



**Canadian
Red Cross**

**Croix-Rouge
canadienne**

**INTEGRATING EMERGENCY MANAGEMENT
AND HIGH-RISK POPULATIONS:
SURVEY REPORT
AND ACTION RECOMMENDATIONS**

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Executive Summary

The 2004 *Assessment of Natural Hazards and Disaster in Canada* framed disaster risk reduction as the fundamental challenge to a nation increasingly at risk of natural, technological and human-induced disasters. The 1997 Red River flood, 1998 ice storm, and the SARS outbreak, northeastern blackout and Hurricane Juan in 2003, among other recent events, dramatically reinforced the need to reduce undue suffering and loss, especially among Canadians who are least able to anticipate, prepare for, cope with or recover from disasters. This report summarizes a Canadian Red Cross project designed to promote an integrated approach to social vulnerability that emphasizes capacity building and community resilience to disaster.

The Canadian Emergency Management and High-risk Populations Project, undertaken in 2007, analyzed how, and how well, the needs and capacities of those most at risk are currently integrated into emergency management at the federal, provincial and territorial levels. With guidance and support from Public Safety Canada, the Public Health Agency of Canada's Centre for Emergency Preparedness and Response, and Brandon University's Department of Applied Disaster and Emergency Studies, the project included expert consultations, a review of the literature and a commissioned report on vulnerable populations.

The outcome is a national framework for identifying and understanding social vulnerabilities at the population group level. The framework emphasizes the complex and multifaceted nature of social vulnerabilities — those vulnerabilities that are not inherent qualities of a person or group but typically arise through social processes of isolation or marginalization. It is further recognized that social vulnerabilities change through time, and vary in different environmental, political, cultural and social contexts. Recognizing the need in emergency management to address the very real assistance needs of those most at risk, the approach advocated also recognizes the need to identify and utilize the life skills and resources that all people bring to crisis. To reflect this approach, the framework uses the term “high-risk” populations rather than “special” or “vulnerable” populations. Further, a functional limitations approach to emergency planning with high-risk population groups is advocated, as this highlights cross-cutting concerns such as mobility or communication limitations, and is a more powerful planning tool.

The social determinants of health are clear indicators of social vulnerability. They are used here to identify 10 high-risk groups in Canada that should be at the centre of

programming: seniors; persons with disability; Aboriginal residents; medically dependent persons; low-income residents; children and youth; persons with low literacy levels; women; transient populations; and new immigrants and cultural minorities. The social patterns and trends affecting the resilience of these groups to hazards and disasters must be recognized and addressed at the most local level possible.

How well do emergency management authorities currently integrate the life and safety concerns of these high-risk populations? How well prepared are the community groups to which these groups will turn in a crisis? What gaps exist and what opportunities can be identified for developing a seamless system of partnership between voluntary agencies in the high-risk sector, and federal, provincial and territorial emergency management authorities? To answer these questions, the Canadian Red Cross conducted two electronic surveys involving 48 emergency management agencies and 89 voluntary organizations in the high-risk sector. The organization was the unit of analysis, and the frame of reference of most respondents was national or provincial. The quantitative and qualitative survey data suggest three major findings:

1. Significant gaps exist in meeting the needs of high-risk populations;
2. Emergency management and voluntary sector organizations strive to meet the needs of high-risk populations but do not always have either the relationships or the resources needed to meet their goals; and
3. Networking and bridge-building between emergency management and voluntary organizations serving high-risk populations is needed at all levels.

As expected, outreach and collaboration was generally reported more often at the local and provincial levels. This survey report includes recent examples of good practices in this respect.

Since strong leadership is needed in an era of increasing risk, this report concludes with recommendations for all stakeholders. In the area of *knowledge building*, further research from Canadian contexts on social vulnerability is essential and a full review of current teaching and training materials in the area is recommended. With respect to *communications and advocacy*, an expert panel of advocates for high-risk populations is needed to provide guidance to emergency management authorities as they continue their outreach efforts, and public awareness materials should be developed addressing stereotypes about high-risk groups. In the area of *capacity building*, training and cross-training are proposed to develop and strengthen the resilience of voluntary agencies in the high-risk sector. Initiatives currently under way at the grassroots should be supported as feasible. Finally, in the area of *roles and*

responsibilities, it is recommended that at the national level, policy directives, grants-in-aid, and such specific tools as good practice guidelines, indicators and templates be developed to promote sustained focus on understanding and addressing social vulnerability, in full consultation with end users.

The report includes a glossary of terms, plus appendices with patterns and trends affecting social vulnerability; state-of-the-art models of outreach that bring high-risk groups and emergency managers together; and program initiatives under way in Canada to increase collaboration between these two vital communities of practice, with contact information.

