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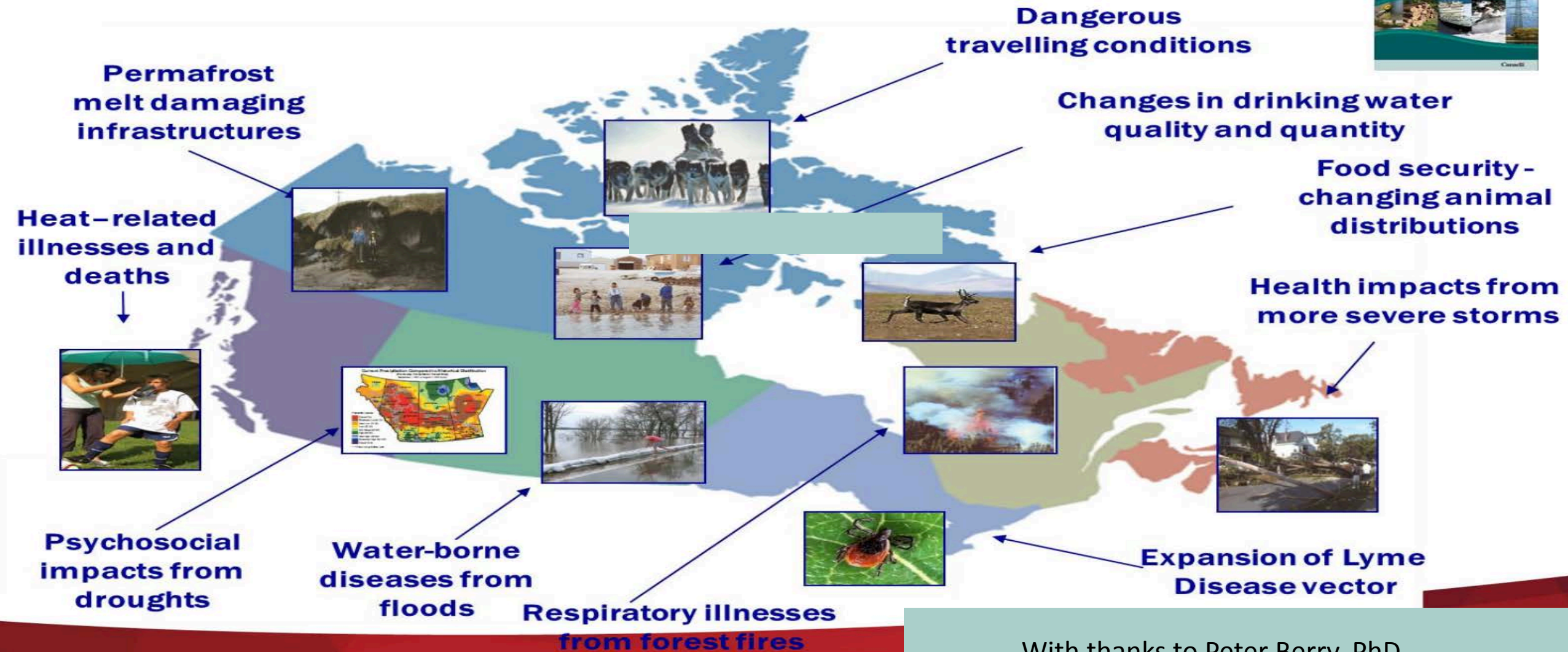
2017 Report:

Briefing for

Canadian Policymakers

Dr Courtney Howard, MD, CCFP-EM, Twitter: @courtghoward
Nov 2, 2017, Children's Hospital of Eastern Ontario

Health Canada Overview of Climate Impacts on Health



With thanks to Peter Berry, PhD



MSF Balballa Slum Pediatric Malnutrition Project, Djibouti, 2010 Photo by MSF National Staff Nurse Abdelkadir Osman Omar,

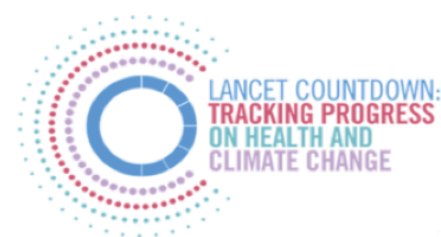


Mackenzie Delta



With Edith Haogak of Sachs Harbour in Inuvik

Climate Change Impacts, Exposures and Vulnerability



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Indicator 1.4: Lethality of weather-related disasters

