PAN Presents: An Earth Day Special Webinar on Health, Equity and Climate Change

**Pacific AIDS Network
Celebration of Earth Day!
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Land Acknowledgement

This presentation is offered on the traditional territories of the Klahoose First Nation, Tla'amin Nation, and Hamalco First Nation whose presence past, present, and future include being caretakers and knowledge holders of the land and waters.

Acknowledgement

**Maya K. Gislason**

Agenda

- Planet Earth and Climate Change

- Thinking about climate change and health through an eco-social equity lens

- Grounding our global thinking in place based realities and local lives

"You have to literally just pinch yourself ... when you can look out the window and you're looking at the most beautiful star in the heavens -- the most beautiful because it's the one we understand and we know, it's home, it's people, family, love, life -- and besides that it is beautiful. You can see from pole to pole and across oceans and continents and you can watch it turn and there's no strings holding it up, and it's moving in a blackness that is almost beyond conception."

Eugene Cernan, the Commander of Apollo 17

We live in a finite world with finite resources. Although it may sometimes seem quite big, earth is really very small — a tiny blue and green oasis of life in a cold universe.
~ David Suzuki
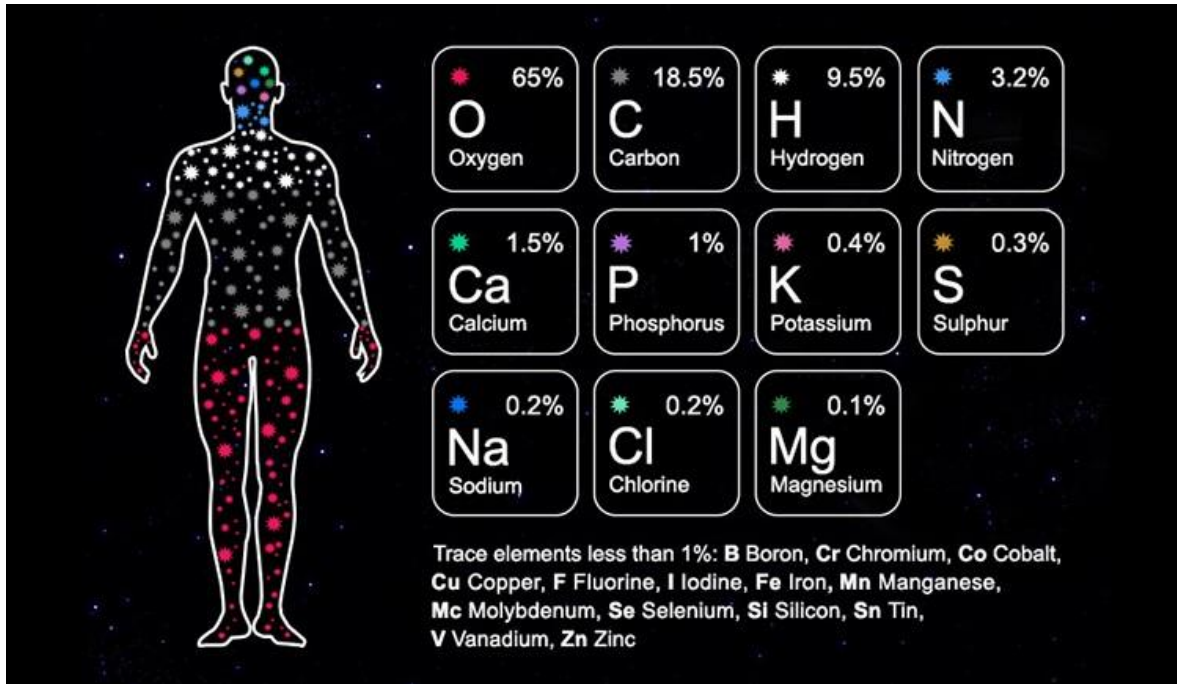
Nearly all the elements in the human body were made in a star and many have come through several supernovas.