Glossary of Terms

Coping capacity

The means by which people or organizations use available resources and abilities to face adverse consequences that could lead to a disaster. In general, this involves managing resources, both in normal times as well as during crises or adverse conditions. The strengthening of coping capacities usually builds resilience to withstand the effects of natural and human-induced hazards.

Emergency management

The management of emergencies concerning all hazards, including all activities and risk management measures related to prevention and mitigation, preparedness, response and recovery.

Emergency management organizations

Designated organizations operating in different sectors at the federal, provincial and territorial levels, including Aboriginal organizations with emergency management responsibilities.

High-risk populations

People whose situational and physical characteristics increase their susceptibility to harm due to disasters.

Partner

Any individual, group or organization that might be affected by, or perceive itself to be affected by, an emergency.

Resilience

The capacity of a system, community or society to adapt to disturbances resulting from hazards by persevering, recuperating or changing to reach and maintain an acceptable level of functioning.

Social vulnerability

Refers to vulnerabilities at the level of population groups in a particular cultural, historical, political and social context. Experienced at the individual level but determined by relative group access to key resources and the capacities and resources of the subpopulation.

Voluntary organizations in high-risk sectors

Community-based organizations serving, advocating or representing high-risk populations in disaster contexts, or knowledgeable about them.

Vulnerability

The propensity to suffer some degree of loss (e.g., injury, death, damages) from a hazardous event. Whether considering a community, an individual, an economy or a structure, vulnerability depends upon coping capacity relative to the hazard's impact.

Sources: *An Emergency Management Framework for Canada*
[<http://www.publicsafety.gc.ca/prg/em/emfrmwrk-eng.aspx>]; ISDR Glossary
[<http://www.unisdr.org/eng/library/lib-terminology-eng.htm>].

1.0 Introduction and Overview

“Canadians have the capacity to create a safer society. With planning and commitment, it can become a reality.” With this conclusion, the authors of the leading national report *An Assessment of Natural Hazards and Disaster in Canada* framed disaster risk reduction as a fundamental challenge to the nation.¹ In 2007, Public Safety Canada echoed similar sentiments in *An Emergency Management Framework for Canada*, which provides clear principles for emergency management in the future. These key documents position community partnership and vulnerability reduction at the centre of the 21st-century challenge of managing risk and increasing public safety.

The 1997 Red River flood, 1998 ice storm, the Northeastern blackout and Hurricane Juan in 2003, among other emergencies and disasters of the recent past, have highlighted the need to reduce undue suffering and loss, especially among Canadians who are at increased risk from hazards due to personal or group vulnerability. Mindful of the hard-won lessons learned by assisting those most vulnerable, and to determine how well the needs and capacities of those most at risk in the event of a disaster are currently integrated into emergency management at the federal, provincial and territorial levels, the Canadian Red Cross initiated the Canadian Emergency Management and High-risk Populations Project. With guidance and support from Public Safety Canada and the Public Health Agency of Canada, the project included expert consultations, a review of the literature, a commissioned report on vulnerable populations, and an electronic survey of emergency management and voluntary organizations serving people and places at increased risk across the country. From this knowledge base, recommendations were developed to identify, address and reduce social vulnerabilities in a holistic manner as the nation braces for predicted disaster-prone decades. This report summarizes the outcomes of this initiative.

Section 2 begins with a discussion of social vulnerability characteristics, patterns and trends. Significant lessons learned in recent Canadian events are then reviewed. While more research is clearly warranted, these examples illustrate what transpires when those least able to protect themselves “fall through the cracks,” leaving families and communities weaker in the aftermath of disaster. In this section, too, a partnership approach is advocated to capitalize on the resources and capacities of service and advocacy organizations most knowledgeable about high-risk groups. The need for new terminology is discussed, and 10 high-risk groups in Canada are identified, based on the social determinants of health and functional limitations.

Section 3 reports the primary findings from an electronic survey in which both emergency management and voluntary organizations were asked to identify whether, how or how well their mutual interests in disaster resilience, and the protection of the life and safety of those most at risk, are currently realized in practice. Both good practices and system gaps are identified and discussed. It is important to note that this report focuses on the social dimensions of vulnerability at the population group level.

In Section 4, strategic recommendations for change are offered on the basis of survey findings and other outcomes of the Canadian Emergency Management and High-risk Populations Project.

2.0 Understanding Social Vulnerability to Disaster

There is a clear need to better understand the institutional relationships and networks in place, or those that may be developed, between emergency management agencies and voluntary groups working closely with people likely to be most hard hit in disasters. Toward that end, an expert consultation was conducted in Winnipeg on February 6, 2007, to inform the project conceptually.² The hallmarks of a more effective approach to social vulnerabilities were identified, as were specific groups at increased risk, and a survey was planned to gather more information from relevant organizations and networks.