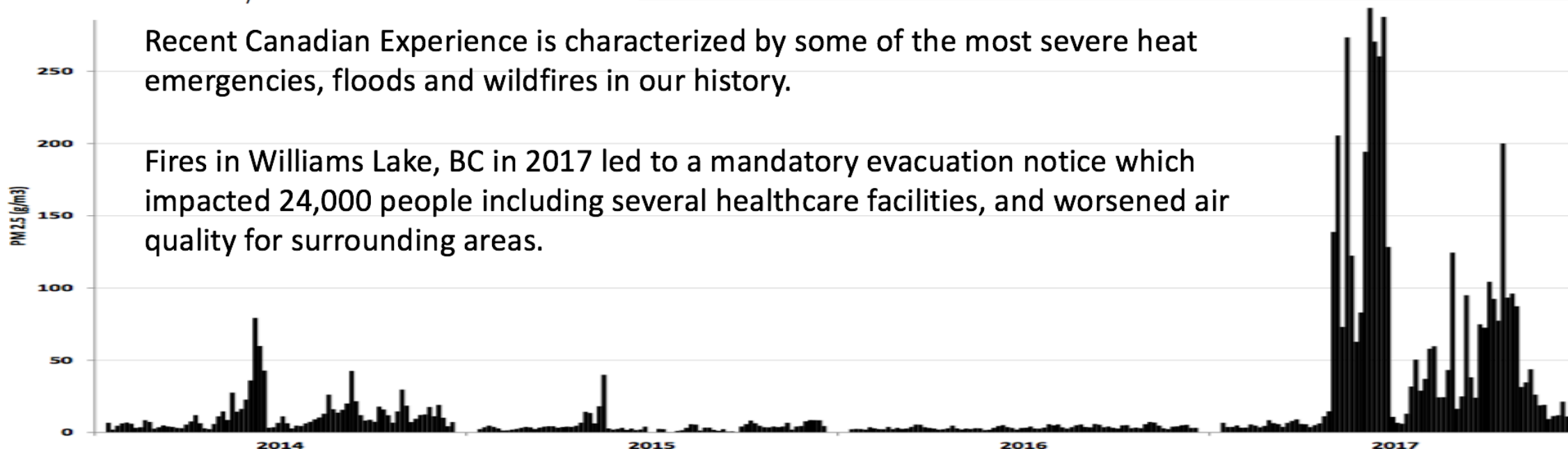
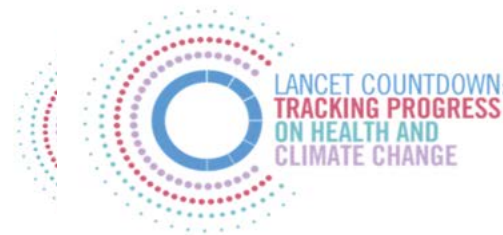


Figure 1: Level of 24 hour PM2.5 in Williams Lake, BC, from June 14 to August 30 in 4 subsequent summers, with 2017 representing a season of severe wildfires. For reference, the WHO recommended 24-hour mean for PM2.5 is 25 mcg/m3.

Policy Recommendation #1: Ensure funding of research and best-practice information sharing between public health communities in different regions to fine-tune adaptation strategies to cope with severe weather events.