Causes and Effects of Climate Change

Causes

- Rapid industrialization
- Energy use
- Agricultural practices
- Deforestation
- Consumer practices
- Livestock
- Transport
- Resource extraction
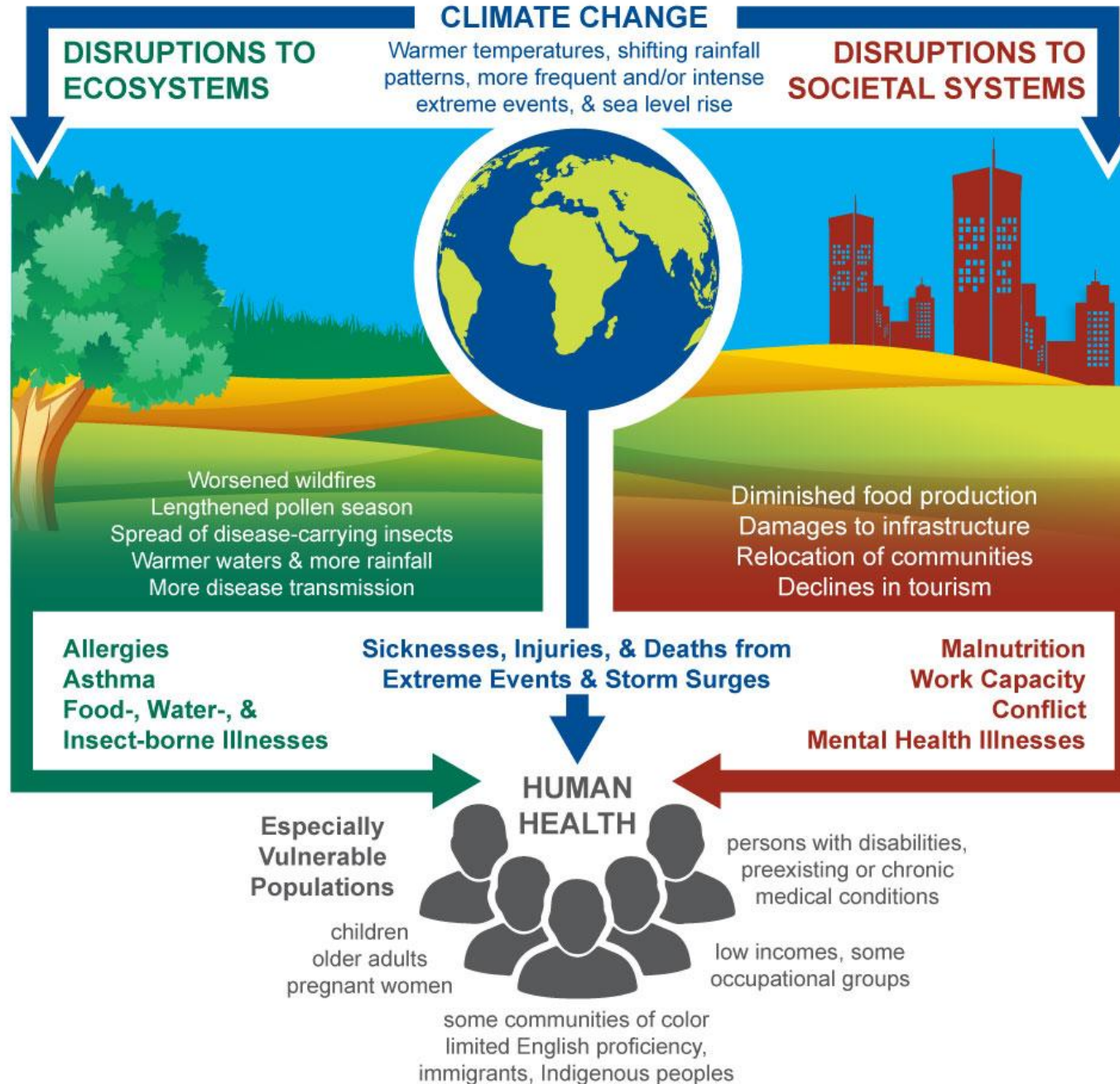- Pollution

Effects

- Rising temperatures
- Rising sea levels
- Unpredictable weather patterns
- Increase in extreme weather events
- Land degradation
- Loss of wildlife and biodiversity

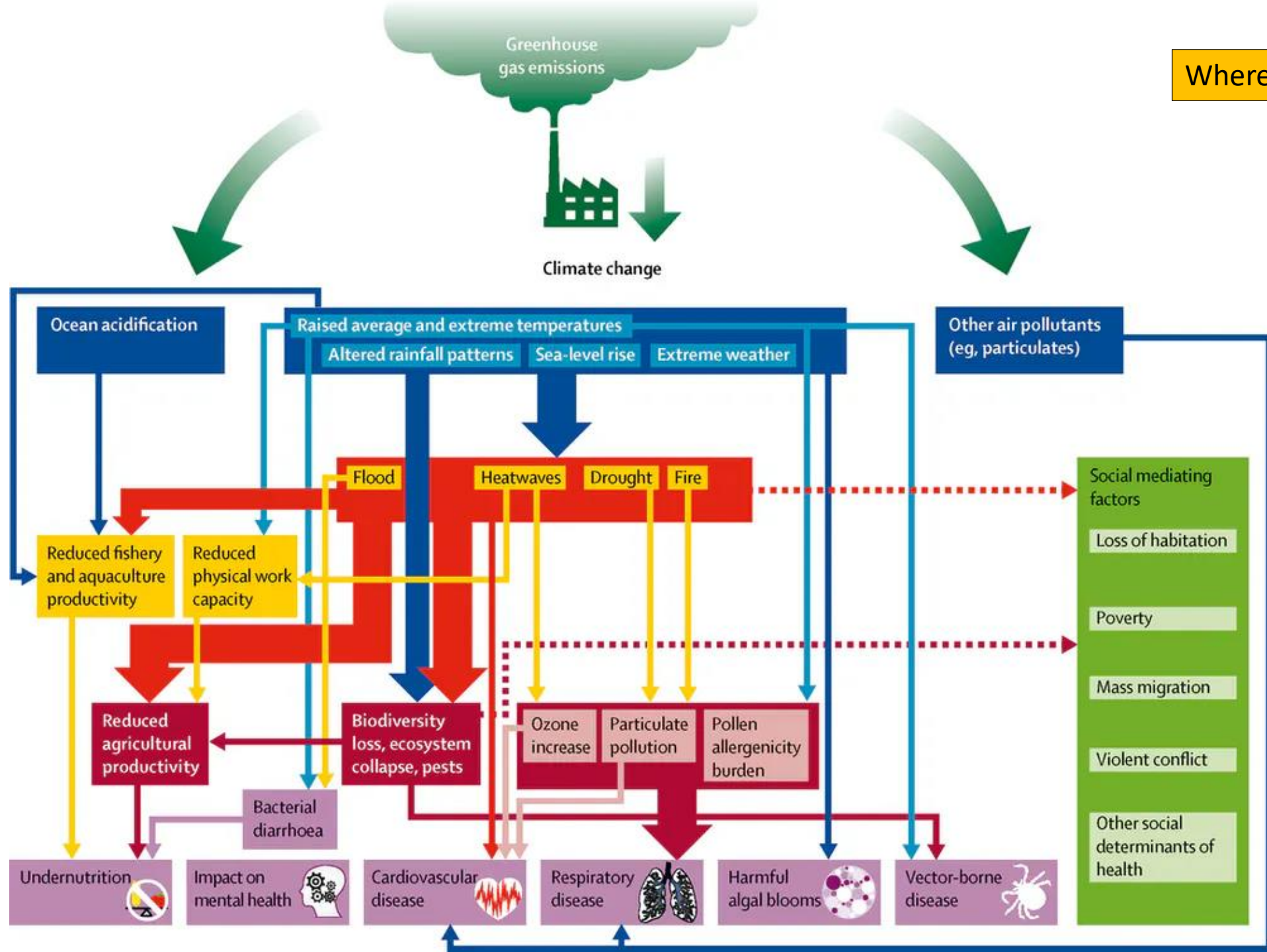## What are the social impacts of climate change?

