

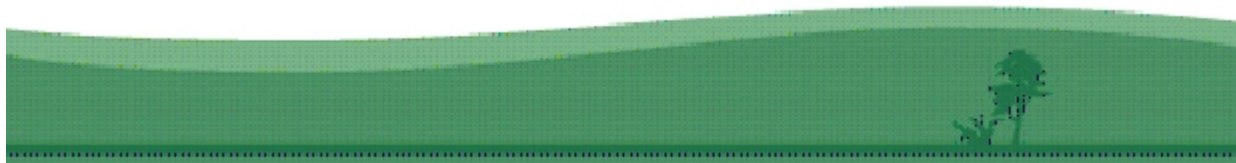
*Expert Panel Workshop on Climate Change and
Health & Well-being in Canada:
Key Findings and Recommendations*



Hosted By:
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Institute of Population Health
University of Ottawa

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Contributors



The summary of the “Expert Panel Workshop on Climate Change and Health & Well-being in Canada” (University of Ottawa on April 15-16, 2002) was developed by the R. Samuel McLaughlin Centre for Population Health Risk Assessment based on the views of the panel. Invited public health experts gave consideration to the health effects of climate change and the health benefits of possible Kyoto-driven policies and developed key findings and recommendations to guide further research in this area. A workshop entry document and a technical report entitled, “Health Effects of Climate Change and Health Co-Benefits Resulting from Potential Kyoto-driven Policies: A Canadian Perspective” was also developed by Paula Carty, Philippe Crabbé, Lorraine Craig, and Daniel Krewski.

The workshop was attended by the following individuals:

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The views expressed in this document are those of the workshop participants and do not necessarily reflect the policies of Health Canada or Environment Canada.

Climate Change and Health: Key Issues and Policy Recommendations

Background

At the request of the Climate Change and Health Office of Health Canada, the McLaughlin Centre for Population Health Risk Assessment at the University of Ottawa organized the “Expert Panel Workshop on Climate Change and Health & Well-being in Canada” on April 15-16, 2002. The purpose of the workshop was to discuss key aspects of the health and social impacts of climate change in Canada, and to examine the role of co-benefits in the development of Canadian policy on climate change within the context of the Kyoto Protocol. Invited public health experts gave consideration to the health effects of climate change and the health benefits of possible Kyoto-driven policies and developed key findings and recommendations to guide further research in this area.

A workshop entry document was prepared to inform discussion at the meeting held in Ottawa. Participants at the workshop identified a number of key issues relating to the health and social impacts of climate change in Canada, and arrived at several conclusions regarding how such impacts could be incorporated into climate change policy risk management development. These key issues and conclusions are summarized below. A technical report entitled, “Health Effects of Climate Change and Health Co-Benefits Resulting from Potential Kyoto-driven Policies: A Canadian Perspective” is available on the Institute of Population Health website at <http://www.iph.uottawa.ca> or, upon request, by contacting ClimateInfo@hc-sc.gc.ca.

Key Issues

- The current weight of scientific evidence suggests that climate change, an important component of global change, is upon us. Important effects of climate change include a warming of the earth's temperature and increased climate variability due, at least in part, to the emission of greenhouse gases (GHGs).
- Climate change portends significant health risks, both now and in the future. For instance:
 - Extreme weather events consistent with climate change (including smog, hot spells, drought, blizzards, floods, and other natural disasters) are already affecting the health and welfare of Canadians, through heat stress and direct injury. Waterborne diseases, associated with climate change related weather events (extreme rainfall and high temperatures), are also affecting the health of Canadians.
 - Air pollutants, including particulate matter and gaseous co-pollutants such as ozone, associated with the emission of GHGs are responsible for premature death and disease.
 - Long-term direct health impacts of climate change include premature death and disabling illness due to increased temperature, extreme weather events, water and food borne enteric diseases, and cancer risks from ozone depletion.
- Climate change will place greater demands on the social infrastructure (including emergency services and social support systems) supporting public health and well-being.

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- These health and social impacts will result in significant costs to Canadian society, including increased health care costs, loss of productivity, and broader damages to the well-being of Canadians. These impacts will vary by region.
 - Climate change may confer some health benefits in some parts of Canada, such as enhanced nutrition due to increased agricultural productivity in northern parts of the country. However, altered ecosystems resulting from climate change will have more negative than positive consequences for human health.
 - Although the occurrence of adverse population health impacts of climate change can be confidently anticipated, models for projecting the direct health effects of climate change require further development in order to provide quantitative estimates of the magnitude of such impacts. However, sufficient health research now exists to permit quantitative estimates of the health impacts of air pollutants associated with GHG emissions.
 - Mitigation of climate change through GHG emissions reductions can have important co-benefits, including population health benefits due to improvements in ambient air quality. The Federal-Provincial Analysis and Modeling Group estimated the co-benefits of better air quality to be about \$160 million (2001 \$) per year over the next twenty years, largely as a consequence of preventing premature death and chronic disease, if the 2002 Climate Change Draft Plan from the federal government is implemented.
 - Development of new pollution abatement technologies to achieve these health co-benefits can result in other economic benefits to society.
 - Because the significant health risks that are likely to occur in the absence of global action on climate change, the uncertainties surrounding the magnitude of such risks, and the long-term ecological consequences of failing to take action, a precautionary approach to climate change risk management policy development is needed, as required by the United Nations Framework Convention on Climate Change (UNFCCC).
 - Reductions in Greenhouse Gases (GHG), and co-pollutants, which would be achieved by ratification and compliance with the Kyoto Protocol will result in avoided health costs to the Canadian health care system, in productivity gains for the Canadian economy, and in increased well-being for Canadian society.
 - The stabilization of atmospheric GHG concentrations at current levels cannot be achieved without a much greater reduction in emissions levels than required under the Kyoto Protocol. However, compliance with the Kyoto Protocol represents a critical first step towards the mitigation of climate change in order to build the required national and international institutional architecture for addressing climate change.

