Committee (OPHESAC) released the linked (and attached) Seasonal Bulletin: Interim Recommendations for Ontario's Heat Alert and Response System. This bulletin provides recommendations for practical, immediate actions to reduce adverse health outcomes and health inequities associated with extreme heat emergencies in the 2023 season, particularly for those at greatest risk of heat-health harms. The recommendations are directed to public health units, municipalities, health care institutions, Indigenous and community agencies and organizations. It recommends that these agencies review and renew plans and strengthen community and intersectoral partnerships and communication strategies. Please refer to the Bulletin for details on the recommendations.

Extreme heat is a significant and on-going public health risk in Simcoe Muskoka. It increases the burden of illness, injury and death associated with heat-related illnesses, can worsen existing physical and mental health conditions, and can have adverse health impacts on maternal/parental health and mental and psychosocial well-being. Extreme heat also creates stress on our health system, emergency services, infrastructure, and the economy which can negatively influence health. Heat-health risks can also be deepened by factors, such as power outages or poor air quality, leading to even greater harm for individuals and communities. While everyone is affected by heat, certain populations are more severely affected due to differences in environments, health and social and economic circumstances.

Heat events have become and are expected to be more frequent, severe, and long-lasting due to climate change. Climate change is increasing the likelihood of an extreme heat emergency like the 2021 heat dome experienced in British Columbia.

It is essential that public health, municipal, community, Indigenous and health system partners take a collaborative approach and work collectively to reduce risks associated with extreme heat. Each of us has a role to play in protecting our communities from the harms of heat.

The recommendations from OPHESAC align with ongoing Simcoe Muskoka District Health Unit (SMDHU) plans and commitment to working with our partners to strengthen preparedness and respond to extreme heat in Simcoe Muskoka in the immediate, short, medium, and long-term. We acknowledge that many of our partners have existing heat response plans/strategies and community relationships to respond to extreme heat events and emergencies. We also recognize that plans, relationships, and response capacity may have been altered by the COVID-19 pandemic. We see collective opportunities associated with the pandemic recovery and with emerging evidence and best practices related to heat.

SMDHU has and will continue to enhance its support of heat alert response plans across Simcoe Muskoka to reduce the impacts of extreme heat through:

- Supporting community engagement and mobilization by facilitating connections, identifying community needs, monitoring/surveillance, and developing community heat preparedness and response plans.
- Alerting the public, municipal and community partners of heat warnings and requests for activation of community and communication response plans.
- Implementing and supporting communication plans that raise awareness of current and future heat-health impacts, health protective measures, and alert the public and partners of heat warnings.
- Supporting community response plans that work to facilitate actions that protect health and well-being during periods of heat to protect individuals and communities, especially those at greatest risk from heat.
- Participating in evaluation activities to inform future responses.

SMDHU also works with our municipal and community partners to implement strategies that reduce exposure and sensitivity to extreme heat and increase adaptive capacity, such as influencing healthy, sustainable, and resilient community design, improving social capital, and improving conditions to support well-being.

SMDHU is currently in the process of reviewing our own plans, strengthening our actions, and community engagement and mobilization efforts. We are committed to (re)engaging with our community and health system partners to coordinate heat planning and response, clarify roles and responsibilities, identify community needs, continue to strengthen alert protocols and inform and support community response, communications and evaluations informed by the latest evidence, community needs and assets.

It is important for individuals and organizations to understand the risk, prepare for extreme heat and extreme heat emergency conditions and know where to access support. Resources and key health-related messages are linked below to support planning and communication to communicate with individuals to stay safe during extreme heat events.

- Extreme Heat (SMDHU)
- Municipal Heat Response Planning and Recommendations to Municipalities in Response to Heat Warnings (SMDHU)
- Health checks during extreme heat events (National Collaborating Centre for Environmental Health)
- Extreme Heat events landing page and resources (Government of Canada)
- Climate Change is Increasing Risks to Canadians from Extreme Heat: Fact Sheet (Government of Canada)
- Special Heat Series Presentations Recordings (Simcoe Muskoka Climate Change Exchange)

If you have any questions regarding the SMDHU's extreme heat response activities, please contact Brenda Armstrong, Manager, Healthy Environments at 705-721-7520 ext. 7489 or brenda.armstrong@smdhu.org or visit our website.

