

Climate Change and Health Vulnerability Assessment Update

To: Chair and Members of the Board of Health

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Recommendations

It is recommended that the Board of Health:

1. Receive this report for information.

Key Points

- Wellington-Dufferin-Guelph Public Health (WDGPH), together with the Region of Waterloo Public Health and Emergency Services (ROWPHE), jointly applied for and received \$300,000 in funding from Health Canada to conduct a Climate Change and Health Vulnerability and Adaptation Assessment.
- Together, the two health units will collaborate to assess health vulnerabilities in our communities due to climate change over a 3-year period.

Discussion

Background

In November 2018, a funding proposal was jointly submitted to Health Canada by WDGPH and ROWPHE to conduct a Climate Change and Health Vulnerability and Adaptation Assessment within the respective geographies of each health unit. In January of 2019, the joint submission was selected by Health Canada and awarded a \$300,000 grant, over three years, administered by WDGPH.

A request for proposals (RFP) competition was conducted and ICLEI-Local Governments for Sustainability (ICLEI Canada) was the successful bidder to carry out the vulnerability and adaptation assessment. An inaugural expert stakeholder meeting was held on June 20, 2019, involving both health units, City of Guelph, Wellington County, Dufferin County, City of Orangeville, Public Health Agency of Canada, Health Canada, ICLEI Canada, Wellington-Waterloo LHIN, Region of Waterloo, Grand River Conservation Authority and the University of Waterloo Interdisciplinary Centre on Climate Change.

Goals of the climate change and health vulnerability and adaptation assessment are to:

- reduce health risks and strengthen resiliency to current climate variability and future climate change in our community;
- increase public and stakeholder awareness of the health impacts of climate change in our community; and
- provide recommendations, based on local evidence, on priority adaptive measures to decision-makers and stakeholders to strengthen overall resilience of local health systems to respond to the impacts of climate change.

Overview

Climate change is predicted to impact the health of Canadians, with the level of risk varying across the country.¹ Local impacts to the 23 municipalities that comprise the study area have not been thoroughly investigated but, provincially, Ontarians can expect to experience extreme temperatures, extreme storms, floods, wildfires and poor air quality.² In the study area of Wellington-Dufferin-Guelph-Waterloo (WDGW) (Appendix A), the predicted changes in climate include a sharp rise in the number of heat waves with an associated increase in heat related illnesses, increase in skin cancers and eye diseases such as cataracts from increased UV radiation exposure and conditions that are increasingly favourable for the expansion of vector-borne disease.³

Local climate projections indicate temperatures will rise both in terms of the magnitude of events, such as predicted hottest day temperatures to increase between 2-8°C from current observed levels.⁴ Of relevance to public health is the number of days with a temperature >30°C predicted to increase from the current 5-10 days each year to between 15-75 days a year depending on the climate model used.⁴ Precipitation is also expected to increase and WDGW will see a slight increase in annual precipitation from 900mm to 1000mm a year.^{4,5}

Local evidence and climate projections provide information to highlight the importance of the effects of climate change on local populations, now and in the future. This facilitates knowledge-translation to ensure that communities and decision-makers are aware of what is forecasted to happen in our community. Well-planned adaptation measures have the potential to reduce the predicted health impacts of climate change over the next few decades.⁶ The Public Health climate change vulnerability assessment will provide an in-depth review of local climate projections, current and projected health risks and impacts related to climate change. The assessment will identify vulnerable populations most at risk to these impacts in our communities. This work will inform adaptation planning, identify and prioritize adaptive local policies and programs which will strengthen resiliency to climate change.

Conclusion

- The work on this project is scheduled to be completed by 2022.
- The project will identify vulnerable populations to identify segments of the population that are at highest risk from climate change.
- The project will identify the variables that represent the greatest risks from a changing climate, that can have an impact on the health of our population.
- The project will identify adaptation strategies to minimize risks presented by a changing climate.
- The project will identify what the risks are, who is at highest risk and strategies to minimize the risk from adverse effects of a changing climate.
- A full set of climate change prediction variables for WDGPH can be found at <https://climatedata.ca/explore/sector/health/map/>.

Ontario Public Health Standard

This report provides information related to compliance with the Healthy Environments Program requirements of the Ontario Public Health Standards and provides information

that supports ongoing education for Board of Health members to help remain informed of relevant trends and emerging public health issues.

WDGPH Strategic Direction(s)

- Health Equity:** We will provide programs and services that integrate health equity principles to reduce or eliminate health differences between population groups.
- Organizational Capacity:** We will improve our capacity to effectively deliver public health programs and services.
- Service Centred Approach:** We are committed to providing excellent service to anyone interacting with WDG Public Health.
- Building Healthy Communities:** We will work with communities to support the health and well-being of everyone.

Health Equity

- A key component of this work is the vulnerability assessment, which will identify populations that are at increased risk from climate events.
- A second component of this program is to provide adaptation strategies that can help to counter negative impacts of climate change.
- The identification of vulnerable populations and barriers to adaptation will enable programming to address factors that may present a barrier to successful adaption such as providing cooling options to low income seniors during a heat wave.

References

1. Warren FJ, Lemmen DS. Canada in a Changing Climate: Sector Perspectives on Impacts and Adaptation: Government of Canada. 2014.
2. Berry P, Clarke K, Fleury MD, Parker S. Human Health; in Canada in a Changing Climate: Sector Perspectives on Impacts and Adaptation: Government of Canada. 2014.

3. Gough W, Anderson V, Herod K. Ontario Climate Change and Health Modelling Study. Government of Ontario. 2016.
4. Canadian Centre for Climate Services. Canadian Climate Data Portal. [Online].; 2019 [cited 2019 September 15. Available from: <https://climatedata.ca/explore/sector/health/map>.
5. Interdisciplinary Centre on Climate Change. Localized Climate Projections for Waterloo Region. University of Waterloo. 2015.
6. World Health Organization. Operational Framework for Building Climate Resilient Health Systems. 2015.

Appendices

Appendix A – Study Area Map.

Appendix A

Study Area Map

Communities in the Regional Municipality of Waterloo,
the Counties of Wellington and Dufferin, and the City of Guelph