Policy Recommendations

- The consideration of health benefits should be an essential component of the decision process to ratify the Kyoto Protocol by Canada. Ratification will result in avoided costs for the Canadian health care system and in increased well-being for Canadian society, both in the short-term and the long-term.

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- Of particular importance are the health co-benefits associated with reductions in ambient air pollution that will occur as a consequence of planned reductions in emissions of GHGs, estimated at \$160 million per year (2001\$; Government of Canada, 2002b). These benefits occur in the short-term and are more certain than the long-term benefits of reducing the direct health effects of climate change. Long-term direct health impacts include morbidity and mortality due to increased temperature, and transmission of communicable diseases through new insect vectors.
 - Opportunities for realizing climate-related co-benefits through the implementation of Canada-Wide Standards for air quality should be explored as future programs for attainment of the standards are developed. The development of new technologies to achieve health co-benefits can result in economic benefits to society in terms of innovation.
 - Health benefits should be included as negative costs in estimating the burden of climate change within the health and social sectors.
- In developing a risk management strategy for climate change, there is a need to balance short-term and long-term policy options and impacts, and to develop an appropriate mix of cost-effective interventions to achieve our national and international policy objectives. Consideration needs to be given to more immediate impacts such as health co-benefits, as well as longer-term impacts relating to the direct health effects of climate change.
 - No region or social group should bear an unreasonable portion of the costs associated with the health and social impacts of climate change. Special consideration needs to be given to vulnerable groups, including children, the elderly, the poor, First Nations and Northern populations, and those individuals with pre-existing health conditions.
 - The Government of Canada, like governments worldwide faced with the challenge of developing appropriate adaptation and mitigation strategies for addressing climate change, should adopt a precautionary approach in the face of uncertainty about health impacts of climate change. Such an approach is consistent with the UNFCCC and its Kyoto Protocol.
 - Health risk scenarios should be constructed periodically using the best available information on climate change anticipated in different regions of Canada, and on the potential health risks associated with such changes. These scenarios, which will reflect the range of uncertainty associated with future climate change impacts, will permit comparisons of different policy responses and associated costs.
 - The Canadian public is largely unaware of the potential health and social impacts of climate change. Informative health messages should be developed to provide the public with an understanding of this important population health issue, impacting both present and future generations.

Directions for Further Research

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- Scenarios for climate change are in need of further research and development. IPCC (2000) concluded that there are global and regional scientific databases for defining baseline conditions. There is a need to incorporate into these databases other variables that influence climate, and the climate sensitivity and adaptability of ecosystems and of human populations. Scenarios for climate change need to incorporate and represent socio-economic information, land use and environmental information, scenarios at greater spatial resolutions. There is also a need to develop scenarios that link science and policy (IPCC, 2001).
 - Climate scenarios need to be linked to scenarios for health effects and for adaptation to future health conditions. Health issues have been rarely included into climate scenarios, and are influenced by regional conditions. For example, air quality depends on proximity to human sources of air pollution, and on geographic features, as well as on climate. Vector borne diseases which may be moving northward, may acquire different characteristics and / or may require different control methods in different regions. Climate models thus need to be region-specific in order to effectively project the human health implications of climate change and climate variability.
 - Research is required to better understand environmental and health co-benefits, especially at the very disaggregated level, where they may be quite significant despite their uncertainties. Because of the inherent inability to conduct international comparisons, studies need to be conducted in Canada where the baseline can be kept relatively constant.
 - The socio-economic models supporting air quality policy decisions need improvements, as recommended in the Report of the Royal Society of Canada Expert Panel to Review the Socio-economic Models and Related Components Supporting the Development of Canada-wide Standards for PM and Ozone.
 - Improved health risk assessment and population health surveillance are required to better understand the linkages between climate change, air quality, water- and food-borne contamination, vector-borne diseases, population vulnerability factors, and health effects in Canada to inform mitigation and adaptation strategies to protect public health.
 - Research should be undertaken to better understand the synergistic health co-benefits that are possible through emission reductions strategies to meet Canada-wide standards for PM and ozone and to achieve desired GHG emission reductions.