Sincerely,

Original Signed By:

Charles Gardner, MD, CCFP, MHSc, FRCPC
Medical Officer of Health

CG:SR:sh

Encl.

OPHESAC Ontario Public Health Emergencies Science Advisory Committee
CCSOUSP Le Comité consultatif scientifique ontarien des urgences de santé publique

Seasonal Bulletin: Interim Recommendations for Ontario's Heat Alert and Response System

Published: July 2023

Summary

This Seasonal Bulletin provides expert recommendations on immediate actions that may reduce the health harms of heat emergencies in the 2023 season. Experience from other jurisdictions show that heat emergencies are a major threat to health and wellbeing, disproportionately affecting some individuals and groups more than others.

Given that existing heat response plans, community relationships, and capacity to respond may have been altered in recent years by the COVID-19 pandemic, the recommendations in this Seasonal Bulletin focus on reviewing plans, communication strategies, strengthening partnerships and community engagement.

Our four recommendations are based upon expert opinion. More detailed evidence-informed reviews and recommendations focused on reducing adverse health outcomes and inequities from major heat-related events will be forthcoming. The detailed recommendations are found on page 3 of this document and are directed at public health units, municipalities, health care institutions, Indigenous organizations and agencies, and community agencies and organizations.

To summarize, the focus of the recommendations are as follows:

- All organizations and communities should review their heat emergency plans. Focus on developing clear roles and responsibilities and effective communication strategies.
- Strengthen partnerships, plans, and contracts for outreach and response during heat events. We recommend that the Government of Ontario work with municipal, community, and humanitarian organizations to prepare and make sure that all regions have suitable plans and agreements in place for a heat emergency.
- Work with communities and people who are most likely to experience harms. This includes people who have serious mental or other health conditions, people who have limited mobility, older adults, infants and children, people who are more isolated, and people who live or work where it is hot.
- Design and implement communication to reach everybody who needs to receive it. Make communication clear and appropriate for different groups, contexts and languages, so that messages are clear, can be followed, and are accessible for people with hearing, visual, or learning disabilities.

Purpose

Ontario's summer season is here. The purpose of this Seasonal Bulletin is to offer expert opinion on actions that can be reasonably taken now to mitigate the effects of a heat event this year, especially for individuals and communities at the highest risk of adverse outcomes due to health and social circumstances, and living or work environments. Many Ontario organizations have heat response strategies, and relationships with other stakeholders and community organizations to respond in the event of heat emergencies. However, many of these plans, relationships, and capacity to respond may have altered through COVID-19 pandemic. Therefore, the recommendations in this Seasonal Bulletin focus on reviewing and renewing plans, and immediately strengthening engagement, communication, and partnerships with all groups and organizations responding to heat events in the summer of 2023.

Climate-related emergencies are complex population health issues, involving multiple players, at multiple levels, with a wide range of approaches and responses. As we began our examination of the evidence, we determined that we could not fully synthesize the evidence and formulate recommendations that would be timely or actionable for this summer's heat season. Both immediate and ongoing responses are required. The Ontario Public Health Emergencies Science Advisory Committee (OPHESAC) will proceed with more rigorous scientific review and comprehensive recommendations to prepare for heat emergencies and effectively address their impacts on health and health equity.

Background

Why Heat Emergencies?

Heat emergencies pose a substantial threat to the health and wellbeing of Ontarians. They range from several days of high heat posing risks to very vulnerable individuals to very significant longer term heat domes, combined with other emergencies that have the potential to kill or harm much larger numbers of people. In short, a major 2023 heat emergency in Ontario could have devastating consequences, invariably affecting some groups and populations much more than others.

For these reasons, the Ontario Chief Medical Officer of Health proposed that OPHESAC examine heat emergencies. This was also supported by other Ontario government departments. A working group (WG), of OPHESAC members and experts, were tasked to deliver guidance for Ontario decision-makers on heat emergencies, a more frequent and potentially deadly consequence of climate change.