Mitigation Actions and Health Co-benefits



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Coal Phase-Out

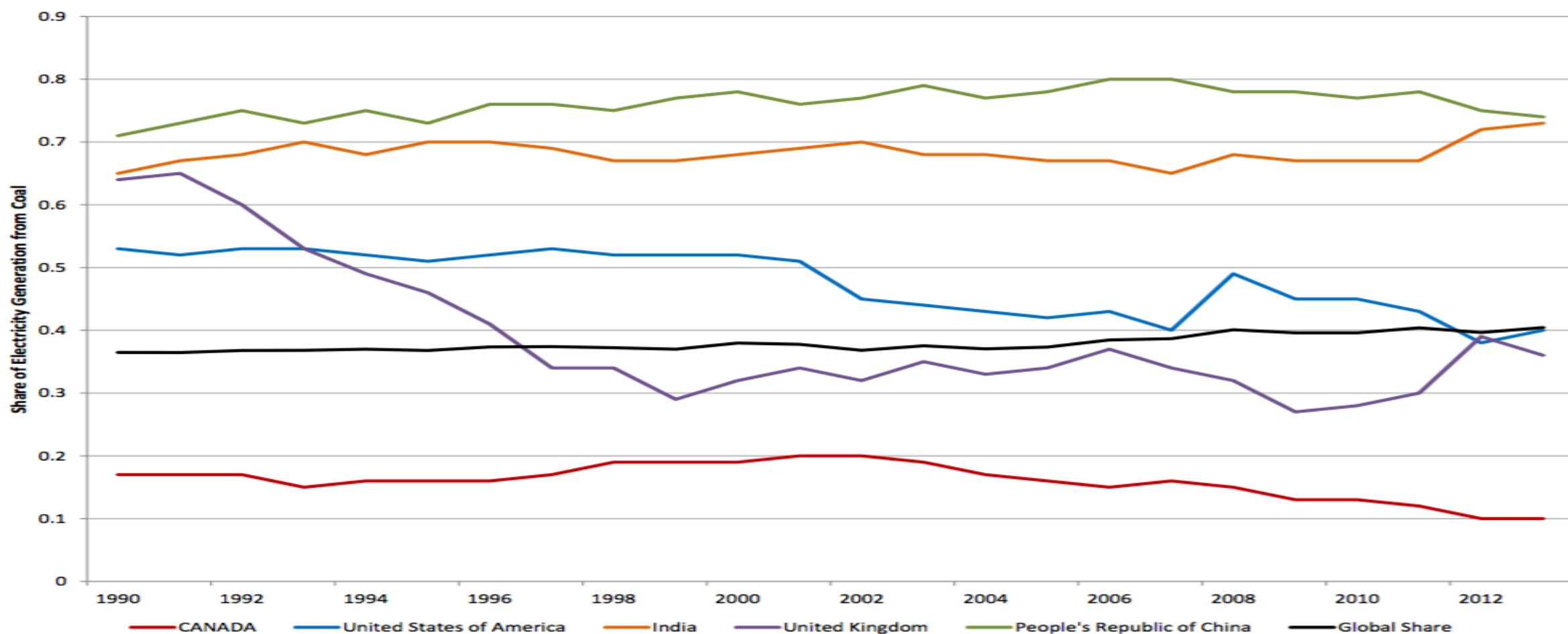


Figure 2: Share of electricity generation from coal in selected countries from 1990 to 2013.
Data via the Lancet Countdown.



Health Impacts avoided with Canadian Coal Phase-Out by 2030*

	Canada	Prairies	Central Canada	Atlantic Canada
Premature deaths avoided	1,008	868	86	54
ER visits and hospitalization	871	748	77	47
Asthma episodes	128,800	111,387	11,130	6,282
Days of breathing difficulty and reduced anxiety	3,031,125	2,677,573	249,001	104,551
Value of avoided health outcomes (2015 \$M)	5,040	4,342	431	266

*If: -coal-fired generators are shut down after 40 years of operation or by 2030 (current regulations allow 50 years of operation)
-2/3 of coal generation capacity is replaced by non-emitting renewable energy
-1/3 by lowest-emitting natural gas technology.

From: Out with the Coal, In With the New, Used with Permission from the Pembina Institute.

