



# Lessons Learned from Health Canada on Building Resiliency to Extreme Heat

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# Purpose

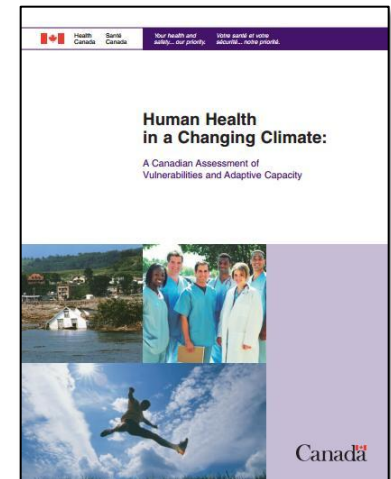
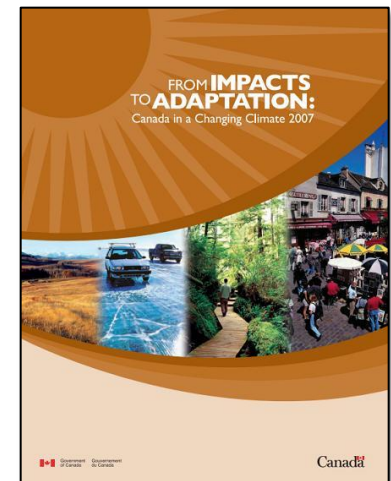
To provide a summary of Health Canada's Heat Resiliency Initiative and share some key lessons learned.

1. Why is heat a health risk in Canada?
2. How is Health Canada building heat resiliency among individuals and communities in Canada?
3. Examples of identified needs and gaps to enhance resiliency

