

GAP-Santé Research Unit

Risk Perception, Assessment, and Management

Public Perceptions and Acceptable Levels of Health Risk among Canadians



2011 - 2015, The McLaughlin Center \$100,000 with PrioNet, NSERC, SSHRC, CIHR, CSS

Following on the 2002-2005 Health Canada \$250 000 project, this research program examines the factors shaping public perceptions of risk and risk acceptability regarding health. Specifically, a psychosocial model for understanding the factors influencing attitudes and opinions about risk is being developed. Established guidelines of risk acceptability are reviewed in detail, and psychosocial values underlying acceptability of risk examined. The project includes the creation of common sense benchmark risk scales to assist in understanding and communicating scientific information on

health risks, particularly small risks difficult to identify and comprehend.

Public and expert perceptions of risks to health are being evaluated through representative national surveys. The use of the research results in informing national policies for health risk management is explored on various current issues such as radiation, climate change, food risks, pandemics and disasters.

Project Relevant Publications:

- [Krewski, D., Turner, M.C., Lemyre, L., Lee, J.E.C.\(2012\). Expert vs. Public Perception of Population Health Risks in Canada. Journal of Risk Research, 15\(1\), 1-25.](#)
- [Krewski, D., Lemyre, L., Turner, M., Lee, J.E.C., Dallaire, C., Bouchard, L. \(2006\). Public Perception of Population Health Risks in Canada: Health Hazards and Sources of Information. Human and Ecological Risk Assessment, 12, 626-644.](#)
- [Lee, J.E.C., Lemyre, L., Mercier, P., Bouchard, L., Krewski, D. \(2005\). Beyond the Hazard: The Role of Beliefs in Health Risk Perception. Human and Ecological Risk Assessment, 11, 1111- 1126.](#)
- [Lemyre, L., Lee, J.E.C., Mercier, P., Bouchard, L., Krewski, D. \(2006\). The Structure of Canadians' Health Risk Perceptions: Environmental, therapeutic and social health risks. Health, Risk and Society, 8, 2, 185-195.](#)

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Psychosocial Aspects of Risk Perception in View of Risk Communication for Public's Preparedness: Flooding and other Environmental Extreme Events

2014, Environment Canada, \$20,000

Information and forecasting of meteorological and environmental events should help Canadians, industry and services to better prepare for adverse events and reduce the negative consequences on the wellbeing of the public, the safety of the infrastructure and the prosperity of the country. In part this relies on technical capabilities to predict and to communicate reliable information; in part it involves insuring the information indeed enables the receivers to better prepare and manage meteorological and environmental risks. This latter component is often referred to as the psychosocial aspects of risk perception, risk communication and risk management. It covers how people, as individuals or organizations, understand meteorological risk events and what factors contribute to them taking appropriate actions.

In view of better understanding and addressing the psychosocial aspects of meteorological environmental risks, the project aimed at three (3) main objectives: i) review the literature on the psychosocial aspects of meteorological environmental events; ii) provide a descriptive analysis of risk perception of Canadians about meteorological environmental events; and iii) synthesize the findings and scope a prospective research agenda.

Children and Radiological / Nuclear Events - Psychosocial Facet

2011 – 2013, International Security Research (ISR), \$82,800

Research indicates that children are not only more physically vulnerable to radiological events, but they also respond differently than adults do in terms of behaviour. Children are both simultaneously more psychologically vulnerable and more resilient than their adult counterparts. The GAP-Santé research team at the University of Ottawa provided guidance on how to psychologically better prepare the child, family and responders before, during and after any treatment necessitated by a radiological/nuclear event. This guidance is based on a literature review on this topic, and sets out in a summary document key findings and recommendations that reflect evidence-based research and best practices that can inform emergency response protocols and procedures, as well as preparedness. Findings are incorporated into an overall set of recommendations for the effective management of children over a radiological /nuclear event timeline.

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Psychosocial Risk Manager: PRiMer



2007 – 2011, CRTI, PHAC, \$2 000 000

Based on a previous CRTI project RD 02-0080 that yielded to the Psychosocial Risk Assessment and Management (P-RAM) framework, the goal of this Technology Demonstration project is to transfer - via technology and multimedia - a bilingual a user-friendly knowledge base to assist responders and planners in preparation, planning and response for CBRNE threats or attacks. Five components constitute the core of our multimedia training package (PRiMer): a) a multimedia interactive session using computer-assisted teaching, b) the design and

development of psychosocial oriented exercises and tasks, c) preparation of a web-based self-study guide, d) provision of an on-line decision-support tool, and e) a one-day training session, sustainable over time via a Train-the-Trainer component.

The PRiMer project is funded by the Centre for Security Science - the Chemical, Biological, Radiological/Nuclear, Explosive (CBRNE) Research and Technology Initiative (CRTI). The project was also made possible with contributions from Public Health Agency of Canada (PHAC) and with the support of SSHRC and the McLaughlin Chair in Psychosocial Risk.

PRiMer video on Youtube: http://www.youtube.com/watch?v=J78O_oBx0io

Psychosocial Risk Assessment and Management: P-RAM Tools to Enhance Response to CBRN Attacks and Threats in Canada

2003 – 2007, CRTI, PHAC, CFIA, \$2 200 000

"The Psychosocial Risk Assessment and Management (RAM) Tools project is funded by the Chemical, Biological, Radiological and Nuclear Research and Technology Initiative (CRTI) led by Drs. Louise Lemyre, Daniel Krewski and Robert Clarke in partnership with the Public Health Agency Canada and the Canadian Food Inspection Agency.

The project seeks to understand and mitigate the psychosocial impacts arising from social disruption, stress, distress, and the anticipated behavioural changes as a result of Chemical, Biological, Radiological, or Nuclear (CBRN) terrorist threats and/or attacks. The project provides an integrated framework for managing psychosocial aspects of CBRN risks with specific guidelines for CBRN agent risk assessment, perception and evaluation as well as guidelines for risk communication. It develops practical, bilingual field-based training tools to enhance the capability of first-responders in Canada to mitigate the psychosocial and human health impacts of CBRN threats and attacks.

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P-RAM video on Youtube: <http://www.youtube.com/watch?v=OKGKqR2w31M>

Related publications

- [Krewski, D., Turner, M.C., Lemyre, L., & Lee*, J. E. C. \(2012\). Expert vs. public perception of population health risks in Canada. Journal of Risk Research, 15\(1\), 1-25.](#)
- [Lemyre, L., Clément, M., Corneil, W., Craig, L., Boutette, P., Tyshenko, M., et al. \(2005\). A Psychosocial Risk Assessment and Management Framework to Enhance Response to CBRN Terrorism Threats and Attacks. Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science, 3, 4, 316-330.](#)
- [Lemyre, L., Lee, J.E.C., Turner, M., Krewski, D. \(2007\) Terrorism preparedness in Canada: A public survey on perceived institutional and individual response to terrorism. International Journal of Emergency Management, 4, 2, 296-315.](#)
- [Lemyre, L., Turner, M., Lee, J.E.C., Krewski, D. \(2006\). Public Perception of Terrorism Threats and Related Information Sources in Canada: Implications for the Management of Terrorism Risks. Journal of Risk Research, 9, 7, 755-774.](#)
- [Gibson, S., Lemyre, L., Clément, M., L. Markon, M.P., Lee, J.E.C. \(2007\). Terrorism Threats and Preparedness in Canada: The perspective of the Canadian public. Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science, 5, 2, 1-11.](#)