Zero-carbon emission electricity

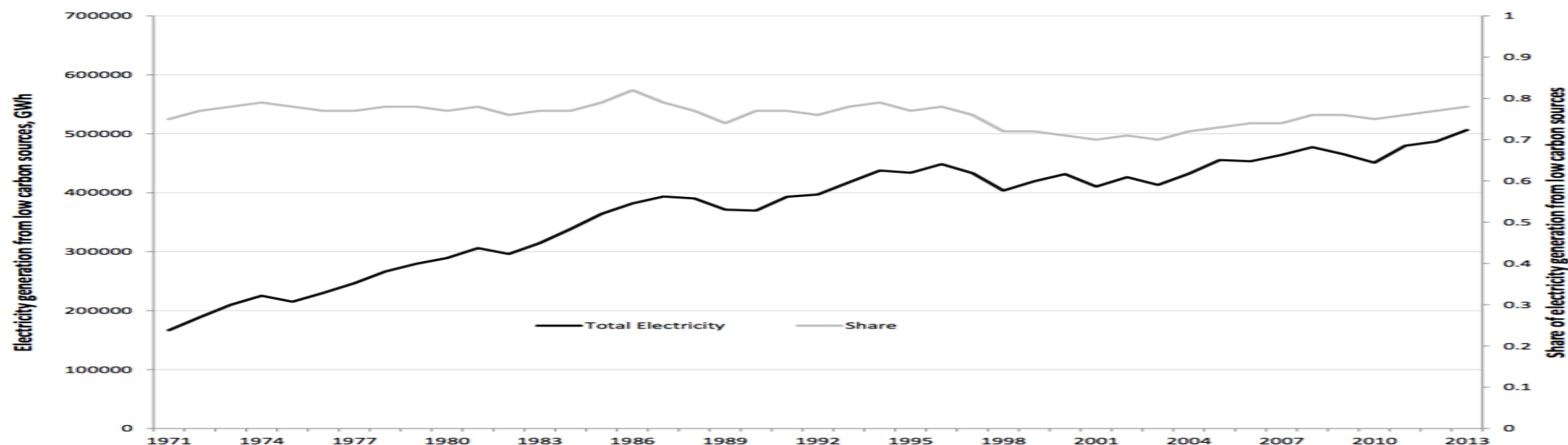
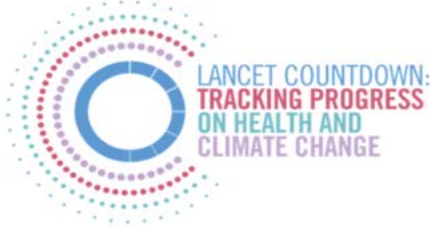


Figure 3: Electricity generation from zero-carbon (low-carbon) sources and share of electricity generation from zero-carbon sources in Canada 1971-2014 (source: International Energy Agency via Lancet Countdown)

Policy Recommendation #2: Phase out coal-powered electricity in Canada by 2030 or sooner, with a minimum of two thirds of the power replaced by non-emitting sources, and any gap made up by lowest-emitting natural gas technology. Track and cost the health benefits of the transition in Canada and globally.



Canada Needs More Green & Orange Transport

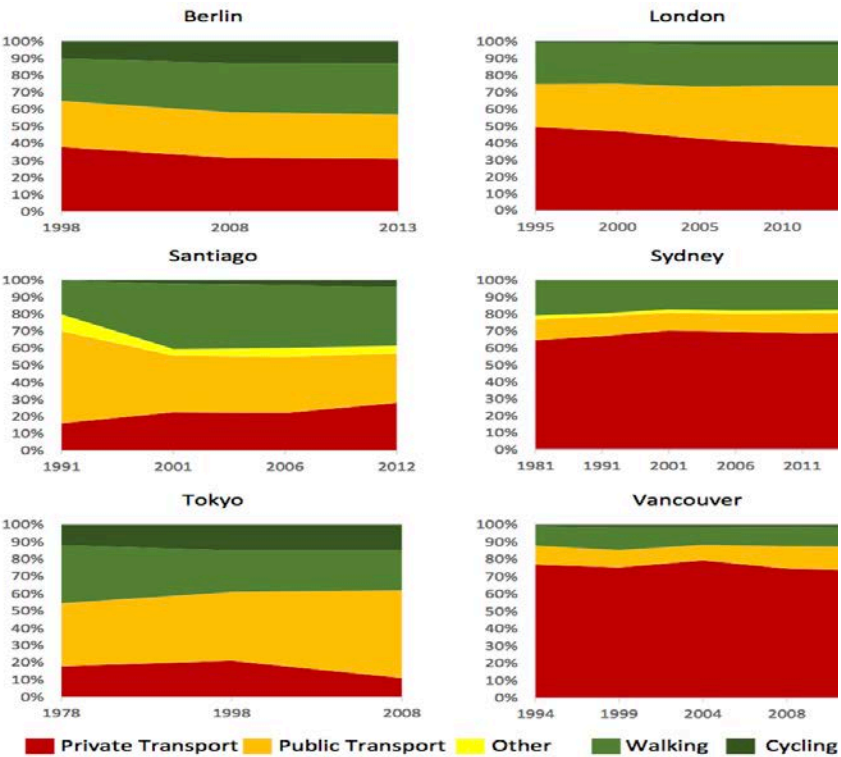


Figure 4: Trend in modal share in selected cities (from the Lancet Countdown report)

