

CLIMATE CHANGE *and* HEALTH *in* DURHAM REGION

Understanding the local health
impacts of climate change



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Executive summary

Executive Summary

Climate change is expected to be the most challenging public health issue of the 21st century and healthcare systems will be impacted by climate-driven emergencies. Durham Region is already experiencing the effects of climate change, yet most residents do not believe they will be harmed by it in their lifetime. There is a clear need to understand and communicate the near and long-term health consequences of climate change.

As part of our mandate under the Ontario Public Health Standards, the Durham Region Health Department (DRHD) initiated a series of climate change and health vulnerability assessments (CCHVAs) to identify current and future health impacts of climate change related to extreme heat, extreme weather, poor air quality, vector-borne disease, ultraviolet radiation, food and water, and mental health (**see Figure 1.1**). These assessments will provide valuable information to decision makers, municipalities, community organizations and residents to recognize, respond to and reduce climate related health impacts.

This primer serves as a background reference document for the vulnerability assessments by providing:

- a global and local overview of climate change and related health impacts;
- an equity focussed framework for defining, assessing and addressing climate vulnerability;
- a summary of the approach undertaken to complete the assessments; and,
- local environmental and community features relevant to assessing climate-related health risks.



Report key messages:

- Green house gas emissions from human activities have contributed to a 1°C increase in the average global temperature. Warming of 1.5°C is a tipping point associated with a dramatic increase in extreme flooding, drought, wildfires, food shortages and other risks.
- Canada's current and projected rate of global warming is about twice the global average.
- Although this degree of warming seems small, it influences whether the ecosystems that we depend on for food, water, medicine, and livelihood, will remain viable.
- Most of Durham Region is within Ontario's ecologically sensitive and agriculturally productive Greenbelt. Land use changes, invasive species, and climate change threaten the ecological functions that the region depends on for clean air, water, a sustainable local food supply and protection from climate hazards such as flooding, water contamination and extreme heat.
- Potential local health impacts from climate change include illness, loss, injury, death and poor mental health related to severe weather, poor air and water quality, food insecurity, food contamination, vector borne diseases, and ultraviolet radiation.
- Health risks from climate hazards are not shared equally and vulnerability is determined by an individual's or community's degree of exposure, sensitivity, and capacity to adapt.
- The term "vulnerable" can be stigmatizing. While factors of vulnerability are important for assessing risk, the term vulnerable as a label for individuals, communities or populations can be harmful.
- The risk of harm from climate hazards is greater for those already experiencing health inequities.

- Climate change can act as a “threat multiplier”; worsening existing health inequities while creating the conditions for new inequities to emerge.
- An equity-focussed approach is essential to identifying and addressing upstream programs, laws, policies and practices to address health inequities and reduce health risks from climate change.
- Local demographic data help to identify priority populations that face greater risks of harm from climate change than others. Priority populations include adults over age 65, children and youth, Indigenous Peoples, racialized populations, people with disabilities, people who are pregnant, residents of remote communities, individuals who are socially and economically disadvantaged, and people with pre-existing health challenges.

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1 Identification of priority populations is ongoing and evolving as the experience of climate change intensifies, and impacts become more evident.

2 Categories are not discrete, and many people experience the intersecting influence of multiple, compounding risk factors.

Highlights of Durham Region community data relevant to climate-related health risks:

- **Durham Region is a vibrant, diverse, and rapidly growing community, with a population expected to reach 1.3 million by 2051, due mainly to immigration in urbanized areas.**
- **The Mississaugas of Scugog Island First Nation (MSIFN) is located within the geographic boundaries of the Regional Municipality of Durham. Durham Region is also home to a large and diverse urban Indigenous population, which includes individuals who are members of the Métis, Inuit, Haudenosaunee, and other Indigenous Nations.**
- **Overall, the older adult population is growing four times faster than the general population. This age group is at greater risk of health impacts from climate hazards (e.g., extreme heat).**
- **One in five Durham Region residents live alone. While social isolation increases a person's risk of harm from climate change, very little data exists to assess this important risk factor.**
- **Recent increases in multigenerational homes in Durham may improve social supports and reduce isolation but this potential benefit is variable and context specific.**
- **Disparities in internet access may worsen existing climate related health risks in remote, rural communities.**
- **Approximately one in 10 households are experiencing financial hardship and almost one in five are experiencing food insecurity.**
- **There is a lack of data on Indigenous Peoples experiencing low income, which represents a health inequity.**
- **Demand for housing exceeds supply, impacting affordable housing and an increasing demand for homelessness services.**
- **Unaffordable housing is the reality for one in four households, with rising chronic homelessness attributed mainly to high rent cost and low income.**
- **Some Durham Region residents experience multiple compounded risk factors (e.g., older age, food insecurity and isolation) and there is a need to consider intersectionality when assessing climate vulnerability.**
- **In general, Durham Region residents enjoy good physical and mental health, however, it is clear that health varies by where you live.**