Displaced people. Poverty. Loss of livelihood. Hunger. Malnutrition. Increased risk of diseases. Global food and water shortages.

GlobalGiving

The Impacts of Climate Change on Human Health

CLIMATE CHANGE
Warmer temperatures, shifting rainfall patterns, more frequent and/or intense extreme events, & sea level rise

DISRUPTIONS TO ECOSYSTEMS

DISRUPTIONS TO SOCIETAL SYSTEMS

Worsened wildfires
Lengthened pollen season
Spread of disease-carrying insects
Warmer waters & more rainfall
More disease transmission

Diminished food production
Damages to infrastructure
Relocation of communities
Declines in tourism

**Allergies
Asthma
Food-, Water-, &
Insect-borne Illnesses**

Sicknesses, Injuries, & Deaths from Extreme Events & Storm Surges

**Malnutrition
Work Capacity
Conflict
Mental Health Illnesses**

HUMAN HEALTH

Especially Vulnerable Populations

persons with disabilities, preexisting or chronic medical conditions

children
older adults
pregnant women

low incomes, some occupational groups

some communities of color
limited English proficiency,
immigrants, Indigenous peoples

Where is Equity?

CLIMATE IMPACTS

- Heat-related illness
- Allergies
- Increased exposure to waterborne and vector-borne illness

Mental Health
- Stress, anxiety, depression, grief, sense of loss
- Strains on social relationships
- Substance abuse
- Post-traumatic stress disorder

Community Health
- Increased interpersonal aggression
- Increased violence and crime
- Increased social instability
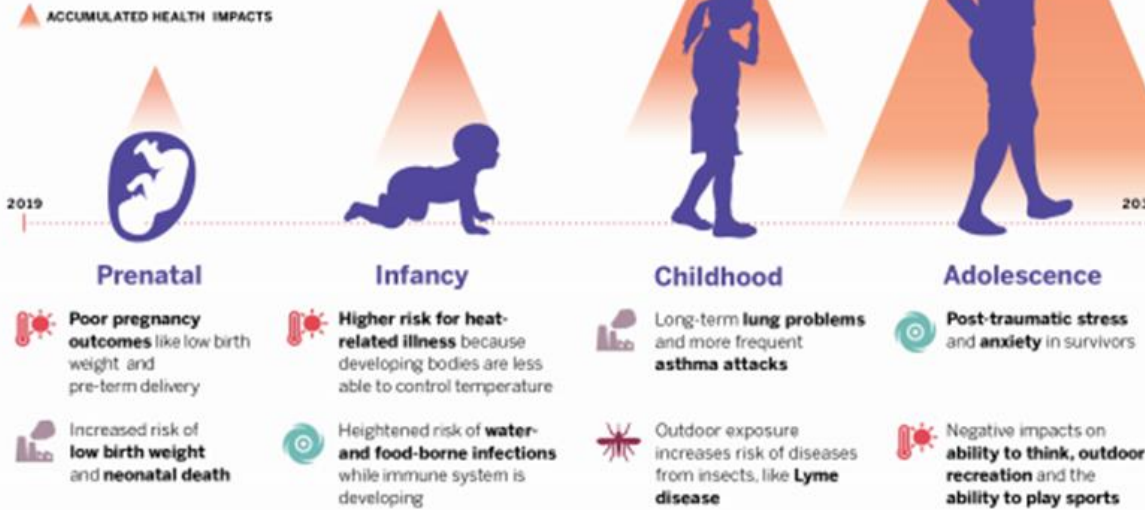- Decreased community cohesion

