



Health in a changing climate: Exploring the intersections of climate change & medicine

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CAPE
Canadian Association
of Physicians
for the Environment

Association canadienne
des médecins
pour l'environnement

Disclosures

Nothing to disclose



Objectives

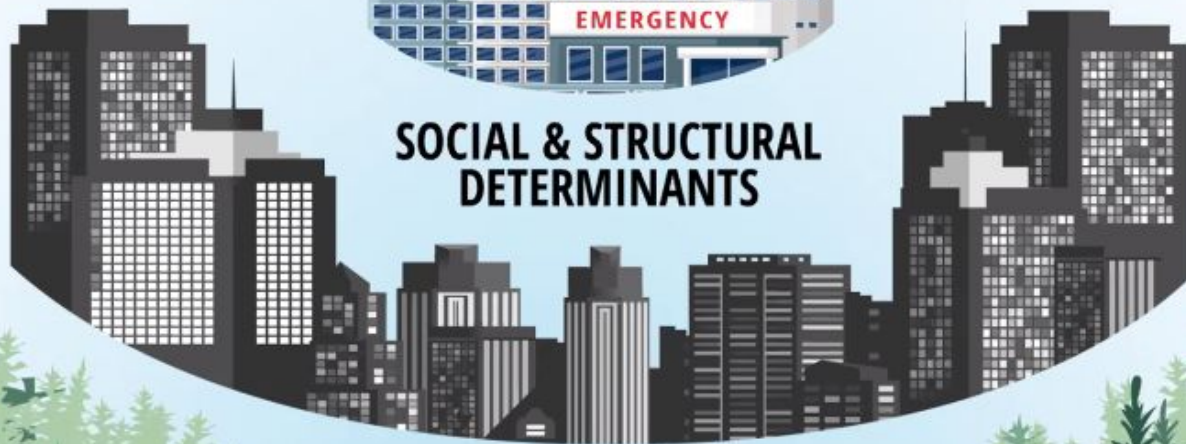
1. Identify climate change as a determinant of health
2. Understand the role physicians play in advocacy for and communication of the risks of climate change to health
3. Discuss the role of nature in health (ex. through PaRx), as well as in patient and physician well-being
4. Implement changes to practice to better meet individual patient's health needs by advocating within and beyond the clinical environment with regards to the health impacts and risk factors of a changing climate

Healthy Planet, Healthy People

HEALTHCARE
~20% OVERALL HEALTH STATUS



**SOCIAL & STRUCTURAL
DETERMINANTS**



**ECOLOGICAL
DETERMINANTS**

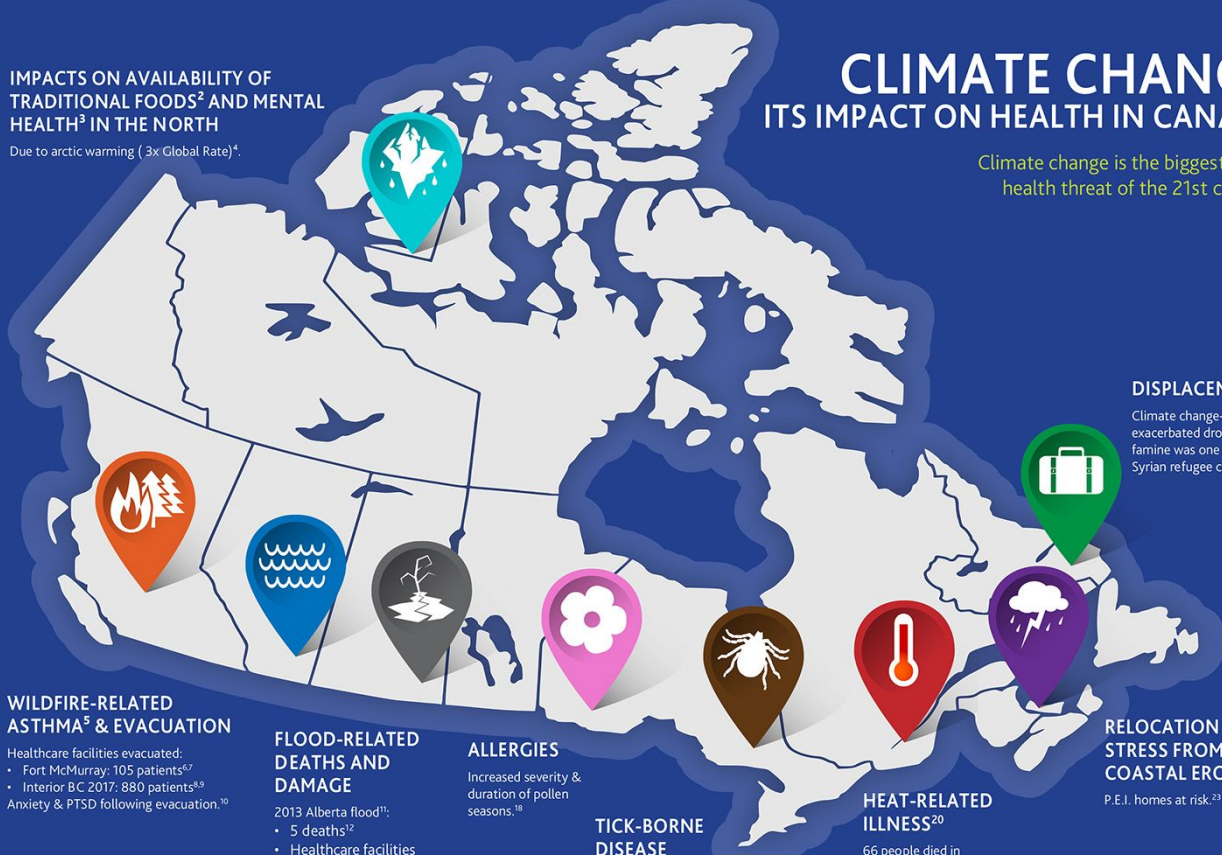
CLIMATE CHANGE ITS IMPACT ON HEALTH IN CANADA

