



Welcome to this week's presentation and conversation
hosted by the

Canadian Association for the Club of Rome,

Sharing creative ideas on YouTube that moderate the rate and depth of changing Earth systems.

The Health Impacts of Climate Change

Our speaker today is Dr. Jennifer Purdy. Climate change is having a significant effect on human health here in Canada and around the world. Unfortunately, as climate change worsens, we will see more impacts on health. This will have a growing effect on individual health, population health, and these effects will impact the economy. It is essential that we understand the health impacts of climate change, because they are not being discussed at large in the media currently. By increasing our understanding in this area, we can then better advocate for meaningful action on climate change. Finally, I will address some of the human health impacts, and how lifestyle changes may help mitigate the impacts.

Dr. Purdy's presentation will be followed by a conversation, questions, and observations from the participants.

Health Impacts of Climate Change

Dr Jennifer Purdy CD, MD, CCFP, dipABLM

Conflicts of Interest

None!

Outline

- Population Health Impacts
- Physical impacts: (Heat stroke??)
 - Respiratory
 - Cardiovascular
 - Dermatology
 - Neurological
 - Infectious Disease
 - Cancer
 - Miscellaneous
- Psychological impacts:
 - Stress
 - Mental Health
- Action Plan

Population Health Impacts

- Natural Disasters
- Extreme Weather
- Crop failures/ reductions

Natural Disasters

- Fires, floods, tornadoes, landslides, etc.
- Infrastructure failure (roads, buildings, hospitals, power, etc)
- Loss of housing, food, supports, connection, displacement
- Greater food insecurity
- Death or injury due to electrocution, heat stroke, suffocation, drowning, blunt trauma, exposure, accidents
- Short-term and long-term effects

Extreme Weather

- Infrastructure failure
- Greater food insecurity
- Death or injury due to heat stroke, exposure, accidents
- Short-term and long-term effects

Individual Physical Impacts

- Harder to identify and track
- More subtle, some of these will occur gradually over time
- Less newsworthy therefore easier to ignore

Respiratory

- Asthma
- Chronic Obstructive Pulmonary Disease/ emphysema
- Bronchitis
- respiratory issues related to allergies
- other respiratory issues
- pollution, molds, pollens, allergens

Cardiovascular

- Increased cardiovascular risk due to extreme weather events
- Heat may increase effects of airborne particulate on cardiovascular disease risk
- Effect of ozone concentrations on cardiovascular mortality, and association with acute myocardial infarction
- Air particulate associated with many changes in human body including inflammation, changes in coagulation and thrombosis (blood clotting), blood vessel dysfunction, and atherosclerosis
- Vector-borne and zoonotic diseases: Chagas (stroke) and Lyme (cardiovascular manifestations)

Dermatology

- skin cancers
- atopic dermatitis
- infectious skin diseases (HFM)

Neurological

- No hard evidence to link climate change and increasing rates of Parkinson's Disease and Alzheimer's.
- However environmental factors strongly believed to play role.
- Link between fish/ seafood and PD; fish and sea creatures significantly impacted by worsening climate change

Infectious Disease

- Viruses, bacteria, fungal, vector-borne (Lyme, West Nile, Zika, malaria...)
- Food-borne illnesses (e coli, campylobacter)
- From “food” itself: due to climate change, loss of biodiversity, risk for outbreaks increasing. COVID recent example
- Antibiotic and anti-viral efficacy?

Cancer

- Increased pollution including heavy metals
- Increased exposure due to flooding and subsequent contamination of ground, ground water, etc.
- Depletion of ozone

Miscellaneous

- Kidney stones

Psychological Impacts

- Stress
- Mental Health
 - Depression and anxiety
 - Addiction
 - Acute Stress Reaction, Post-Traumatic Stress Disorder
 - No evidence at this time for other Mental Health illnesses

Action Plan

- Get active, including communicating with others about climate change including health impacts
- Take steps to improve your own health using lifestyle changes
- Lifestyle Medicine:
 - Move more (if possible)
 - Adequate sleep
 - Reduction of substance use including alcohol, tobacco, drugs
 - Stress management
 - Social connection
 - **Shift diet to a plant-predominant way of eating IAW new Canada Food Guide**

Resources

- CDC: <https://www.cdc.gov/climateandhealth/effects/default.htm>
- Human Health Perspective on Climate Change: https://www.niehs.nih.gov/health/materials/a_human_health_perspective_on_climate_change_full_report_508.pdf
- Risks to Health from Climate Change: <https://www.canada.ca/en/health-canada/services/climate-change-health/risks-to-health.html>