Climate Change Harms the Health of Children

Climate change poses risks to children throughout their development. Here we present a few examples of how climate change harms health from before birth to adolescence

▲ ACCUMULATED HEALTH IMPACTS

2019 | | | | 203

Prenatal | **Infancy** | **Childhood** | **Adolescence**

- **Poor pregnancy outcomes** like low birth weight and pre-term delivery
- Increased risk of **low birth weight** and **neonatal death**

- **Higher risk for heat-related illness** because developing bodies are less able to control temperature
- Heightened risk of **water- and food-borne infections** while immune system is developing

- Long-term **lung problems** and more frequent **asthma attacks**
- Outdoor exposure increases risk of diseases from insects, like **Lyme disease**

- **Post-traumatic stress** and **anxiety** in survivors
- Negative impacts on **ability to think, outdoor recreation** and the **ability to play sports**

Sample Ways that Climate Change Harms Health

Extreme Heat (e.g., heatwaves): Becoming more frequent and severe. *Health Risks: deadly heatstroke, trouble thinking, increased injury risk, worsening of heart and lung disease, dehydration*

Poor Air Quality (e.g., particulate matter from coal burning or wildfires, ground-level ozone, increased pollen): Declining air quality resulting from carbon pollution and rising temperatures. *Health Risks: preterm birth, low birth weight, asthma, poor school performance and school absence, seasonal allergy flares, damage to developing brains, displacement from wildfire damage*

Extreme Weather Events (e.g., hurricanes, floods): Becoming more intense and some types more frequent *Health Risks: injuries, drowning, water and food-borne illnesses, anxiety, depression, displacement, loss of economic opportunity, toxic stress*

Tick and Mosquito-borne Disease (e.g., Lyme Disease and Dengue) Growing risk of diseases transmitted by insects like ticks and mosquitoes, spreading to new places and remaining active longer. *Health Risks: Lyme – heart, brain, and joint problems; Dengue – trouble breathing, bleeding, organ shutting down with severe dengue*

Figure 2: Climate change harms the health of children.[9,18,21–27]

PREGNANCY
and CLIMATE CHANGE

The PROBLEM
Climate change worsens air pollution and extreme weather which can have severe impacts on health during and after pregnancy including:

PRETERM BIRTH
LOW BIRTHWEIGHT
STILL BIRTH
EFFECTS ON BRAIN DEVELOPMENT

What WE CAN DO
Advocate for public policies that lead to:

GLOBAL REDUCTION IN AIR POLLUTION EMISSIONS
STEADY DIVESTMENT FROM FOSSIL FUELS
REDUCING TOXIC EXPOSURES

"The health impacts of our global climate crisis on maternal and child health can no longer be ignored."
International Federation of Gynecology and Obstetrics (FIGO)

FIGO International Federation of Gynecology and Obstetrics

HEAL HEALTH AND ENVIRONMENT ALLIANCE

Intergenerational equity can help to prevent climate change and extinction

Intergenerational rights to a healthy environment are protected by the constitutions of 75% of the world's nations. These explicit commitments and similar, ancient principles of sovereign public trust are often overlooked but, if enforced, they offer sustainable protection for the biosphere.

Adrian Treves, Kyle A. Artelle, Chris T. Darimont, William S. Lynn, Paul Paquet, Francisco J. Santiago-Ávila, Rance Shaw and Mary C. Wood