2.1 What is Vulnerability?

As expressed in *An Emergency Management Framework for Canada*,³ vulnerability is “the propensity to suffer some degree of loss (e.g., injury, death and damages) from a hazardous event. Whether considering a community, an individual, an economy or a structure, vulnerability depends upon coping capacity relative to the hazard impact.”

While vulnerability is increased due to inadequate structural or systemic protection (e.g., lack of design standards for hospitals, or lack of business continuity planning), it is also grounded in the human, social, economic, physical and environmental “capital” accorded to some groups more than others in the larger culture and social structure. The ability to take self-protective action before disasters, and to recover from the effects of a destructive event with some rapidity, reflects access to and control over such key resources as good health, information, secure and diversified income, strong social networks and family ties, freedom of expression, education, and time, among others. Hence, vulnerability should not be understood as a condition of the individual but as a reflection of broader social relationships produced by the driving forces shaping any nation’s past, present and future. These fundamental social processes distribute vulnerability — and hence relative disaster risk — across the population. For this reason, *social vulnerability, which includes susceptibility of population groups in a particular cultural, historical, political and social context*, is an integral element of disaster risk reduction and emergency planning.

Social vulnerability

As noted in *An Assessment of Natural Hazards and Disaster in Canada* and other key publications,⁴ “vulnerability” is a complicated term reflecting a complex, multifaceted and dynamic reality. It may be used to refer to physical and/or social factors that put people in harm’s way, but it is always a function of the interaction of the physical and social — as are disasters.

Susceptibility to harm may appear self-evident, but it can also “drop off the radar” when knowledge is based on stereotypes or misinformation, or is simply too general. For example, “One heavily pregnant woman may move slowly but her family may own a car and be ready and able to help her prepare the household, pack belongings, evacuate, clean up, and return home. But across town, another woman also in late pregnancy may live in a home for runaway teens without access to a car or contact with her family and be entirely dependent on the facility manager or other residents for help. Predicting the relative vulnerability of elderly people and people with disabilities is equally complex because of the diversity and range of their life experiences.”⁵

Importantly, vulnerability is not one-dimensional. Such factors as limited English or French language skills, functional illiteracy, lack of local knowledge about environmental risks or social resources, low income, or insecure housing may make a new immigrant more susceptible to the effects of severe weather in Winnipeg, for example, but close community ties, strong family connections, and multilingualism may have the opposite effect.

Social vulnerability is also not static but may change through the life course, or as living conditions change. For example, vulnerability could decrease as new immigrants acquire a new language, or increase in the aftermath of a divorce. It also varies seasonally in response to such weather-related hazards as forest fires or blizzards.

Importantly, vulnerability is also not the same thing as poverty, as evidenced by the susceptibility to hazards of places in which affluent residents so often chose to build their homes. Nonetheless, lack of economic security clearly bears greatly on people’s relative ability to “anticipate, cope with, resist, and recover from” disasters, both within and between the world’s nations and regions.⁶

Clearly, the vulnerability of people and place to hazards and disasters is not equally distributed, but varies across regions, takes different significance in different hazard zones, and may be readily apparent or “hidden” in plain view. Identifying,

communicating with, responding to, or engaging some high-risk groups may be extremely difficult due to fear, stigma, transience, protection of privacy or mistrust of authorities, for example among street children, the mentally ill, homeless, severely ill AIDS patients cared for at home, substance-abusing street prostitutes, and non-institutionalized people living with cognitive disabilities.”

“Far from unmediated ‘natural’ *events* arising from human settlements in an inherently uncertain environment, natural disasters are social *processes* precipitated by environmental events but grounded in social relations and historical development patterns.” —Elaine Enarson, *Gender and natural disaster issues: talking points and research needs*, p. 2

2.2 Selected Patterns and Trends

Writing in 2004, the authors of the first national assessment of hazards and disasters in Canada cautioned that vulnerability to disasters is increasing: “Any community or individual’s vulnerability is a balance between the factors that make them more and less vulnerable. In spite of the many ways available to reduce risk, overall, our vulnerability seems to be increasing.”⁷

The authors relate many trends to people’s increasing vulnerability to disaster in Canada, including population growth and increasing population density, concentration of wealth, a lack or loss of local hazard knowledge, an aging population, an aging infrastructure, system interdependencies, underutilization of non-structural mitigation options, a lack of enforcement of existing standards, a lack of effective monitoring systems, and increasing poverty. Others point to climate change, rising rates of homelessness, social inequalities (e.g., between women and men, and ethnic and cultural groups), increased population mobility and immigration rates, and changes in family life resulting in more people living alone and in households headed by one person.⁸

Appendix A is not an exhaustive summary but suggests the range of trends in people’s everyday lives that tend to increase social vulnerability to hazards and disasters.⁹ This, of course, is especially true of those who must cope with the “daily disasters” of their lives. For example, where the effects of climate change are not speculative but already apparent in everyday life, environmental changes exacerbate deeply rooted patterns of inequality that undermine the health and well-being of indigenous people.

