

Climate of change

The year 2000 saw 150 000 people die as a result of climate change. This is a conservative World Health Organization estimate of excess mortality resulting from the relatively mild 0.8°C global warming experienced over the past century. As the average global temperature continues to climb by a projected 1.4°C – 5.8°C over the next century, the annual mortality from climate change is expected to double by as early as 2020. Climate change is not a theoretical conceit, nor are its effects on human health.

The medical community, to its credit, has begun to take notice. One delegate introduced a superb environmental motion at the August CMA General Council meeting, arguing that solutions to the problems faced by physicians “will be fruitless if we ignore the health perils posed by global climate change.” Physicians have a rich history of leading their communities on key social issues that impact health. Nuclear weapons and big tobacco have both faced sophisticated activism campaigns by physician groups.

While it is commendable that some physician groups have spoken out, where are the Physicians for the Prevention of Climate Change? Why are more health care professionals not marching in the streets demanding an end to coal-fired power plants (the source of a quarter of global CO_2 emissions), inefficient vehicles, and unnecessary consumption? We may not be sitting on our hands, but we are sitting a little too comfortably.

The extent of climate change and its implications for human health should leave little room for comfort. Climate change will result in increased malnutrition; increased mortality and morbidity from heat waves, floods, storms, fires and droughts; an increased burden of diarrheal diseases; increased cardio-respiratory morbidity associated with ground-level ozone; and an increased range of infectious disease vectors. The largest cause of mortality will be malnutrition in developing countries, but



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high-income countries are by no means exempt from the chaos, having already demonstrated their inability to cope with extreme weather events.

Consider the 2003 heat wave that resulted in 35 000 extra deaths (mostly in the elderly population) across Europe directly from the heat and indirectly from increases in low-level ozone. The Europe of 2003 was not prepared for such heat. While health authorities have developed enhanced response systems for future episodes of extreme heat, such measures are urgently required as the Intergovernmental Panel on Climate Change high-emission scenario forecasts that the *typical* European summer of the 2040s would be even warmer than the summer of 2003.

Insects look set to benefit the most from climate change as under warmer conditions, enabling them to colonize larger areas for a larger portion of the year. Warming can boost the biting and reproductive rates of mosquitoes, prolong their breeding seasons and shorten the maturation of malaria parasites. Warm temperatures accompanying droughts also accelerate the maturation of West Nile virus within mosquitoes, enhancing the potential for transmission. Furthermore, warmer winters creates ideal conditions for the northward spread of Lyme disease into Canada.

Although Canada will not bear the heaviest burden from climate change, our circumpolar population is particularly threatened, our ecosystems will be dangerously altered, and our public

health infrastructure will strain to deal with the new profile of infectious diseases to which Canadians may become vulnerable. Furthermore, Canadians are particularly culpable in terms of CO_2 output. We are among the worst per capita CO_2 emitters in the world, and we are getting worse partially due to the Albertan Tar Sands, partially due to government inactivity. Between 1990 and 2003, Canada *increased* its total greenhouse gas emissions by 24.2% while Germany *decreased* total greenhouse gas emissions by 18.2%.

The Intergovernmental Panel on Climate Change is releasing its fourth major report in November 2007, its first since 2001. This is therefore a good time for the entire medical community to reflect on the potential devastation climate change will inflict on our most vulnerable populations and consider our role in the crisis. Whether or not this is the “11th Hour” for civilization can be debated, but the weight of scientific evidence tells us we must act quickly and decisively to mitigate imminent harm to human health and well being. At the very least, we must do more.

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