The global crises of climate change and extinction imperil all life on Earth, including present and future human generations. Yet protections against climate change and extinction exist in the supreme, fundamental laws of 75% of the world's nations — 144 countries have such protections written into their constitution[1,2] (Fig. 1). These 144 nations emit the majority
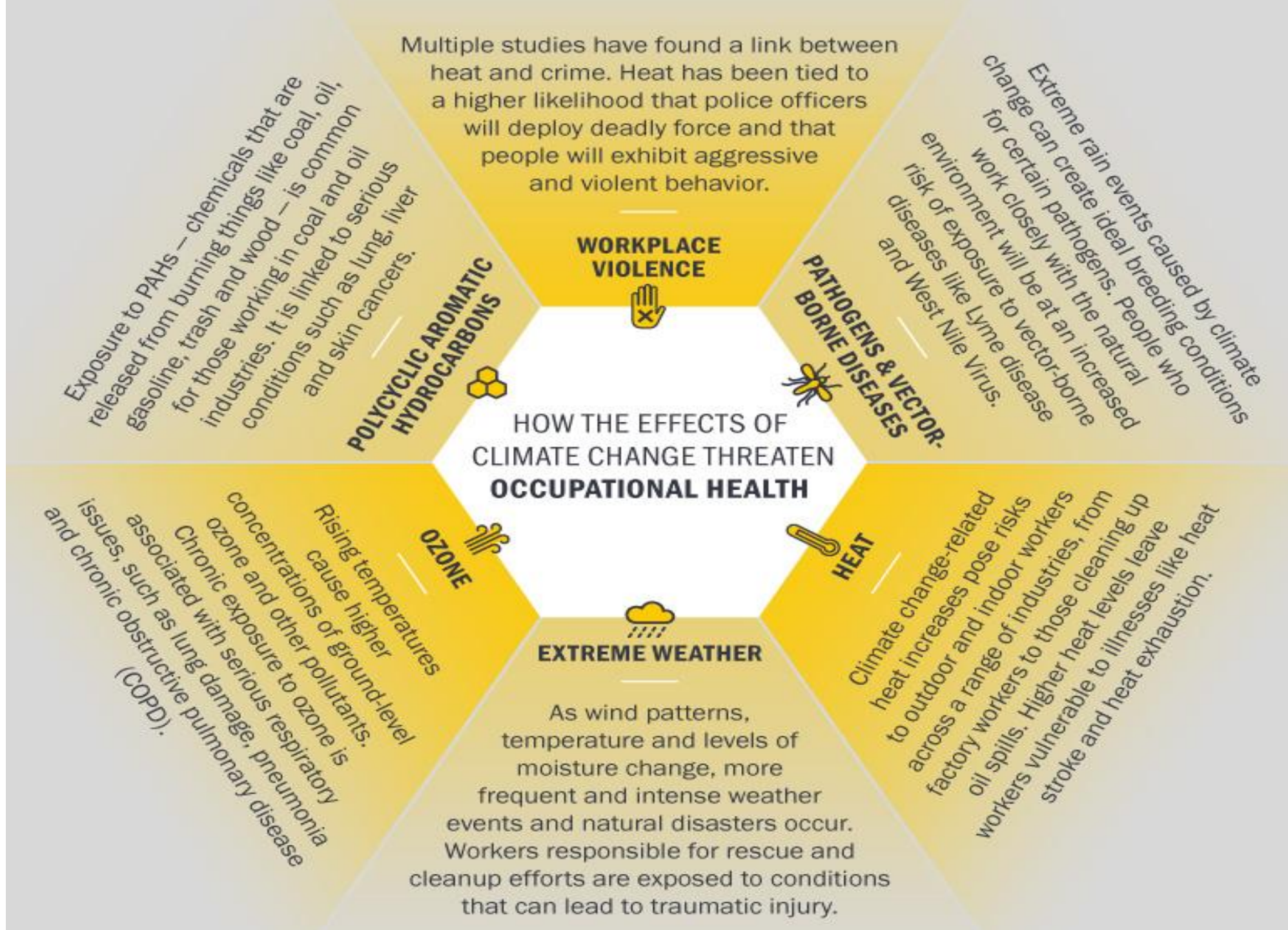
Several other countries whose constitutions do not express protections for the biosphere, such as the USA and Canada, nonetheless respect ancient sovereign public trust principles that protect nature[3]. We argue that application and enforcement of these protective constitutional and public trust frameworks by decision-makers and courts, combined with an enhanced application of

conditions that can support the survival and well-being of our planet.