Social vulnerability is not evenly distributed regionally. As in developing countries across the globe, disaster vulnerability in Canada and other industrialized societies is rooted in economic, social, political, cultural and environmental development patterns. These obviously increase risk for some people in some regions more than others.

Emergency managers will need knowledge of the regional patterns of vulnerability as the potential hazards of places change as, for example, in the case of climate change. “While urban populations may experience warmer temperatures and more smog episodes, rural populations may have greater problems with water quality and quantity as a result of flooding and drought. In regions that are closely tied to natural resources (e.g., farming, forestry, fishing), climate change may cause economic decline, social disruption and population displacement. Coastal areas will be hard hit by a rise in sea level, which may increase the degree of damage from natural disasters.”¹⁰

When the livelihoods of a population are based primarily on a single resource (cod fishery, timber harvesting), disaster vulnerability increases if community health declines. Vulnerabilities are also concentrated in increasingly urban population centres where population density is high and many risk factors converge. Vulnerability also increases, however, in many rural areas where traditional livelihoods, community solidarity and sense of place are undermined by macro-economic and structural forces. Farm families affected by the “creeping disaster” of BSE (Bovine Spongiform Encephalopathy, or “Mad Cow disease”), and small towns whose declining populations and tax bases force closures of local hospitals and schools, are examples.

These and many other vulnerabilities put people at increased risk in the event of drought, cyclones, explosions or toxic spills. Disasters, in turn, can — and often do — leave people even more vulnerable.

Increased Risk Due to Climate Change

Although Canada has considerable capacity to adapt to the health impacts of climate change, some risks (e.g., extreme weather events, infectious diseases, air pollution) pose unique challenges because they may exceed our threshold to respond. In addition, certain subpopulations are more vulnerable to all climate-related impacts because of age, health status, gender or employment.

Infants and children are especially vulnerable to climate change, as they are to environmental degradation, because of their inability to protect themselves, relatively high intake of water, air and certain foods, rapid growth and development, immature physiology and metabolism, and potential for high cumulative exposures over their lifetime.

Recent research indicates that pregnant women and their developing fetuses may be at special risk during extreme weather events. Research has also shown that women may be more vulnerable to psychosocial health impacts during extreme weather events because they are more likely to bear the burden of recovering from the extreme event, and of continuing to meet multiple demands within and outside the household.

Older seniors are especially vulnerable because of their diminished ability to acclimatize to changing temperatures, adverse health conditions and social isolation. A study conducted by Toronto Public Health found that when air pollution combines with extreme heat, this group is the most vulnerable to premature mortality. Research suggests that older men may be particularly vulnerable to climatic extremes because they tend to be less well integrated into a defined social structure and therefore have less access to assistance through family members or community volunteer organizations. People with low income and those with adverse health conditions, including mental health illnesses, are vulnerable because of their health status, and in some cases, existing barriers to health care. Outdoor workers will be more vulnerable as they are directly exposed to extreme heat events and increased levels of ultraviolet (UV) radiation. Those who live on the land whose livelihood is tied to natural resource-based employment will also be at greater risk.

Source: Adapted from Walker, A. (2006). Vulnerability: Who's most at risk? Health Policy Research Bulletin 11, Climate change: preparing for the health impacts. Retrieved December 4, 2007 from http://www.hc-sc.gc.ca/sr-sr/pubs/hpr-rpms/bull/2005-climat/2005-climat-6_e.html.

2.3 Lessons Learned in Recent Disasters

Following Hurricane Katrina, horrific images of suffering were a stark reminder of what is at stake in disasters when timely and appropriate assistance is not available for those unable to help themselves. Understood by some as a case of “American exceptionalism” unlikely to transpire in a culture and context such as Australia’s,¹¹ the many “lessons of Katrina” can also be seen as a catalyst for addressing social vulnerabilities differently in Canada.

The *National Framework for Health Emergency Management* also recognizes that “past disasters in a community and lessons learned from other places may help identify groups of people at greater risk.”

What has been learned about high-risk populations in Canadian disasters? What might be learned? Studies by disaster social scientists and first-hand narratives from

responders and survivors indicate a wide range of issues that arise for high-risk groups caught up in emergencies and disasters. While more Canadian case studies are clearly needed, the events discussed below can be seen as “wake-up calls” to the need for more effective partnerships in the event of even more catastrophic events in the future.

