

## Climate Change and Chronic Conditions: Linkages and Gaps

### A CCGHR Briefing Note <sup>1</sup>

Climate change refers to the consequences of changing energy inputs to the earth-atmosphere system, increasing shortwave radiation. The movement of air and moisture around the globe are driven by these energy inputs. As a result, temperature and rain/snow patterns will continue to change in intensity over space and time beyond regular seasonal and inter-annual changes. While direct impacts of climate change on chronic conditions are few, climate change is extremely likely to have an impact, especially through exposure to solar radiation, air quality, and heat/cold waves.

Specific linkages between climate change and chronic diseases include:

- Some chronic diseases emerge out of infectious diseases (e.g. sequalae and cancers) that are extremely sensitive to changing environmental conditions that can affect replication, virulence, and infectivity<sup>2</sup>
- Some chronic diseases are exacerbated in the patient by environmental conditions including temperature and moisture (e.g. heart disease and heat waves; respiratory disease and air pollution)
- Immunocompromising chronic diseases make sufferers more susceptible to infectious diseases<sup>2</sup>
- Sufferers of some chronic conditions require regular access to medicines and health care services that can be disrupted by natural disasters; this is exacerbated in the case of refugee migration
- Some medications require food and water, which can be disrupted through flood, drought, and fire events
- Some sufferers of chronic disease are more vulnerable (physically and psychologically) to natural disasters as a result of their inability to mitigate impacts e.g. through evacuation of themselves and their belongings.

Topics of concern/Gaps in knowledge:

- More research is needed on the impacts of climate change (including disasters) on mental health— anxiety, depression, despair, post-traumatic stress
- Severe weather conditions can increase injuries, leading to disabilities and death.
- Climate change causes natural disasters that affect the environment. This impacts on the agriculture sector and what is planted, grown and harvested. This may impact on the availability of fresh fruits and vegetables. People then may consume more processed foods that are risk factors for NCDs.
- Climate change and disasters disrupt life and so people may lose access to available resources that facilitate exercise, thus leading to more sedentary lifestyles—a risk factor for NCDs.

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<sup>1</sup> This note was prepared by members of the CCGHR working group on the health impacts of climate change: Corinne Schuster-Wallace (Dundas, Ontario), Rosmond Adams (Caribbean Public Health Agency) and Vic Neufeld (CCGHR Special Advisor)

<sup>2</sup> See the CCGHR Briefing Note on Climate Change and Infectious Disease