The 144 nations we identify can be classified as having recognized procedural or substantive rights to an unimpaired environment, governmental obligations to protect a healthy environment, or personal obligations to do so. Together, these countries emitted 72.6% of global atmospheric CO_2
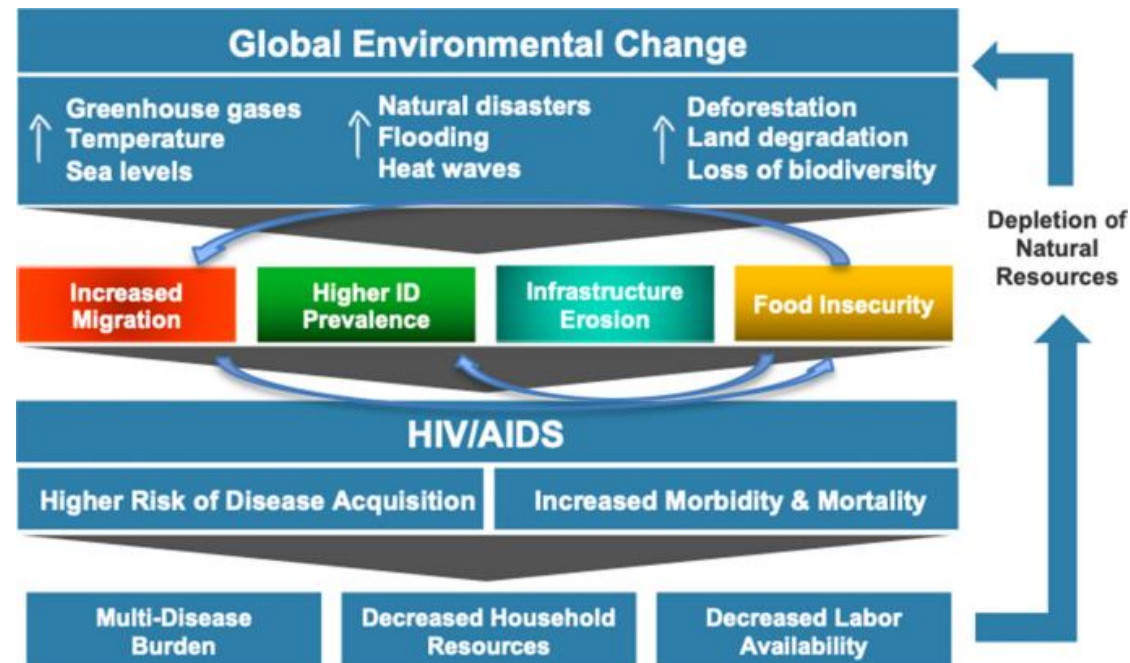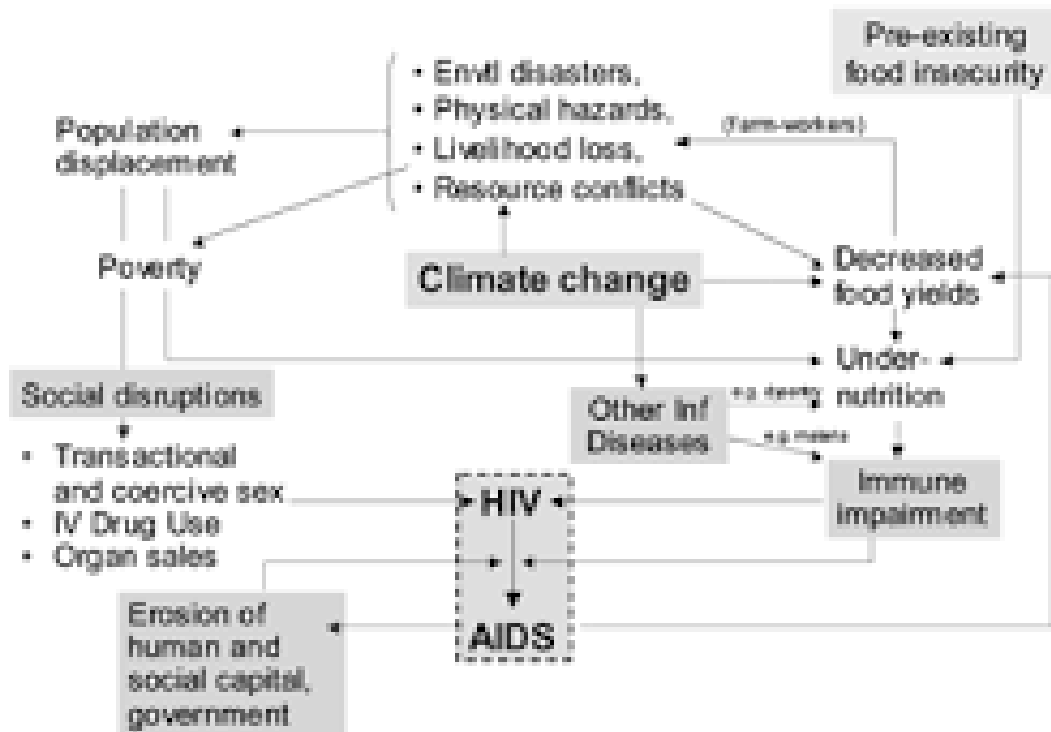
Hazard Zone

Climate Change and Occupational Health

HOW THE EFFECTS OF CLIMATE CHANGE THREATEN **OCCUPATIONAL HEALTH**

WORKPLACE VIOLENCE
Multiple studies have found a link between heat and crime. Heat has been tied to a higher likelihood that police officers will deploy deadly force and that people will exhibit aggressive and violent behavior.

PATHOGENS & VECTOR-BORNE DISEASES
Extreme rain events caused by climate change can create ideal breeding conditions for certain pathogens. People who work closely with the natural environment will be at an increased risk of exposure to vector-borne diseases like Lyme disease and West Nile Virus.

POLYCYCLIC AROMATIC HYDROCARBONS
Exposure to PAHs — chemicals that are released from burning things like coal, oil, gasoline, trash and wood — is common for those working in coal and oil industries. It is linked to serious conditions such as lung, liver and skin cancers.

HEAT
Climate change-related heat increases pose risks to outdoor and indoor workers across a range of industries, from factory workers to those cleaning up oil spills. Higher heat levels leave workers vulnerable to illnesses like heat stroke and heat exhaustion.

OZONE
Rising temperatures cause higher concentrations of ground-level ozone and other pollutants. Chronic exposure to ozone is associated with serious respiratory issues, such as lung damage, pneumonia and chronic obstructive pulmonary disease (COPD).

EXTREME WEATHER
As wind patterns, temperature and levels of moisture change, more frequent and intense weather events and natural disasters occur. Workers responsible for rescue and cleanup efforts are exposed to conditions that can lead to traumatic injury.

UNEP and UNAIDS

The HIV and Climate Change Complex (HACC)

Examples of links between Opioids and Climate change

- Mental health

- Culture loss and increased mental health distress led to increased substance abuse

- Rising carbon dioxide levels lead to higher concentrations of opiates in poppies. If projections hold, the rise in atmospheric carbon dioxide will increase morphine levels three-fold by 2050 and by 4.5 times by 2090

- Colombia is the number one cocaine producer in the world. Hundreds of hectares of coca bush, the main component of cocaine, are planted each year; however, Colombia's coca bush cultivation significantly contributes to climate change as tropical rainforests, natural carbon sinks, are destroyed to give way to illicit crops.