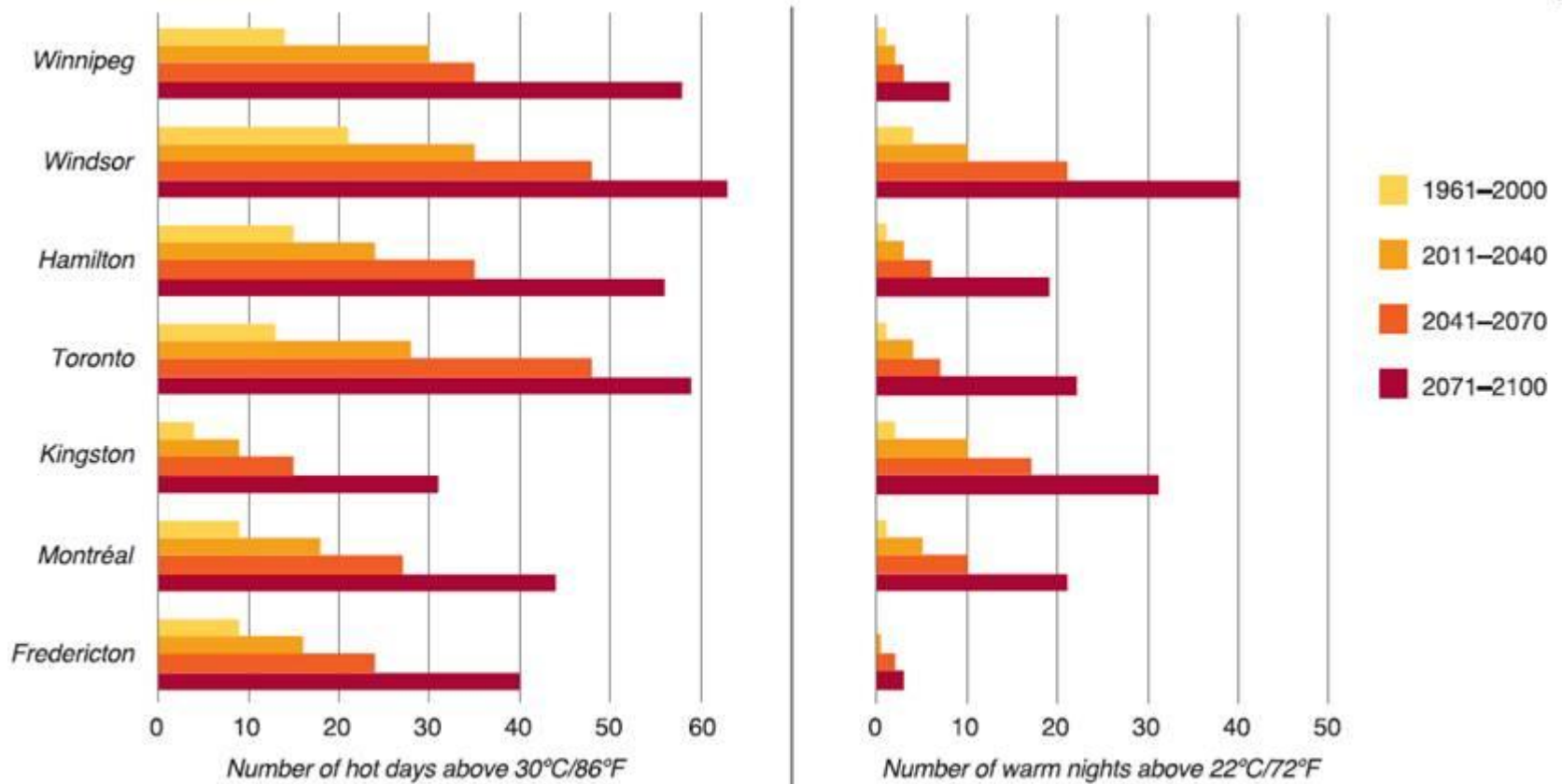


# Heat is a Health Risk in Canada

- In 2007, Natural Resources Canada published a comprehensive assessment of climate change impacts and adaptation options in Canada.
- In 2008, Health Canada published an assessment report of human health impacts from a changing climate. The report identified a range of health vulnerabilities and impacts from a changing climate and actions to increase resiliency.
- The two reports identified extreme heat as a significant weather related hazard with important risks to human health. These two reports were drivers for Health Canada's Heat Resiliency Initiative.
- An update to the Natural Resources Canada assessment report, including a health chapter, is expected to be completed in early 2014.



# Number of Extreme Heat Days Projected to Increase



Source: Casati, B. and Yagouti, A. (In Press).<sup>23</sup>



# Federal Government's Role in Adaptation

1. Generating and sharing knowledge.
2. Building capacity and helping Canadians take action.
3. Considering climate change into the mainstream of decision-making



# Health Canada's Heat Resiliency Initiative

In 2008, HC received \$7.9M over three years to enhance resiliency to extreme heat in individuals and communities.

In 2011, HC's Heat Resiliency Initiative was renewed for \$8.5M over five years.

1. **Heat-Health Science:** address critical knowledge gaps.
2. **Clinical training:** enable health professionals to better advise, diagnose and treat their clients.
3. **Expand Heat Alert and Response Systems (HARS):** develop and test alert systems and assess vulnerability.
4. **Heat-health messaging:** help to promote awareness and support personal adaptation.
5. **Partnerships and networks:** support information sharing on adaptation.



# Data Needs and Gaps: Example 1

## Harmonisation of Heat Alert and Response Protocols in Ontario

### Purpose:

- To establish a consistent and evidence-based approach to calling heat alerts and communicating heat-health impacts across the Province

### Needs:

- Understanding the burden of illness of heat in Ontario (urban vs. rural)
- Developing user-friendly tools to visualise/analyse multiple sources of information
- Increasing data sharing between organisations

### Challenges:

- Capacity of rural/smaller public health units
- Data accessibility (health outcomes, climate indices, heat health vulnerability indices, etc.)
- Regional, municipal and public health administrative structure in Ontario



# Data Needs and Gaps: Example 2

## Heat Health Vulnerability Assessment

### Purpose:

- To assess heat-health vulnerabilities within a community or region and promote action to reduce individual and community risks

### Needs:

- Identifying appropriate community-based health indicators
- Identifying current vulnerabilities and assessing future health risks

### Challenges:

- Local health data availability
- Capacity of communities to address identified vulnerabilities
- Methods to analyse and synthesize data
- Engaging stakeholders





# Data Needs and Gaps: Example 3

## The Urban Heat Island Effect in Canada

### **Purpose:**

- To localise urban heat islands (hot spots) within a community and suggest options for adaptation and mitigation of the UHI effect

### **Needs:**

- Identifying hot spots using satellite imagery and other sources of information (e.g. from air temperature models)
- Mapping the level of socio-economic deprivation in UHI areas
- Mapping green spaces and tree canopy (vegetation cover)

### **Challenges:**

- Surface temperature from satellite imagery does not reflect urban air temperatures
- Availability of data related to indoor thermal conditions and building characteristics
- Quantifying health risks in highly deprived urbanised areas
- Costs of mitigation/adaptation measures for Canadian communities

# Considerations for Future Research Activities

- Expand understanding of health impacts of heat and UHI impact in urban environments in Canada
- Development of user-friendly tools and guidelines for decision makers to support interventions during extreme heat events
- Integrated monitoring and surveillance systems that capture multiple sources of information (climate, socio-economic deprivation, health risks, etc.)
- Promotion of information sharing and knowledge translation



# HC's Heat-Health Publications

Health Canada Santé Canada

Your health and safety... our priority. Votre santé et votre sécurité... notre priorité.