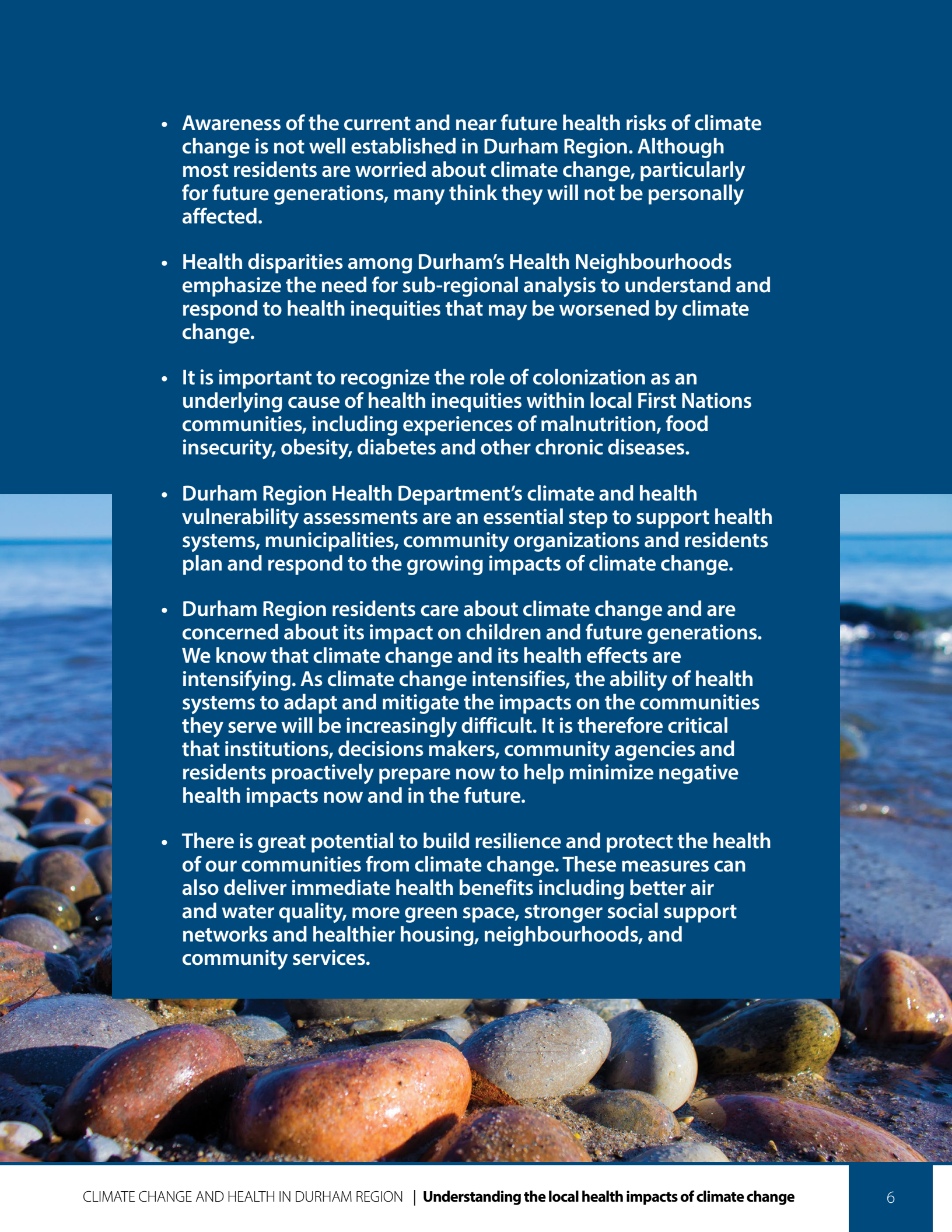
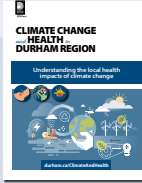
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- Awareness of the current and near future health risks of climate change is not well established in Durham Region. Although most residents are worried about climate change, particularly for future generations, many think they will not be personally affected.
 - Health disparities among Durham's Health Neighbourhoods emphasize the need for sub-regional analysis to understand and respond to health inequities that may be worsened by climate change.
 - It is important to recognize the role of colonization as an underlying cause of health inequities within local First Nations communities, including experiences of malnutrition, food insecurity, obesity, diabetes and other chronic diseases.
 - Durham Region Health Department's climate and health vulnerability assessments are an essential step to support health systems, municipalities, community organizations and residents plan and respond to the growing impacts of climate change.
 - Durham Region residents care about climate change and are concerned about its impact on children and future generations. We know that climate change and its health effects are intensifying. As climate change intensifies, the ability of health systems to adapt and mitigate the impacts on the communities they serve will be increasingly difficult. It is therefore critical that institutions, decisions makers, community agencies and residents proactively prepare now to help minimize negative health impacts now and in the future.
 - There is great potential to build resilience and protect the health of our communities from climate change. These measures can also deliver immediate health benefits including better air and water quality, more green space, stronger social support networks and healthier housing, neighbourhoods, and community services.

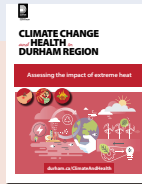
Figure 1.1 | Durham Region Health Department planned climate change and health vulnerability assessments to be released in 2023 and 2024.

Primer

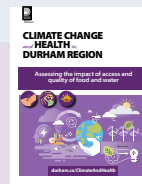


Understanding the local health impacts of climate change

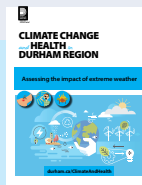
Upcoming Vulnerability Assessments



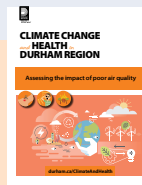
Assessing the impact of extreme heat



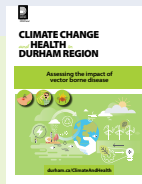
Assessing the impact of access and quality of food and water



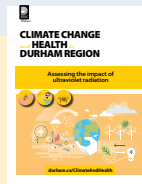
Assessing the impact of extreme weather



Assessing the impact of poor air quality



Assessing the impact of vector borne disease



Assessing the impact of ultraviolet radiation



**HEALTH
DEPARTMENT**

Durham Health Connection Line
1-800-841-2729 or 905-668-2020

durham.ca/health

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contact 1-800-841-2729.



June 2024