IMPACTS ON AVAILABILITY OF TRADITIONAL FOODS² AND MENTAL HEALTH³ IN THE NORTH

Due to arctic warming (3x Global Rate)⁴.

Climate change is the biggest global
health threat of the 21st century.

— Lancet⁷



DISPLACEMENT

Climate change-exacerbated drought and famine was one factor in Syrian refugee crisis.²⁴

WILDFIRE-RELATED ASTHMA⁵ & EVACUATION

Healthcare facilities evacuated:
• Fort McMurray: 105 patients^{6,7}
• Interior B.C 2017: 880 patients^{8,9}
Anxiety & PTSD following evacuation.¹⁰

FLOOD-RELATED DEATHS AND DAMAGE

2013 Alberta flood¹¹:
• 5 deaths¹²
• Healthcare facilities
closed due to flooding.¹³

DROUGHTS^{14,15}

Uneven impact on crops.¹⁶
Socioeconomic stress.¹⁷

ALLERGIES

Increased severity &
duration of pollen
seasons.¹⁸

TICK-BORNE DISEASE

2017: 3x higher rate
Lyme Disease in
Ontario than 2012-
2016 average.¹⁹

HEAT-RELATED ILLNESS²⁰

66 people died in
Montreal during 2018
heat wave.^{21,22}

RELOCATION & STRESS FROM COASTAL EROSION

P.E.I. homes at risk.²³

ASSOCIATION
MÉDICALE
CANADIENNE



CANADIAN
MEDICAL
ASSOCIATION



Health as an Effective Message

Lessons from climate change research:

- 342 US parents questioned about their greatest concerns re: global environmental issues

3 different forms of environmental concern:

- Biospheric (concern for nature, eg. marine life)
- Social-altruistic (concern for other people, eg. my kids)
- Egoistic (concern for oneself, eg. my lifestyle)

Social-altruistic and Egoistic people weren't swayed by polar bears and coral reefs

Focusing on personal and family health impacts in public policy messaging = more motivating to change behaviour

[Global Environmental Change. 2018;48:158-167](#)

Name _____

Date _____

My Outdoor Activity Plan (2 hours/week, 20+ minutes at a time):



Health Professional's Signature

Prescription #: BC-SA001 – _____ – _____
(YYMMDD) (Patient's Initials)

Register your PaRx for a chance to win prizes.
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2 hours/week, 20+ minutes at a time. That's all it takes.

Research shows that people who spend at least 2 hours in nature each week report significantly better health and wellbeing.¹ Science suggests that the most efficient drop in cortisol (stress hormone) levels happens between 20 to 30 minutes² — hence our 20-minute rule.

Spending time in nature:

Reduces your risk of chronic disease. Spending more time in green space drops your risk of asthma, diabetes, heart disease, high blood pressure and stroke.³

Makes you feel richer. Living in a neighbourhood with 10 more trees per block improves your health perception similar to an increase in your personal income of \$10,000 per year.⁴

Busts stress. Sitting in a forest for just 15 minutes significantly reduces your cortisol levels and heart rate variability—while sitting on a urban street does nothing.⁵

Boosts your immune system. Adults who take short day trips to the woods boost their levels of immunoproteins and natural killer cells for at least 7 days.⁶

Makes you smarter. Your memory, creativity and task performance increase much more after a walk in a park than on a city street.⁷

Make the most of your nature prescription with these simple tips:

1. Make easy green tweaks to your routine.

Avoid adding extra time and effort by substituting outdoor activities for indoor ones.