Heat events have become and are expected to be increasingly frequent, prolonged, severe and deadly due to climate change.[1] The heat dome in British Columbia (BC) during the summer of 2021 resulted in over 600 deaths[2] and additional health consequences. Nearly all heat-associated deaths in BC occurred indoors. The deaths disproportionately affected older adults with chronic health conditions, people with chronic conditions that impact cognition and mental health, and people living in areas of higher material and social deprivation.[2] This heat dome was most severe in the more rural and less densely populated BC interior.[2] The Montréal heat waves of 2010 and 2018 and the 2003 heat wave in Paris both demonstrated the devastating effects of major heat-related events.[3-5]

Given the season and limited time, the OPHESAC agreed to develop a Seasonal Bulletin focused on interim recommendations that stand to mitigate the effects of heat events for summer 2023. The OPHESAC agreed to a phased approach to address extreme heat events and related climatic emergencies. Future reports may provide a more comprehensive overview of how best to prepare, respond and recover from heat emergencies.

Is Ontario Ready?

Ontario's harmonized Heat Warning and Information System (HWIS) was implemented province-wide in 2016. A 2022 time-series analysis found that emergency department visits for heat-related illness, adjusted for maximum daily temperature, appeared to decline following implementation of the HWIS in some subpopulations. However, the emergency department visits for heat-related illness increased among people with a recent history of homelessness, and the overall change was not statistically significant at a population level.[6] Based on discussions with experts from BC and Health Canada, and a forthcoming jurisdictional scan and a rapid review, we believe that steps can be taken to strengthen immediate responses.[7,8]

The WG identified a need for recommendations focused on community engagement in support of individuals and groups most likely to experience health harms during a heat emergency in Ontario, and strategies to strengthen collaborations and response agreements prior to a major heat event (See Appendix for methods to generate the recommendations). Mitigating the harms of heat emergencies involves a whole-of-society approach to comprehensively address root causes of why some people experience worse harms from heat events than others. We also recognize that recommendations and actions initiated in July 2023 cannot eliminate the harms or redress the inequities that would be reasonably predicted in the event of a major heat emergency in the summer of 2023. Longer-term and interjurisdictional planning is needed to achieve these goals.

Recommendations

The recommendations below represent immediate steps that can be taken now to reduce adverse health consequences and reduce health inequities as a result of a major heat emergency in 2023. These recommendations are expert opinion, arising from discussions with experts, a provisional review of a forthcoming environmental scan and rapid literature review.

Recommendation 1: We recommend that public health units, municipalities, health care institutions, Indigenous organizations and agencies, and community agencies and organizations review and update their local heat event response plans to collectively prepare for this year's heat season. As plans are reviewed and updated, roles and responsibilities of all partners should be clear, with mechanisms established for immediate communication with all stakeholders, including community partners and the general public.

Recommendation 2: To improve our chances of reaching and supporting people who are most likely to experience adverse health outcomes in a heat emergency, we recommend that all stakeholders assess, facilitate, enable, and strengthen operational partnerships, agreements, plans, and contracts to support outreach and response strategies during extreme heat events. We also recommend that the Government of Ontario guide municipalities, public health, community partners, Indigenous organizations and agencies, emergency response agencies, and humanitarian organizations at the provincial and local level on strengthening contracts and best practices for equitable and effective heat response.

Recommendation 3: We recommend that public health units, municipalities, health care institutions, Indigenous organizations and agencies, community agencies, local community organizations involved in heat response work together with people most likely to experience adverse outcomes in heat emergencies. Community engagement should be strengthened with people living with psychosocial disabilities and chronic health conditions, people with limited mobility, older adults, caregivers of infants and children, people who may be socially and geographically isolated, and people who live or work where it is particularly hot or unable to access cooling. Strengthening community engagement activities with stakeholders and communities at highest risk of heat harms will increase trust and uptake of health messaging and participation in health interventions.

Recommendation 4: To strengthen the clarity of communications and uptake of key health messages, we recommend that all organizations involved in heat responses devote time and energy to learn about the communication needs of different groups. Based on this learning, organizations involved in heat response need to make communication clear and appropriate for different social, historical, economic, cultural, geographic, and linguistic contexts. Communication materials and messages need to be given in accessible formats, especially for those with hearing, visual, or learning disabilities.