- The prohibition and attempted eradication of drugs can be a nightmare for the climate and environment. Particularly in Latin America, the fight against drug production has led to deforestation, widespread contamination with toxic chemicals, and contributed to a warming climate.

Take an Equity Approach to Evidence Building

Processes for gathering equity informed climate impact data require:

- Addressing the 'silences' in the social data through mixed methods research, case studies and partnerships with Indigenous researchers and knowledge holders
- Integrating social and climate data in place based and population specific ways
- Decolonizing research through building new ways of seeing, partnering, agenda setting and cocreating knowledge & working with Indigenous oversight.

A Métis Approach to 'Intersectionality'

Mental Health in BC

- The trauma from experiencing a significant event like a wildfire or flood can have long lasting mental health impacts, such as PTSD.

- An increase in mental health challenges can lead to other social impacts such as breakdown of relationships, substance use, crime, violence.

- Many interviewed expressed the desire for more mental health supports during and following climate events.

"I want to really strongly state how we need to start thinking of our environment as part of our mental health infrastructure."

-Interview Participant

*"[During] the wildfires, in the crisis stabilization unit, I saw a huge increase in people that were having a breakdown, break up of marriages; addictions and depression increased significantly. **The people most affected were marginalized**."*

-Interview Participant

Gender Impacts in BC

- There is the perception that women with children experience significant mental health challenges during wildfires and floods.

- During disasters, the women's role in the family often requires them to keep the family calm and together, offering emotional support for children, while also dealing with their own stress and anxiety.

"Moms are put into a position of having to deal with their own stress, but also keep the family calm and deal with anxiety of their children."

- Interview participant

"Women became the focal point of maintaining cohesive family units and extended care. It became them managing their own family and children and others."

–Interview participant

Domestic Violence in BC

- There is an increase in demand for transition house spots for women fleeing violence during floods, fires and heatwaves.

- Adaptation strategies—such as cooling or evacuation centres —are not designed to consider the needs of marginalized populations like women at risk of violence. Women cannot go to these public spaces and risk endangering themselves or their children.

- Reduced access to services for displaced women (e.g., childcare considerations, employment inequities, etc.)

"Wildfires: Our victim services workers saw huge increases in the number of domestic violence cases they were involved in."

–Interview Participant

"Transition houses had a lot of women reaching out to them during fires, floods."

-Interview Participant

Economic Livelihoods in BC

- Gender:
  - Women's lower socio-economic status makes them more vulnerable to the impacts from climate change.
  - In disasters it is often women who take time away from work to tend to increased domestic responsibilities (i.e. childcare).
- Rural
  - Wildfire and floods will impact rural, often resource based and agricultural communities, more than urban centres.
  - These events have significant impacts on the local economy and jobs.
- Traditional Foods
  - Indigenous peoples rely on traditional harvests from the land for food and medicine such fish, berries, and plants. Beyond physical nourishment, this connection to land is cultural, social and spiritual.

Cultural Humility

• Emergency program act legislation, and similar provincial policy and legislative tools responding to climate change, need to take into account what First Nation communities see as an emergency.

• For example, *the decline in salmon populations is a major emergency*, as salmon have been connected with ceremony since time immemorial. Yet, the loss of salmon is not seen as a climate emergency.

Reminders and Recommendations

- Land is culture.

- Indigenous women, and communities, provide leadership on how to address climate change as traditional knowledge keepers.

- Support youth and intergenerational climate justice.

- Diversity and inclusion work must take on more than simply a check-box approach but use Two-Eyed Seeing and a nation-to-nation approach.

Marianne Nicolson, *The Sun is Setting on the British Empire*, 2017.

Interplay between 'Pandemics'

Learning lessons and seeing connections between the causes and cumulative impacts of a range of disasters and pandemics.

…such as the Covid-19 pandemic, overdoses, poverty, domestic violence, HIV, hepatitis C, substance use, colonization, racism.

Asset Based Approaches

- Beyond analyzing the risks and vulnerabilities of communities and sub-populations, we also need to identify and build on the assets and strengths that exist.
- Community capacity building does not happen on its own. It needs to be led by local people who understand their community and the needs and assets of the populations who live there.

"[We need to be] providing financial support, not just money for small projects like community gardens, but providing funding…in rural areas that can help people learn how to strengthen capacity and resilience….[we need to] understand from an asset-based perspective, how they could adapt."
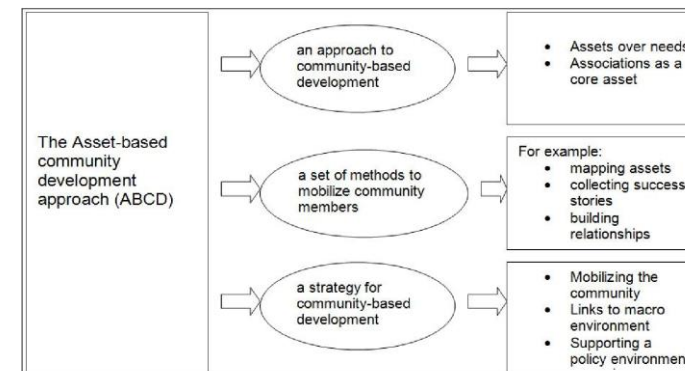
- Interview Participant