SARS

Without specific knowledge of the everyday living conditions of those most at risk, emergency planning cannot succeed. Pre-disaster homelessness, poor health, lack of safety, and social marginalization clearly combine to put the homeless at great risk in such health emergencies as SARS. As one critic cautions, “When SARS hit Toronto it was evident within weeks that shelters and drop-ins and all the people in them would have to fend for themselves. The City’s best plan in the event that homeless people were exposed to SARS included a proposed ‘lockdown’ of Seaton House — the largest men’s shelter in Canada — and ‘home’ quarantine in the same shelter. No plans for proper quarantine facilities. No plans for drop-in centres. No plans to stop the night-by-night movement of people who are homeless and forced to use the volunteer based *Out of the Cold* emergency shelter sector. This lack of planning would have made it impossible to contain the outbreak should SARS have entered this population.”¹²

Flooding

Many years earlier, the vulnerability of Aboriginal people to the effects of the 1997 Red River flood was increased by inattention to broader community characteristics. Long-standing patterns of exclusion had undermined community health and solidarity, manifestly leaving a poorer, sicker, and more demoralized community vulnerable before the flood. Relative to other nearby towns, the reserve had fewer and weaker networks of relationships between groups and organizations through which people learn and assess information about prevention, relief and recovery, among other resources. The strong social capital (and better indicators of public health) of these neighbours stood them in good stead.¹³

Cultural factors also came into play as relief systems reflected culture-bound assumptions about property ownership. “As a First Nation, the community ‘owns’ all the buildings. Families occupy residences, but do not have ownership of them. Consequently, it was difficult for a family to get assistance in repairing the house in which they lived because programs were designed to help property owners. . . .When a

disaster zone was declared in the Red River Valley and areas to be evacuated identified, Roseau River was not mentioned. The community had to find out from federal authorities that they should also evacuate. Roseau River always seems to be caught between jurisdictions, as they were in this case.”¹⁴

“Disaster resiliency within communities requires more than emergency management at the governmental level. Communities that acknowledge, and provide for, the needs of all their members and that have the basic health and safety services in place are better positioned to prepare for and respond to any crisis or disaster. In today’s interconnected society, communities cannot achieve these goals without the consistent support of higher levels of government.” —Brenda Murphy, 2005, *Enhancing Local Level Emergency Management: The Influence of Disaster Experience and the Roles of Households and Neighbourhoods*, p. 65.

In a report on aging and social vulnerability in Canadian disasters prepared after the 1997 flood, it was found that while 75 news releases and 41 public service announcements were distributed by the City of Winnipeg, “there were essentially no messages targeting elderly people in particular nor any other demographic sub-group or identified vulnerable populations.” The report noted the lack of attention to how particular social groups received or acted upon these risk communication messages.¹⁵

What lessons were learned from the 1997 flood? In a follow-up report from the province, 58 recommendations for change were made, but none spoke to the need for “greater inclusion of the public in general or of sub-groups, such as seniors, in particular.” In contrast, a flood survivor urged, “the people the programs are designed to help should be the people involved in designing the programs.”¹⁶

Relative to women, in one of the rural towns outside Winnipeg’s perimeter and floodway, it was found that “only six of the 75 residents permitted or asked to stay longer were women, whose jobs as cook, nurse, waitress, or ‘executive assistant’ supported the male emergency team staying behind as the town evacuated.”¹⁷ Stereotypes rather than evidence may guide policy, for example, concerning the mandatory evacuation of population groups. Enforced family separation has been clearly linked to delayed disaster recovery, and manifestly undermines resilience by depriving a community of the strengths and resources of all residents. As one wife remembered it, “We needed to be together for this and we weren’t.”¹⁸

Remembering the Saguenay flood, the director of a transition house for abused women reported that: “Everything actually came to a standstill. The police services were overwhelmed and stretched. There were no phones, no electricity, no water. All the energy was spent fending off the most immediate problems and responding to essential needs. It required great flexibility on the part of the staff.”¹⁹ As violence against women

is often reported in the wake of disasters, internationally and in Canada,²⁰ voluntary organizations working with or sheltering abused persons should be prepared. A study of US and Canadian domestic violence agencies (those affected and unaffected by a disaster) indicated strong interest in protecting the highly vulnerable population they serve and being more engaged in local emergency management activities — interest that increased among programs that had gone through a disaster.²¹ But this may be difficult, as the manager of a Vancouver transition house explained, “I called earthquake readiness at City Hall and we didn’t have a big enough group to warrant a meeting. They wanted us to organize our block or neighbours. I don’t have that time and worry about safety issues. Besides, [the transition house is in] an upscale neighbourhood that doesn’t like us very much.”²²

“Disasters do not cause discrimination: they exacerbate it — and discrimination in an emergency setting can be life-threatening. The most marginalized and vulnerable risk not surviving the crisis or, if they do, they are then overlooked in plans to recover and regain their livelihoods. Discrimination is best addressed in times of stability, but aid agencies and government agencies must also be made aware of the consequences and manifestations of discrimination during the heightened tensions brought about by emergency.” —IFRC, *World Disasters Report 2007, Focus on Discrimination*