2. Write nature into your schedule.

Prioritize your date with nature by entering it into your day planner.

3. Phone a friend or family member.

Involving others increases your chances of meeting your goals.

4. Respect nature—and yourself.

Dress for the weather, stay on the trail and pack out what you pack in.

5. Do what feels right for you. The health benefits of nature start to add up when you feel like you've had a meaningful nature experience.

¹White, M.P. et al. *Sci Rep* 9, 7730 (2019). ²Hunter, M.R. et al. *Front Psychol* 10, 722 (2019). ³Tremblay-Lamer, C., James, A. *Environ Res* 196, 158 (2019). ⁴Kardes, O. et al. *Sci Rep* 5, 11510 (2015). ⁵Iliyasaitou, K. et al. *Atmos Biosci* 2015, 67, 1004 (2015). ⁶Li, Q. et al. *J Biol Health* 10, 200 (2019). ⁷Koseika, E.P.D. et al. *Int J Environ Res Public Health* 16, 4338 (2019).

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Head to PARKPRESCRIPTIONS.CA



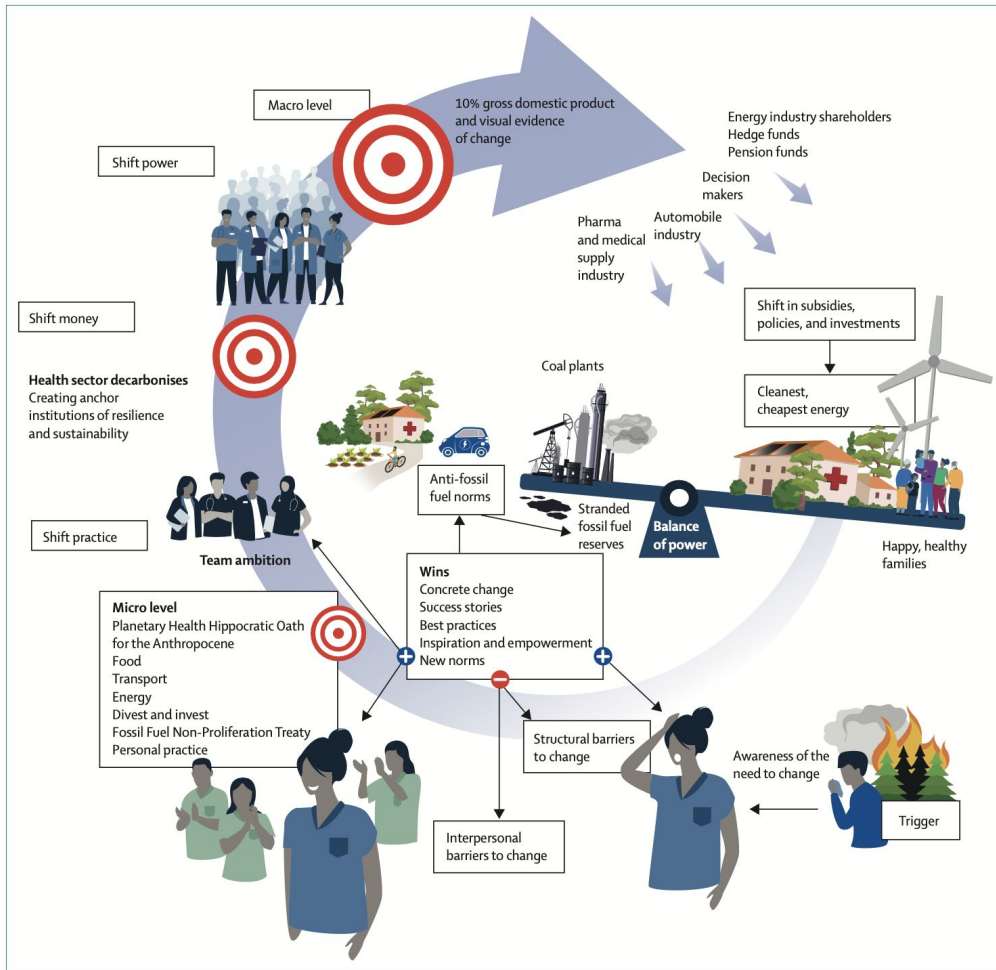


Figure 4: Social tipping interventions by the health community to stabilise Earth's climate

Social Tipping Interventions → new structural norms → shifts in structural organization

The foundations of human health and health systems are being destabilised by climate change

The health community has enormous potential to influence the social and policy decarbonisation landscape.