Multisolving

Multisolving—finding solutions rooted in justice that reduce fossil fuel use and produce co-benefits in health, resilience, and well-being.

https://www.climateinteractive.org/ci-topics/multisolving/

Co-Benefits
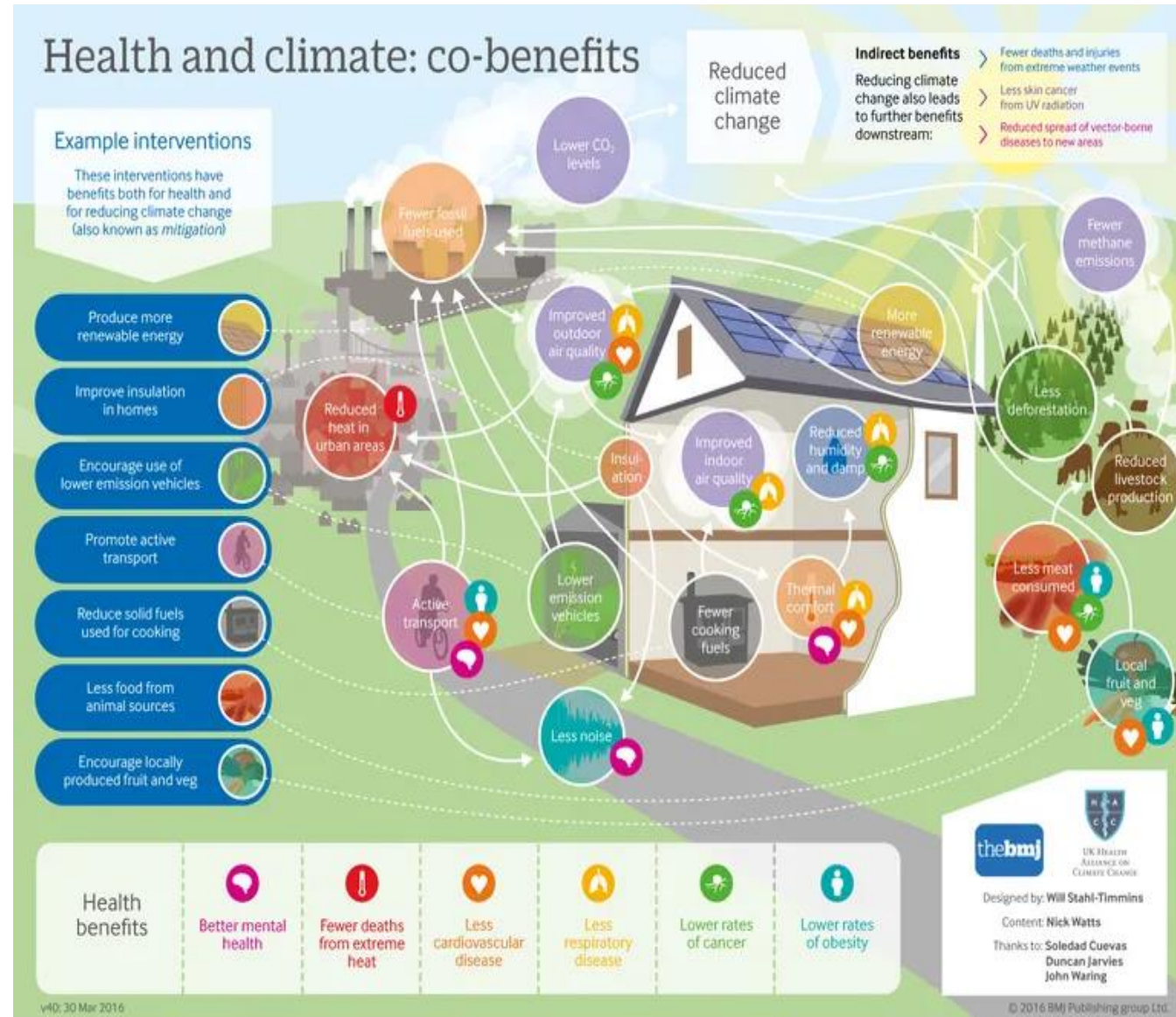
Importance of Community- and Strengths-Based Work

Being Part of the Solution

CMA Call to Action

- "Health professionals have leading roles to play in addressing climate change. They can support health systems in developing effective adaptation to reduce the health risks of climate change, promote healthy behaviors and policies with low environmental impact, support intersectoral action to reduce the environmental footprint of society in general and the health care system specifically, and undertake research and education on climate change and health." (Haines & Ebi, 2019)

- "No one action will change the reality of the problem…it requires collective action."

http://cmajnews.com/2016/08/22/1143/

Happy Earth Day!

Thank You!

Q&A

What kinds of health inequity issues do you observe and/or experience in your personal or professional lives?

In your profession how could you help build the evidence base of what health inequities are being amplified by climate change?

What would enable you to do this work?