

Public Health Impacts of Climate Change in Toronto

A path forward for responding to the climate crisis

Board of Health

November 27, 2023

140 years of public health in Toronto



Source: Toronto skyline showing air pollution, March 2, 1904,
Photographer: F.W. Micklethwaite. Series 376, File 4, Item 39



Source: Loren Vanderlinden , May 2023



Source: Loren Vanderlinden , June 2023

Climate Change Report Purpose

This report:

- Describes the impacts of climate change on the health of Torontonians.
- Highlights the need for TPH to re-establish work on climate change, and to collaborate with partners in this work.
- Outlines TPH's history in climate change work
- Describes the need for a robust surveillance framework, which will enable the City to better monitor and assess how residents are affected and prioritize actions.

Toronto Climate Predictions

Days of Extreme Heat	↑
Overnight Temperatures	↑
Rainfall	↑
Severe Weather Events	↑
# of Days with Poor Air Quality	↑
# of Days with Temperature colder than minus 15 degrees Celsius	↓

How Climate Change Impacts Our Health

Climate change health impacts can occur over both short and long-time horizons

Extreme Heat



- Heat stroke
- Dehydration
- Cardiovascular and respiratory effects
- Pregnancy complications
- Impact on mental health

Air Quality



- Increased risk of cardiovascular and respiratory diseases, lung cancer, allergies and premature death
- Eye, nose and throat irritation

Severe Weather



- Injury
- Death
- Impact on mental health
- Limited access to essential supplies

Vector Borne Disease (VBD)



- More cases of tick or mosquito-borne diseases (e.g. Lyme, West Nile)
- Increased risk of future pandemics due to potential increased disease transmission between animals and people

Extreme Cold



- Injury
- Death
- Worsening of chronic conditions like cardiovascular diseases

Water Safety and Availability



- Increased risk of waterborne diseases caused by parasites, bacteria and algae blooms
- Contamination of fresh drinking water

Food Safety and Security



- Increased risk of foodborne illness
- Changes to overall nutrition due to crop damage, supply disruptions and lack of access to traditional hunting grounds

Mental Health and Well-being

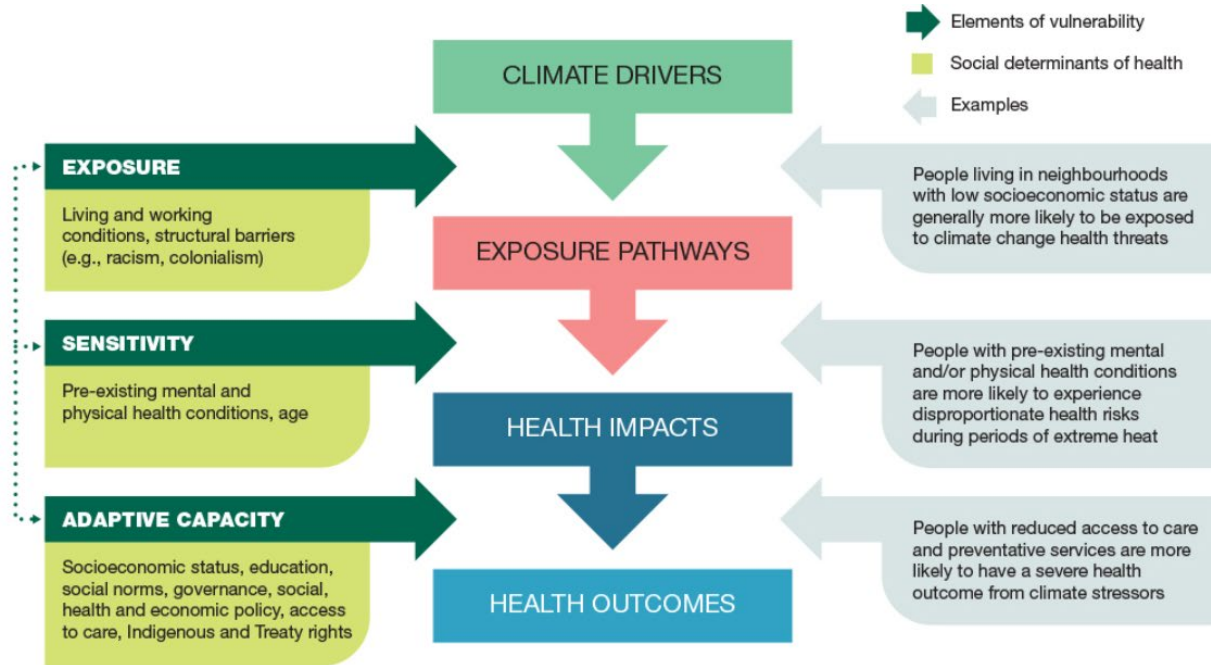


- Increasing climate anxiety, especially in young people
- Increase anxiety, depression, and post-traumatic stress from extreme weather events