Ice storm

The 1998 ice storm affords other lessons. As indicated in the Nicolet Commission of Inquiry, nearly 300 vulnerable seniors were relocated in the early days of the emergency. In Saint-Jean-sur-Richelieu, however, 130 people “had to sleep on cots in the crowded gymnasium of *CHSLD Gertrude-Lafrance*, where conditions left much to be desired in terms of comfort and hygiene.” As is generally true, shelter facilities were utilized primarily by the “economically and socially disadvantaged members of society, as well as the most physically and psychologically vulnerable.”²³

Further, it was found that “at the same time, many seniors and persons with disability who remained in their homes went without their regular care and services until they could be relocated, while seniors living in private facilities often found themselves in situations that seriously compromised their physical and psychological well-being.” Significantly, the authors of the Commission’s report also concluded that “community organizations were not included in emergency response plans and had to muddle through on their own.”²⁴

A researcher reported that a woman with fibromyalgia and arthritis found that mobility was difficult in the gymnasium used for shelter and that she was often “last in

line” when food or cots were distributed. After four days, this prompted her return home where she coped alone with two more days of power outages. She recalled, “Because people could not see my disability, they assumed I was OK. So, no one offered to help. I paid the consequences of this later as the pain was so bad for weeks after the storm.”²⁵

Disasters can have long-lasting effects, including generational effects. The ice storm in Ontario, Quebec and New Brunswick provides an example, according to researchers who found that anxiety and stress among women affected by the storm resulted in increased obstetric and developmental complications.²⁶ The reproductive health effects in men are no less significant but less often investigated. Gender and inter-generational dimensions of disaster vulnerability are illustrated by reproductive health concerns in disasters, which are rarely investigated or integrated in preparedness, response or long-term recovery.

Heat wave

Writing from her vantage point as a street nurse, one advocate for the homeless wrote of Toronto’s 2005 heat wave, “It’s no secret that most heat wave victims are elderly and poor. Two primary reasons for death are a lack of air conditioning and the necessary family and agency supports that can prevent a medical emergency. People with other types of conditions such as depression, diabetes and those on psychiatric drugs are also at higher risk of death during a heat wave. . . .To date, the City has not planned a consultation with organizations that provide services to vulnerable populations such as the housebound, frail elderly, disabled or homeless people, to learn what their needs are and what prevention measures and programs could be implemented.”²⁷

Social vulnerability, capacity and resilience in Canadian disasters have not been well-documented to date in disaster social science, yet these are telling examples of how even the most visibly “vulnerable” groups fall through the cracks of emergency planning, response and recovery.

2.4 Balancing Vulnerability and Capacity

Case studies from Canadian experience, echoed by international events, suggest that the assistance and special needs of the poor or newly arrived or socially isolated are very real. So, too, are the rich life experiences all people bring with them to disasters, and their coping skills in everyday crises, interpersonal and social networks, local

knowledge of community and neighbourhood patterns and trends, historical memory, indigenous practices, and past experiences surviving extreme or traumatic events.

As emphasized in *An Emergency Management Framework for Canada* and echoed internationally in research and training programs, the everyday coping skills of the most vulnerable are essential resources for survival — not only in the immediate aftermath of an event, but over the long period of recovery. Recognizing and building upon the local knowledge, passions, skills, and relationships of highly vulnerable people is an important step toward disaster resilience.

Striving to build resilience is a fundamental principle of Canadian emergency management. This “minimizes vulnerability or susceptibility to damage from hazards by creating or strengthening social and physical capacity in the human and built environment to cope with, adapt to, respond to, and recover and learn from disasters.” From this perspective, too, it is essential that voluntary and emergency management organizations alike strive to develop and strengthen their capacity to protect the life and safety of high-risk populations. As seen below, it begins with partnership.

Resilience, like vulnerability, is a complex sensitizing concept, often understood as the relative capacity of individuals, households, organizations or communities to “bounce back” after the kinds of shocks wrought by natural, technological or human-induced disasters. The emphasis is on people’s ability to adapt to changing circumstances. This approach to resilience can imply a return to equally hazardous conditions and the necessity for “adaptation” to hazardous conditions. Indeed, without planning ahead for sustainable disaster recovery and careful attention to how vulnerability is created in particular communities and environments, disaster recovery often simply reconstructs vulnerability. However, as stated in the *Emergency Management Framework*, resilience can also be understood as a system, community or organization “persevering, recuperating or *changing*.” In this way, a disaster-resilient community learns from experience and organizes future mitigation, preparedness, response, and recovery activities around the concept of risk reduction.

