



# Climate Change: Impacts on Health and Roles of Health Professionals

## Objectives

1. To describe the link between climate change and health in Canada (CA) and population vulnerability.
2. To suggest appropriate approaches for climate change-induced health impacts.
3. To describe how the health care system contributes to climate change and how to address this.

## Practice Points

1. Our health is impacted by our environment and climate change-related events can have significant adverse health effects.
2. Canada's health sector is a major greenhouse gas emitter.
3. Health professionals can reduce the health care carbon footprint by consistent and coordinated efforts.

## Data

- <sup>1</sup>ANE-ACIIE. Nursing Toolkit for Planetary Health. 2023. The Canadian Association of Nurses for the Environment.
- <sup>2</sup>Green S et al. Planetary Health in CanMEDS 2025. CMEJ 2023, 14(1) Available at <https://doi.org/10.36834/cmej.75438>
- <sup>3</sup>Perrotta, Kim. Editor. Climate Change Toolkit for Health Professionals. Produced by the Canadian Association of Physicians for the Environment (CAPE). April 2019. Available at <https://cape.ca/wp-content/uploads/2019/05/Climate-Change-Toolkit-for-Health-Professionals-Updated-April-2019-2.pdf>
- <sup>4</sup>Eckelman, M. J., Sherman, J. D., & MacNeill, A. J. (2018). Life cycle environmental emissions and health damages from the Canadian healthcare system: an economic-environmental-epidemiological analysis. PLoS medicine, 15(7), e1002623. Available at <https://doi.org/10.1371/journal.pmed.1002623>

## Results

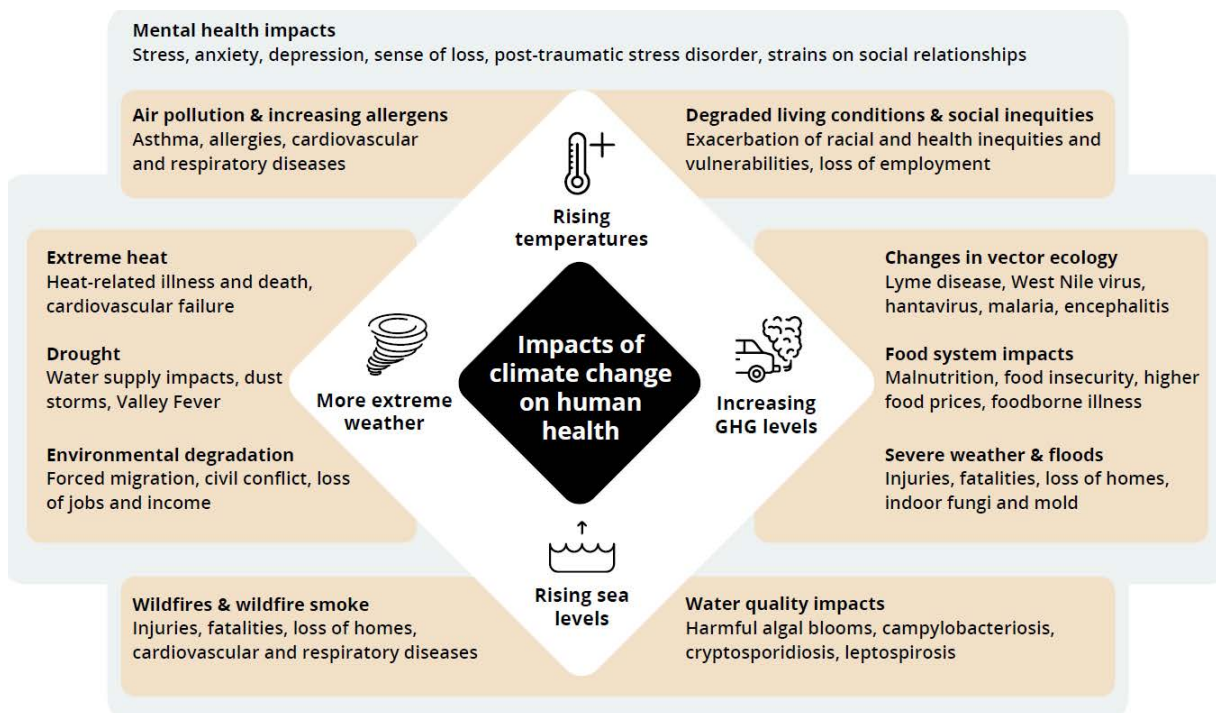


Figure 1. Climate Change Impacts on Human Health (Source: [Nursing Toolkit for Planetary Health](#))<sup>2</sup>

- For more detailed information on specific environmental effects and health outcomes, see table 1 in the Climate Change Toolkit for Health Professionals by the Canadian Association of Physicians for the Environment.<sup>3</sup>
- Canada has already witnessed frequent extreme heat waves, forest fires, crop failures, and floods. The climate emergency has disproportionately high impacts on Indigenous and remote rural communities.<sup>3</sup>
- Extreme weather conditions can damage and require closure of health care facilities and evacuation of patients. This can affect entire communities and result in physical and mental health impacts among health care workers. Damage to infrastructure (building and equipment) may lead to financial burden on the health system.<sup>1</sup>
- The health care sector produces 4.6% of Canada's total greenhouse gas emissions, which contribute to climate change.<sup>4</sup> Many components of the health care system can be considered for their climate impacts:
  - ◇ Safety and environmental sustainability of health care facilities
  - ◇ Supply chain changes to reduce greenhouse gas emissions
  - ◇ Waste and unnecessary use of products and resources
  - ◇ Awareness among staff and clinicians to understand health-related risks of climate change
- Recommendations for health care-related action include<sup>1</sup>:
  - ◇ Emerging infectious disease surveillance (Lyme disease, West Nile Virus, etc.)
  - ◇ Assessment of health care facility resilience
    - Climate emergency-related contingency planning
    - Promotion of sustainable practices (resource conservation, promotion/adoption of renewable energy and active transportation, food procurement and waste practices)
  - ◇ Assessment of health care facility vulnerabilities
    - Identifying and stress testing infrastructure vulnerable to climate impacts
    - Identification and development of effective risk communication for vulnerable communities
  - ◇ Capacity building with health care professionals on climate-friendly practices
  - ◇ Adoption of standardized measurements to track carbon footprint and energy consumption of system
  - ◇ Area-specific interventions to reduce waste and emissions
    - Anesthetic gas use
    - Use of telemedicine
    - Reducing unnecessary tests and treatments (Choosing Wisely Canada provides guidance and recommendations for clinicians)
  - ◇ Adoption of sustainable procurement programs
  - ◇ Introduction of cleaner transportation and fleets (use of low or no emission vehicles)
  - ◇ Increase availability of local and plant-based food within facilities

## Conclusions

1. Climate change has, and is projected to have, increasing impacts on health.
2. It is important for health care practitioners and decision-makers to understand the impacts of climate change on their work and to participate in reducing the contribution of health care to climate change.
3. Increased awareness of the impacts and implications of climate change on the health care system can increase support for important mitigation and surveillance activities.