Discussion

Engagement is a central theme of our recommendations. From our review of the literature and consultations with experts, engagement emerged as essential to any heat response. We specifically emphasized engagement focused on isolated and marginalized groups, as they often have specific needs that need to be met with tailored response. We recognize that engagement is essential but only a small part of a comprehensive strategy to prepare for and respond to heat events. There are many other negative outcomes from heat emergencies that were largely excluded from this Seasonal Bulletin.

Given that significant heat events can be lethal, this Seasonal Bulletin acts as a reminder of the importance of re-examining response plans and enhancing engagement activities. We acknowledge that many public health units and organizations involved in heat response have already reviewed and activated heat plans for 2023. The pandemic experience can inform response, outreach, and engagement efforts in terms of what can be successful to reach individuals and communities at risk for heat harms.

Our consultations and review of supporting evidence consistently identified elevated risks of heat-related harms among people who have mental or other debilitating health conditions, people who have limited mobility, older adults, infants and children, people who are more isolated, and people who live or work where it is hot. Therefore, these groups and the people and stakeholders who support them, must be meaningfully included in enhancing and implementing heat plans. A critical feature of community engagement should be to elicit information about communication preferences from populations most at-risk of heat-related health harms. Within these populations, awareness of the social, historical, economic, cultural, geographic and linguistic differences of individuals and groups may broaden the scope and impact of messaging.

Our recommendations for this Seasonal Bulletin are largely based upon expert opinions on the strategies that could be taken now to reduce the health effects of a 2023 heat emergency, given that we are already in the summer season and that emergency response plans and capacity have been affected by the COVID-19 pandemic. Even though the concepts of community engagement, coordinated action plans, and strong strategic partnerships are commonplace in the emergency preparedness literature,[9-12] renewing these efforts immediately can help this season.

This document and supporting evidence prompt further OPHESAC examination of concepts to ground future recommendations on heat event preparedness and response in Ontario. Areas of future work may include exploring how best to engage with communities, monitoring and surveillance, identifying risk and vulnerability, enhancing structural and built environment interventions (e.g., occupational and community access to cooling), and regulatory changes. Additionally, evaluating intervention effectiveness as well as incorporating community wants, needs and preferences are important considerations. OPHESAC plans to scope topics and questions for additional review to strengthen population resilience and system preparedness for heat emergencies.

Resources

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Glossary of Terms

Agencies: Groupings of individuals who mobilize to deliver a service, provide information, and/or advocate or connect with people on a common issue. Agencies may be included in the non-governmental or not-for-profit sector. This includes congregate settings like shelters and long term care facilities.

Health care institutions: Institutions, including hospitals, chronic care facilities, and health clinics, providing care or treatment to individuals.

Heat emergency: The province of Ontario does not outline formal parameters for defining a heat 'emergency'. However, public health units may define heat emergencies locally (for example, a heat event in combination with a catastrophic event). In BC, a heat emergency is defined as higher than usual temperatures, getting hotter every day for 3 or more consecutive days.[9]

Heat warning: In Ontario's HWIS system, a Heat Warning is issued by Environment and Climate Change Canada when specific temperature or humidex thresholds, which vary by provincial region, are forecast to occur for two or more consecutive days.[13] An **Extended Heat Warning** occurs if these conditions persist for three or more days, however this change in warning label does not mandate an escalation in actions. ECCC may issue a **Special Weather Statement** at their discretion if conditions may pose health risks but do not meet the thresholds for a Heat Warning (e.g., duration less than two days). A Special Weather Statement also does not formally trigger any required responses at the affected PHU, municipal or local level.

Indigenous organizations and agencies: First Nations health authorities, First Nations Provincial/Territorial Organizations, Métis, Inuit, and Federal and Provincial partner tables. These are described in the Ontario Public Health Service protocol on Indigenous Engagement: Relationship with Indigenous Communities Guideline, 2018 (gov.on.ca)

Municipalities: A geographic area whose inhabitants are incorporated, including larger regional governments that take on some roles of smaller local governments.[14]

Public health units: Local government organizations offering healthy living and disease prevention information and programming to their communities. Public health units are led by a Medical Officer of Health, under the supervision of a local board of health.[15]

Stakeholders: Organizations and individuals that are affected by and/or respond to heat events.

Appendix A: Approach to Develop Recommendations

OPHESAC Working Group

To develop each recommendation, consistent methods were applied. The approach included four processes.