System robustness, redundancy, rapidity, and resourcefulness are vital characteristics or dimensions of disaster resilience.²⁸ That is, a resilient organization or neighbourhood or social group is one that has taken steps to withstand shock (e.g., earthquake-resistant housing), to reduce dependency on resources or systems (e.g., diversified livelihoods, interoperable communication systems), to respond in a timely way (e.g., emergency plans, training exercises), and to earmark the resources needed to protect life and safety (e.g., stockpiled materials, trained emergency social service staff).

The principles of sustainable recovery emphasize the need to assess and build on local capacity as an essential step toward resilience. It is also a fundamental principle for Canadian emergency managers as they engage with highly vulnerable people. After studying how one community coped with a tornado, a student of disaster concluded: “Communities that acknowledge, and provide for, the needs of all their members and that have the basic health and safety services in place are better positioned to prepare for and respond to any crisis or disaster. In today’s interconnected society, communities cannot achieve these goals without the consistent support of higher levels of government.”²⁹

Neither governments nor communities acting alone can fundamentally reduce the social vulnerabilities of Canadians. Disaster resilience grows step by step. Resilience also demands a voluntary sector capable of effective partnerships with emergency management authorities and possessing resources sufficient to ensuring preparedness, service continuity and outreach to vulnerable populations. The authors of a related report from the Canadian Red Cross have noted on this point:

“The practical reality is that voluntary organizations are unlikely to extend beyond their usual activities during an emergency unless they are coping well with the impact of the emergency on their own organization. Internal planning and preparation are therefore critical steps in preparing an agency to consider going beyond its existing mandate and clientele to enable it to be actively engaged in responding to a health emergency. . . . Many voluntary organizations serve the needs of vulnerable populations such as elderly, disabled, economically disadvantaged, and youth. This natural connection to determinants of health is a valuable asset that should be recognized.”³⁰

From beneficiary to partner

Reducing social vulnerability is not a short-term or simple process — but it is also not “mission impossible” when approached as a partnership between emergency management authorities and high-risk populations.

Having seniors in mind, two experienced students of disaster wrote: “There is a gap between the common perception of the needs and abilities of these sub-groups and the reality. Only by engaging in meaningful dialogue with these groups will the emergency management establishment be able to determine if their needs are being served and if their full potential is being achieved.”³¹ This approach also enables a shift

from seeing vulnerable groups as beneficiaries or clients to seeing them as key stakeholders and planning partners. “For example, when emergency managers strive to reach non-English speaking and recent immigrants, their best allies may be other immigrants living in poverty in hazardous places who are seen as trustworthy, can translate local languages, are informal opinion leaders in their neighbourhoods, and have gained “know how” navigating government bureaucracies.”³²

Though often considered to be “special” groups with unique dependencies and needs for assistance in emergencies, those who are challenged by limitations, barriers, marginalization, stigma, or lack of resources in their everyday lives are also key planning partners for emergency managers. Working closely with them to develop their capacities and address outstanding needs is an important step toward developing more disaster-resilient communities.

Yet community-based organizations working with immigrant women, children with disability, undocumented workers, displaced Aboriginal residents, and the host of other groups and communities known to be living in high-risk conditions may not be seen as natural planning partners by emergency managers. Workplace cultures, institutional frameworks, resource base, mission and purpose — these and a myriad of other factors complicate the injunction for “partnership” and an integrated, all-hazard approach to reducing disaster vulnerability. Table 1 indicates some of the planning gaps that may result.

As recommended in the *National Framework for Health Emergency Management*, hazard and risk assessments are core activities in emergency management. International disaster risk-reduction experts have long argued the value of participatory risk assessments that identify both vulnerabilities and capacities, especially as these change over time.³³ When conducted with attention to mapping the resources and capacities present in every community, as well as critical vulnerabilities, risk assessments chart the way forward to disaster resilience. Writing about community resilience and social capital, a disaster researcher notes that effective response “tends to involve organisations, such as neighbourhood associations and service groups, not normally thought of as emergency response groups. This was certainly observed in Pine Lake and supports the idea that disaster response will tend to require the interaction of organisations that do not normally have regular contact. . . [R]esiliency to disasters can be improved by involving all organisations that may have ‘disaster relevant resources’ in the emergency planning process.”³⁴

“Vulnerabilities precede disasters, contribute to their severity, impede effective disaster response and continue afterwards. Needs, on the other hand, arise out of the crisis itself, and are relatively short-term. Most disaster relief efforts have concentrated on meeting immediate needs, rather than on addressing and lessening vulnerabilities.”
 —Mary Anderson and Peter Woodrow, 1989, *Rising from the Ashes: Development Strategies in Times of Disaster*, p. 10.