Some people are at greater risk of poor health outcomes from climate change. Risk factors include:

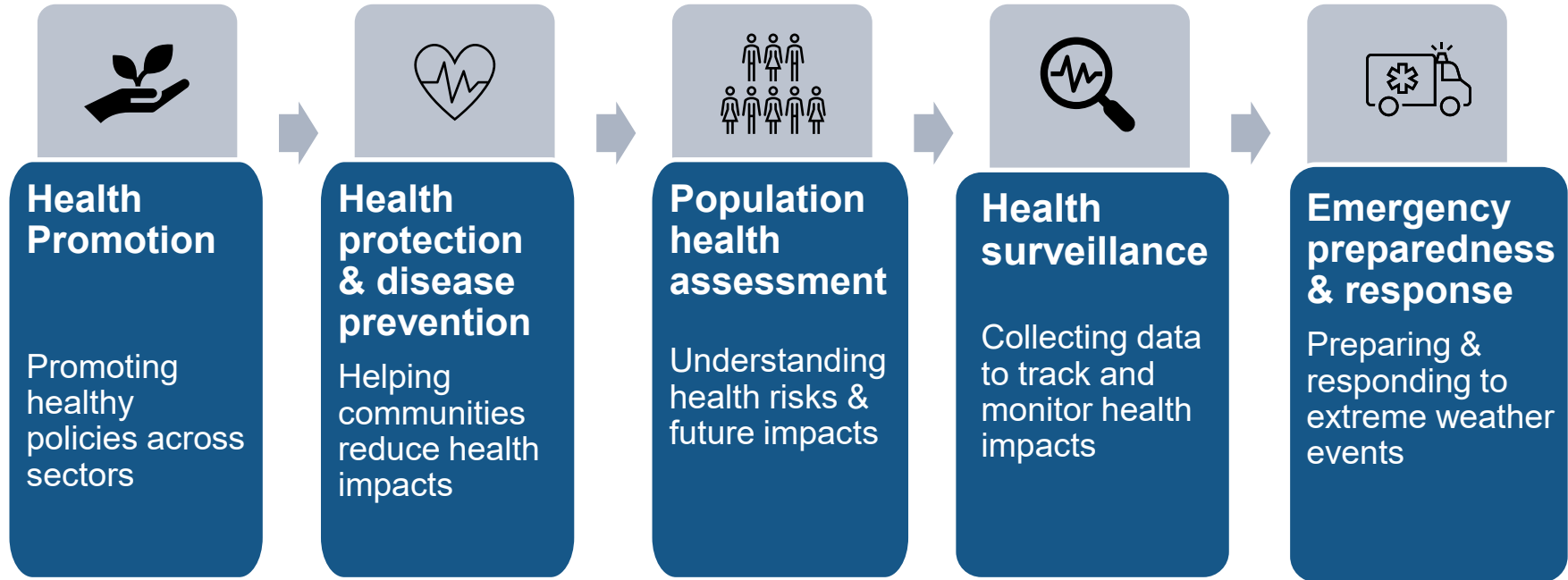
- Low-socio economic status
- Age (very young or advanced age)
- Pre-existing health conditions
- Geographic location

Climate change impacts do not affect everyone equitably



Source: Figure adapted from U.S. Global Change Research Program. [The Impacts of Climate Change on Human Health in the United States: A Science Assessment](#) (2016).

How public health functions can support climate change actions



Recommendation 1: Develop a Surveillance framework

1. The Board of Health request the Medical Officer of Health:
 - a. Develop a dedicated surveillance framework for systematically and routinely monitoring climate change health impacts for Toronto; and
 - b. Collaborate with Public Health Ontario, public health units and other partners to identify consistent climate change health indicators for use across the province; and
 - c. Use new and improved data and evidence to inform future priority actions for climate change and health for the City of Toronto.

Recommendations 2 & 3: Collaborate internally and externally

2. The Board of Health request the Medical Officer of Health actively champion the application of a public health perspective to climate-related projects and decisions through collaborating with relevant City Divisions, including Environment and Climate and Social Development, Finance and Administration.

3. The Board of Health request the Medical Officer of Health engage with partners outside the City, including academic partners, the provincial and federal governments and community stakeholders, and contribute to action addressing emerging climate change and public health issues.

Recommendation 4: Report back on progress

4. The Board of Health request the Medical Officer of Health report back on progress on the surveillance framework, collaboration efforts and climate change health indicators in the first quarter of 2025.