1. There was a process to identify and consider the best available evidence, primarily from published literature (rapid review).[8]
2. There was a process to identify and consider contextual information, based on expert insight and background materials (a scan of selected jurisdictions).[7]
3. There was a process to incorporate the WG members' collective expertise. The recommendations were developed in an iterative process by the WG members. An Evidence to Decision (EtD) framework-like approach was used when developing the recommendations to help wording and ensure consideration of key criteria such as certainty of evidence, resource implications, equity, feasibility and acceptability.[16]
4. WG members engaged in a review and refinement process to complete each recommendation. The entire OPHESAC committee was then given the opportunity to provide two rounds of feedback on each recommendation. For the final consensus, a systematic approach allowed the OPHESAC committee members to indicate their level of agreement with each recommendation.

For all processes, the WG and the OPHESAC committee participated in online meetings to discuss and agree the approaches most appropriate at the time.

Specifically to generate the interim recommendations for the July 2023 heat bulletin, the WG made use of the following sources: discussions with experts and stakeholders, a recent jurisdictional scan for background contextual information and a recent rapid review focused on interventions. The scan and rapid review are published in separate documents. The WG held a series of six meetings from May 29th to June 30th that resulted in draft recommendations and a bulletin designed to provide some practical advice to public health units and the Chief Medical Officer of Health. The full OPHESAC committee reviewed and endorsed the bulletin and its recommendations (see process below).

OPHESAC Process to Affirm Recommendations

The process to affirm recommendations began with the WG chairs/co-chairs presenting the most recent recommendations to the OPHESAC committee to highlight key elements. Each presentation was followed by a brief discussion to clarify any points. Then the OPHESAC committee indicated their level of agreement, recommendation by recommendation.[17]

Based on the OPHESAC Terms of Reference, two-thirds majority is needed for an item/recommendation to be approved. Therefore, if two-thirds of those in attendance agree with a recommendation (as written, minor edits) then the recommendation is considered complete. Where there is disagreement the recommendation is discussed based on the feedback in an attempt to improve the level of agreement. If major edits are made, both the old and the revised recommendations are presented for a second round of voting, with the responses from the first round also presented.[17]

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About the Ontario Public Health Emergencies Science Advisory Committee

The Ontario Public Health Emergencies Science Advisory Committee (OPHESAC) is a group of independent, multi-disciplinary experts whose role is to enhance provincial capacity to respond to a spectrum of public health emergencies with the best available evidence. OPHESAC provides independent scientific advice to Public Health Ontario to inform the management of public health emergencies, including COVID-19. For more information about OPHESAC and its members, visit the OPHESAC webpage or contact communications@oahpp.ca.

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Acknowledgements

OPHESAC acknowledges the contribution of the Working Group members, including Dr. Na-Koshie Lamptey (Chair), Dr. Aaron Orkin (Rapporteur), Dr. Charles Gardner, Dr. Elaina McIntyre, Dr. Eric Kennedy, Dr. JinHee Kim, Dr. Kednapa Thavorn, Dr. Kristen Clemens, Liane Fernandes, Dr. Sébastien Jodoin, Dr. Stephanie Premji, Mark Breen, Carrie Warring, Sarah Cox, Dr. Paul Hébert (Scientific Director) and Dr. Kieran Quinn (Assistant Scientific Director). OPHESAC would also like to acknowledge the contributions of its Secretariat and PHO staff from the Scientific Advisory Committee Support, Stakeholder Relations, Communications Services, Library Services, and Product Development and Publishing teams.

Citation

Ontario Public Health Emergencies Science Advisory Committee. Seasonal bulletin: interim recommendations for Ontario's heat alert and response system. Toronto, ON: King's Printer for Ontario; 2023.

Disclaimer

This document was prepared by the Ontario Public Health Emergencies Science Advisory Committee (OPHESAC) for Public Health Ontario. OPHESAC provides evidence-based advice to Public Health Ontario to inform the management of public health emergencies, including COVID-19. OPHESAC work is guided by the evidence available at the time this document was prepared. The application and use of this document is the responsibility of the user. PHO assumes no liability resulting from any such application or use. This document may be reproduced without permission for non-commercial purposes only and provided that appropriate credit is given to PHO. No changes may be made to this document without prior and expressed written permission from PHO.

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