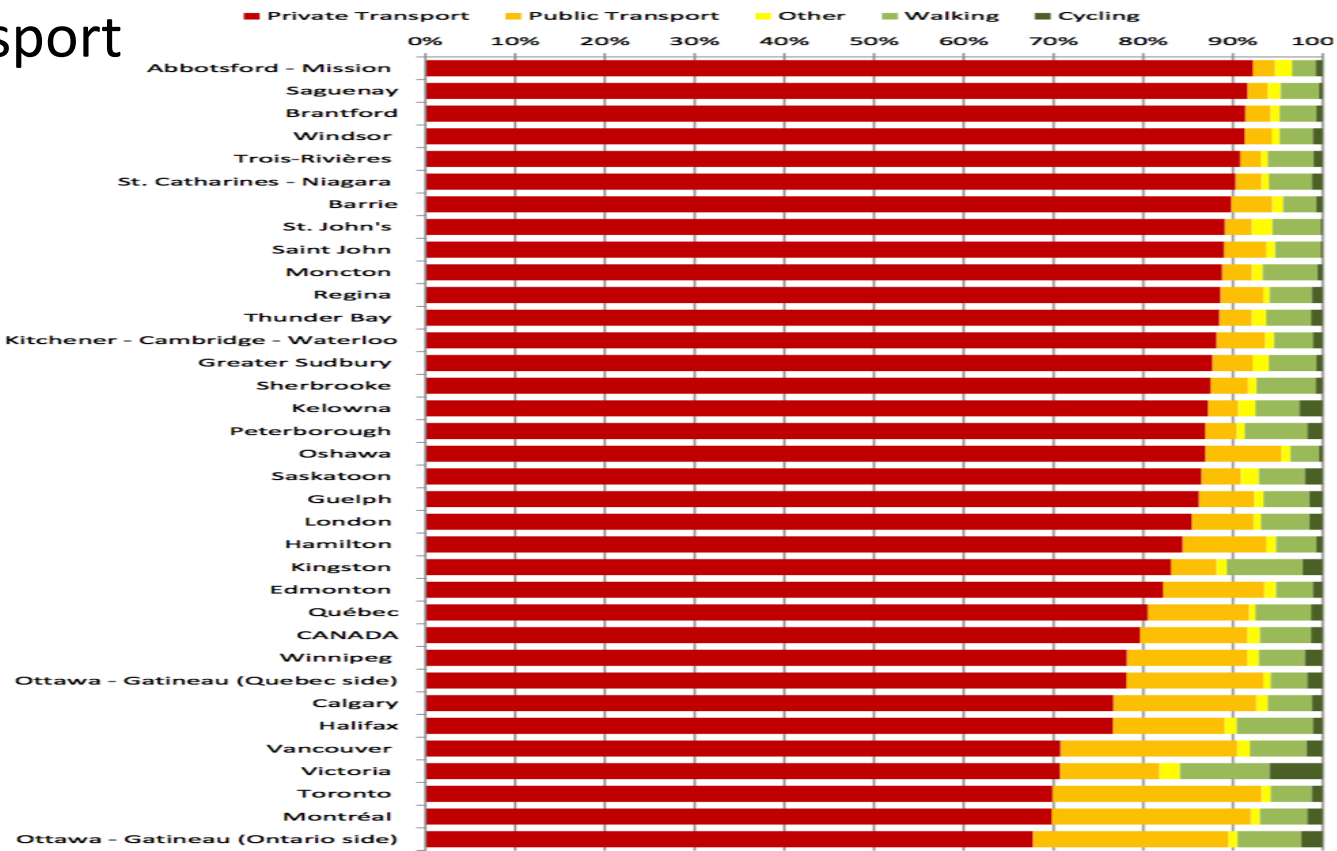


Figure 5: Modal transport during work commute (data from 2011 National Household Survey)⁵⁵

Policy Recommendation #3: Development of a National Active Transport Strategy for Canada to coordinate improvements to walking, cycling and transit environments. This should receive priority funding, with healthcare cost savings calculated in order to demonstrate the cost offset of the investments.