## Communicating the Health Risks of Extreme Heat Events:


Toolkit for Public Health and Emergency Management Officials

Health Canada Santé Canada

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## Adapting to Extreme Heat Events:

Guidelines for Assessing Health Vulnerability

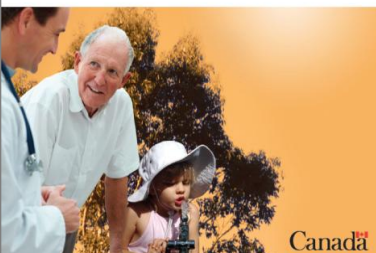


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## Heat Alert and Response Systems to Protect Health:

Best Practices Guidebook



Canada

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## It's way too hot!

Protect Yourself from Extreme Heat

Health Canada Santé Canada

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## Keep children cool!

Protect Your Child from Extreme Heat

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## You're active in the heat. You're at risk!

Protect Yourself from Extreme Heat



Know your risks

How your body regulates its temperature

Get ready for extreme heat

Stay alert and pay attention

Stay cool and hydrated

Modify your activities

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## Health Facilities Preparation for Extreme Heat

Recommendations for Retirement and Care Facility Managers

Considerations for Existing Buildings and Outdoor Spaces

**Key Actions**

- Monitor indoor levels
- Block direct sun
- Increase air flow
- Reduce heat gain
- Increase fan speed
- Air conditioning

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## Community Care During Extreme Heat

Heat Risks: Prevention and Primary Care

Heat Risks and High Risk Individuals

**Recognizing Risk**

People who are at risk for heat-related illness include:

- People who are frail
- People with pre-existing conditions
- People who are alone

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## Acute Care During Extreme Heat

Recommendations and Information for Health Care Workers

Recognize Heat-Related Illnesses and Heat-Related Dehydration

**Key Actions**

- Recognize heat-related illness
- Recognize heat-related dehydration

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## Extreme Heat Events Guidelines

Technical Guide for Health Care Workers

**9 1 1 1**

**Checklist when Visiting**


**URGENT!** If a patient shows:

- 1. Confusion
- 2. Rapid heart rate
- 3. Nausea
- 4. Vomiting
- 5. Loss of consciousness
- 6. Seizures

**Key Risk Factors**

Other factors (optional):

- Chronic medical conditions
- Dehydration
- Medication use
- Age
- Social isolation
- Language barriers
- Limited health literacy
- Limited access to services
- Limited access to information
- Limited access to transportation
- Limited access to cooling services
- Limited access to social support
- Limited access to community resources
- Limited access to emergency services
- Limited access to mental health services
- Limited access to substance use services
- Limited access to housing services
- Limited access to food services
- Limited access to income services
- Limited access to legal services
- Limited access to social services
- Limited access to cultural services
- Limited access to spiritual services
- Limited access to religious services
- Limited access to community services
- Limited access to volunteer services
- Limited access to philanthropic services
- Limited access to government services
- Limited access to non-government services
- Limited access to private services
- Limited access to public services
- Limited access to shared services
- Limited access to joint services
- Limited access to multi-agency services
- Limited access to inter-agency services
- Limited access to cross-agency services
- Limited access to multi-sector services
- Limited access to inter-sector services
- Limited access to cross-sector services
- Limited access to multi-stakeholder services
- Limited access to inter-stakeholder services
- Limited access to cross-stakeholder services
- Limited access to multi-organizational services
- Limited access to inter-organizational services
- Limited access to cross-organizational services
- Limited access to multi-institutional services
- Limited access to inter-institutional services
- Limited access to cross-institutional services
- Limited access to multi-organizational services
- Limited access to inter-organizational services
- Limited access to cross-organizational services
- Limited access to multi-institutional services
- Limited access to inter-institutional services
- Limited access to cross-institutional services



Canada

<http://www.hc-sc.gc.ca/ewh-semt/pubs/climat/index-eng.php>



# Thank you!

For more information, please contact:

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