CELEBRATING LOCAL LEADERSHIP

By Paul Kovacs

Canadians are experiencing more frequent and extreme heat events. Temperatures sometimes soar to levels that are dangerous to our health. The risk of health impacts from extreme heat is expected to continue rising due to climate change.

Most deaths from extreme heat are preventable. Preparing for extreme heat events is a critical challenge for local governments and other stakeholders across Canada. The warming across the country since the 1970s has occurred two to three times faster than the average warming experienced in the rest of the world.

Climate experts project that warming across Canada will continue for several decades, and perhaps much longer. On occasion, Canadians across the country are expected to experience summer temperatures unlike anything we have seen before. Indeed, record temperatures have been set in many communities in recent years. The frequency and severity of extreme heat events is projected to continue to increase with time, posing a threat to the health of vulnerable Canadians.

The evidence over the past 20 or 30 years shows that the risk of death or serious health issues increases when the temperature rises. In particular, fatalities in many urban centres across Canada often start to increase when the temperature is above 25°C, and increase significantly when the temperature is above 35°C. Some communities have even experienced a few days when the temperature exceeded 40°C. Over the next 25 years, it is likely that many, and perhaps most Canadians will experience high temperatures dangerous to their health.

The risk of heat illness and death is greatest for older adults, infants, young children, people with chronic illnesses, those who are physically disabled, people living alone, and those who work outside. The risk is greatest when temperatures increase beyond rates traditionally experienced, and when these high temperatures are sustained through several consecutive extraordinarily warm days and nights.

Fortunately, efforts are underway to address the health risks of extreme heat in a number of communities across the country. Public health officials as well as city and regional governments are adapting to prepare for changes in the climate and developing strategies to protect people's health during extreme heat events. Local and regional efforts to prepare for extreme heat is supported by provincial and federal governments, and by a number of other stakeholders taking action now to increase the resilience and safety of communities.
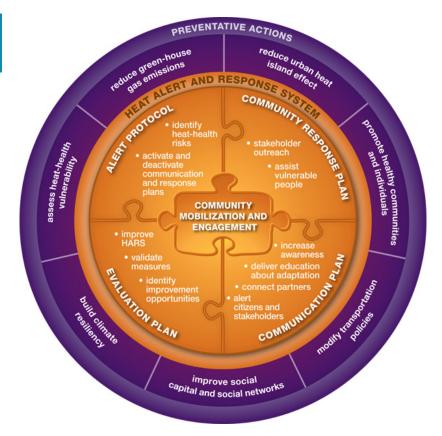
Figure 1: *There are two broad categories of actions under which communities can prepare for extreme heat events. They can develop preventative actions or implement Heat Alert and Response Systems. (Source: Health Canada)*

Local and regional governments are in a position to implement many of the critical actions to help Canadians better cope with extreme heat. This includes issuing targeted warnings, opening cooling centres in public facilities such as libraries, community centres and public pools, providing water for those in need, educating the public, and planting trees and other actions to cool urban environments and reduce urban heat islands.

Local, national, and global action to reduce greenhouse gas emissions is essential to reduce the pace of warming over the longer term – the next 50 to 100 years and beyond. Over the next 25 to 50 years, however, it is essential that we also take action to prepare for the inevitable warming that will take place as a result of greenhouse gas emissions that have already been released. Greenhouse gas emission reductions and adaptation are both essential elements of a comprehensive climate change strategy.

Seven experts from the Institute for Catastrophic Loss Reduction (ICLR) and Health Canada authored this report. ICLR has been designated by the International Council for Science as an International Centre of Excellence in Integrated Research on Disaster Risk. The Institute is based at Western University and is the oldest university-based disaster risk reduction research organization in Canada.

Health Canada is the federal department responsible for helping Canadians maintain and improve their health. In particular, Health Canada is the leading organization in Canada assessing climate health risks, and championing best practices to prepare for and mitigate the adverse health impacts of extreme heat.

The 20 case studies presented in this report provide examples of local and regional governments across Canada that have adapted to better cope with extreme heat. These examples were chosen because they are innovative, and, in our opinion, could inform efforts in communities across the country.

Many of the communities identified in this report have a comprehensive strategy in place to address the risk of extreme heat events. The case studies present one element from the many actions they are implementing to address extreme heat. Showcasing key elements from a broad range of actions is offered to help other communities build an effective and comprehensive plan to confront the growing health risks to Canadians from extreme heat events.

An important message in this report is that leading communities are taking action now. The risk to the health of Canadians from extreme heat events is present today and will grow over time. We seek to recognize and honour local and regional governments taking action now, and it is encouraging to report that many are doing so.

This series of reports is a celebration of the leadership that local governments are providing in Canada on a broad range of important issues, including actions to address extreme heat. Each case study includes comments from an individual working within a local government whose responsibilities include the development and implementation of actions to address extreme heat risks. This report helps to raise awareness of health risks from extreme heat, offers examples of heat-health adaptation that other communities can learn from and is intended to spur action to prepare Canadians for the impacts of climate change.