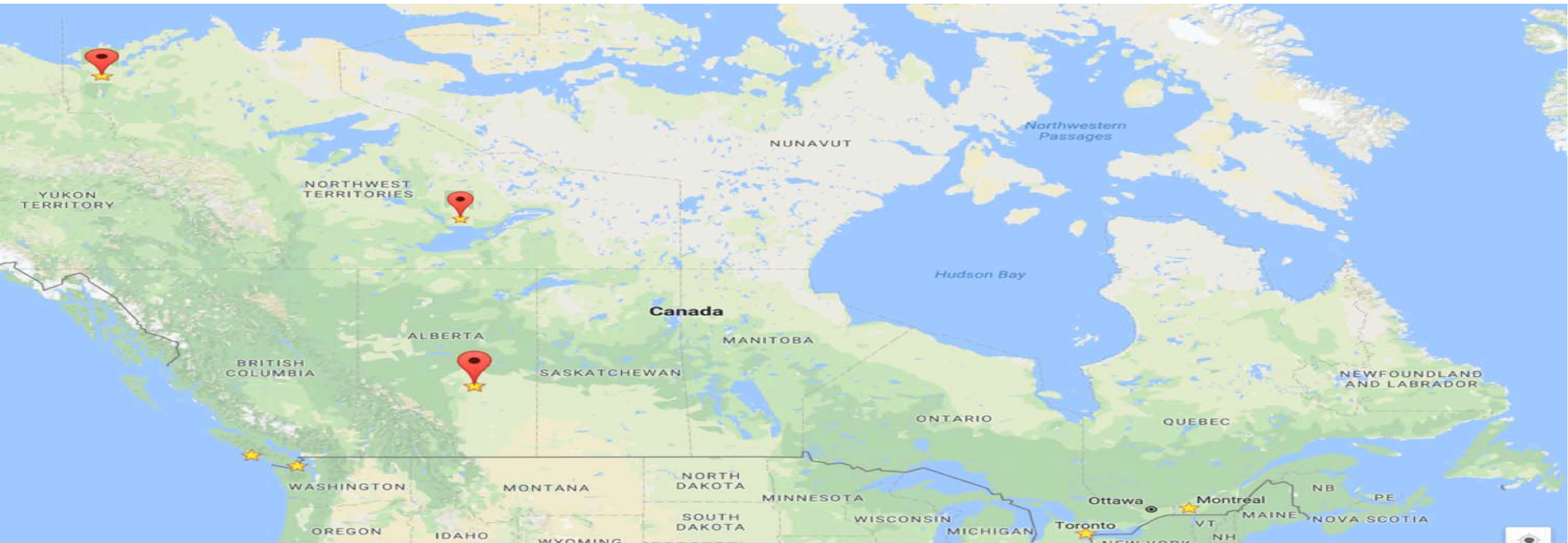
Mitigation Actions and
Health Co-benefits
Sustainable Travel Infrastructure
and Uptake

Lancet Countdown Indicator 3.7



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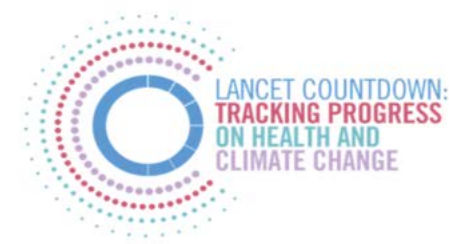
Policy Recommendation #4: Enhance support for telecommuting and telehealth options. Within health systems, gather and analyze data on kilometers, greenhouse gas emissions, air pollution and costs saved by telehealth in order to help drive systems change.

Mitigation Actions and Health Co-benefits

Ruminant Meat for Human Consumption Lancet Countdown Indicator 3.8

Plant-rich, low-meat diets:

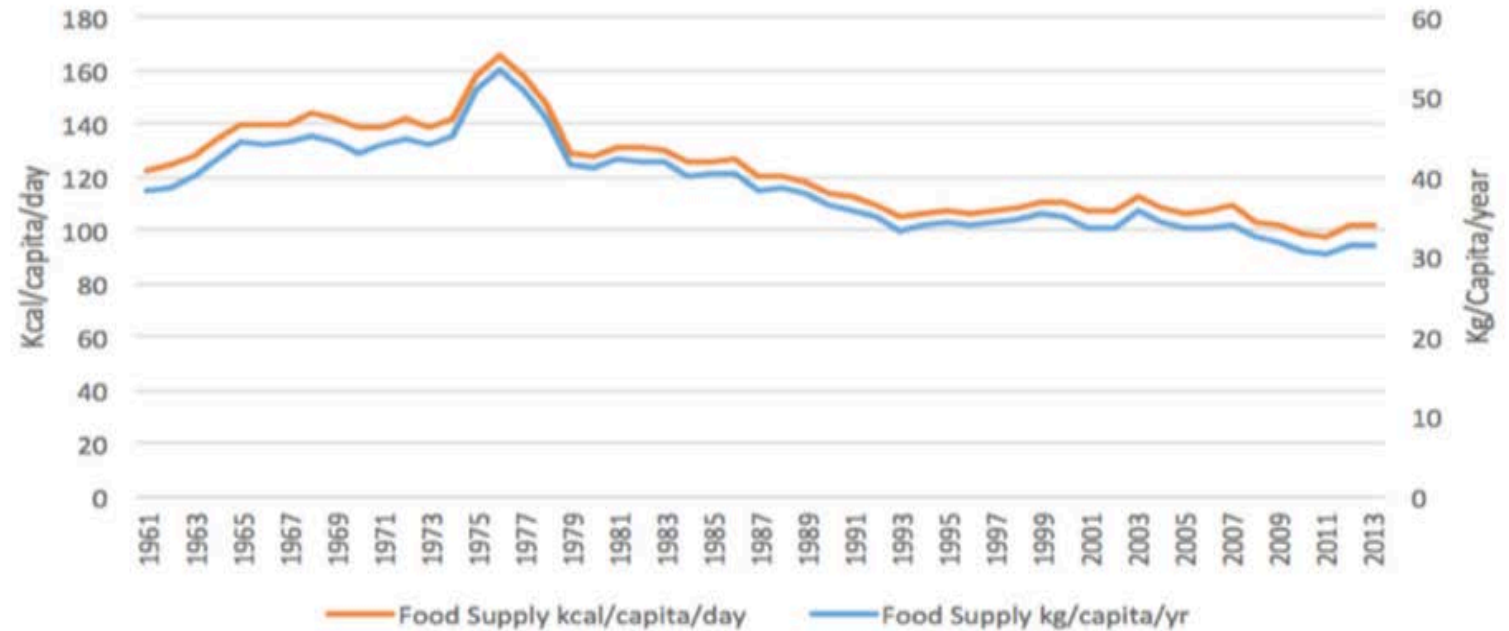
- modestly decrease all-cause mortality
 - decrease colorectal cancer risk
 - decrease cardiovascular disease risk
 - improve glycemic control in Type II Diabetes
- AND reduce by a median of of 20-30%:
- greenhouse gas emissions
 - water use
 - land use



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(Aleksandrowicz L, Green R, Joy EJ, Smith P, Haines A. The Impacts of Dietary Change on Greenhouse Gas Emissions, Land Use, Water Use, and Health: A Systematic Review. PLoS one. 2016;11(11):e0165797. <https://www.ncbi.nlm.nih.gov/pubmed/27812156>)

Figure 6: Ruminant meat for human consumption in Canada from 1961-2013. Data from FAO via Lancet Countdown.

Policy recommendation #5: Provide strong health-sector support for Health Canada's draft healthy eating guidelines which emphasize plant-based sources of protein, with framing of these guidelines as being beneficial for both human and planetary health.

Land Use Case Study:

Local Health Impacts of Resource Extraction on Indigenous Communities



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Policy Recommendation #6: Increase funding for research into the local health impacts of resource extraction, with a focus on impacts on Indigenous populations.

Policy Recommendation #7: Integrate Health Impact Assessments as a core component of the federal Environmental Assessment process.

Acknowledgements

The concept of this brief was developed by the Lancet Countdown on Health and Climate Change. The brief was written by Courtney Howard, MD, CCFP-EM; Caren Rose, PhD; and Trevor Hancock, MD, Hon FFPH. Review of the brief and edits were provided by Ian Culbert; Kim Perrotta, MHSc; Joe Vipond, MD; Peter Berry PhD; Margot Parkes, MD, MBChB, MAS, PhD; Sandra Allison, MD, MPH, CCFP, FRCPC; Linda Varangu M. Eng.; Benjamin Israel, MSc; Erin Flanagan; James Glave; Jacob Larsen, MCIP RPP; and Nicola Wheeler MSc.



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