Table 1: Common System Gaps

Planning areas	Emergency management organizations	Voluntary organizations in high-risk sector
Knowledge	Few risk assessments based on local research on the experiences, needs and resources of vulnerable population groups	Low awareness of local hazards and existing or potential emergency management activities, resources and networks
Training	Little training in emergency management about the capacities and needs of specific high-risk groups	Lack of emergency preparedness training in organizations working with high-risk groups
Simulations	Few exercises including high-risk populations or drawing on their expertise	Lack of emergency exercises conducted by organizations in the high-risk sector
Communication	Limited culturally appropriate, accessible and effective communication with persons living at increased risk	Few information networks or knowledge exchange with local emergency authorities
Planning/Consulting	Limited outreach to the grassroots organizations most knowledgeable about populations most at risk	Limited outreach to the grassroots organizations most knowledgeable about populations most at risk

Vulnerability analysis is a vital planning tool as emergency managers must be able to locate, collect, analyze and act upon their community knowledge about those least able to help themselves. Demographic data integrated with geographic risk maps (where group living homes for seniors or for low-income residents are located relative to a flood plain or fault zone, for example) can be useful, but statistical knowledge cannot substitute for local community knowledge.

Active participation by key stakeholders, including representatives from neighbourhoods and population groups likely to be especially hard hit in various hazard scenarios, enables a collaborative process of risk assessment that can be empowering.³⁵ For example, in interviewing residents following the Pine Lake tornado, researchers found neighbours to be quite aware of those in the area who would require special assistance, such as a mother of young children or a chronically ill neighbour.

Survey data, as well as interviews, led to the conclusion that: “On-the-ground, localized, in-depth knowledge is vital to targeting emergency response towards those most in need. To be of greatest benefit, this information should be incorporated into neighbourhood plans and should be conveyed to planners and first responders at the municipal level. One excellent opportunity to access this knowledge would be during public participation processes designed to enhance disaster planning exercises.”³⁶

Partnering with people who live at increased risk, and the organizations that support, them enables planners and responders to move beyond stereotypes and “one size fits all” approaches to target resources more effectively, as explained by this advocate for seniors: “Bringing seniors into the emergency planning process, which is often significantly shaped by volunteer organizations, could be mutually beneficial for disaster management authorities and seniors. It would make seniors aware of what they can do to ensure their continued self-sufficiency following a disaster. If the well elderly can see to their own safety following a disaster, more resources can be focused on helping those vulnerable seniors who do need assistance.”³⁷

Like women’s groups actively working with high-risk girls and women, ethnic and cultural groups or organizations are important planning partners. Advocates for this approach suggest that: “The experience, structure, and network which already exist at multi-cultural organizations may be useful in relating emergency preparedness information. There is a high probability that in the case of an emergency, ethnic people will rely on the organizations for assistance, underlining the importance of their inclusion in emergency planning.”³⁸ For these reasons, information exchange, networking and a policy of active consultation — not simply translation of existing materials — can be very fruitful.

Fundamentally, the most important outcome of partnership is not efficiency or even equitable distribution of, or access to, emergency preparedness, relief and recovery resources. It is the vision of community resilience and disaster risk management that puts human rights first, and recognizes that the solution to disasters, like the driving forces that produce them, are collective: “The determinants of vulnerability are collectively generated in our communities and therefore a community approach is needed to resolve them.”³⁹

These case materials from Canadian experience demonstrate the compounding effects of vulnerability in particular places and times, and the exclusionary practices that may increase risk significantly in “normal” times — and particularly in disaster contexts. Past disaster events also illustrate the functional limitations of high-risk groups and

suggest the need for practices and policies that help them maintain independence, communicate, be mobile, retain the support of appropriate supervision or care, and have continuity of medical care.⁴⁰

The survey findings reported in Section 4 of this report related directly to this point and are reviewed in more depth below.

2.5 Canada's 10 High-risk Populations

While language is always in transition, a common terminology for use in Canada is needed. The terms “special populations” or “vulnerable people” were identified as “loaded,” with connotations to be avoided. The term “vulnerable” conveys to many — including many to whom it applies — a sense of neediness and dependency, which indeed is how the term has often been interpreted in practice by emergency responders and planners. While this may well be warranted in some contexts, it is not always or universally the case. Continuing use of the term “vulnerable” may in fact mask the resources and strengths that stem from a life of coping with adversity and managing crisis. For this reason, the term “high-risk” population is recommended. While the term can be used to describe communities or regions, it is used in this report to refer to individuals and groups, and to conditions of daily life.

Who are the people and groups least able to access or control the essential resources that protect people and places in disasters? There is no single answer. In Canada, the social determinants of health are the cornerstones of public health policy — and the building blocks of resilience to disaster. It was recognized during the consultation that the social determinants of health model is the preferred approach for planners seeking to identify high-risk population groups. The factors enabling people to

12 Social Determinants of Health and Well-Being	
Income and Social Status	Personal Health Practices and Coping Skills
Social Support Networks	Healthy Child Development
Education and Literacy	Biology and Genetic Endowment
Employment/Working Conditions	Health Services
Social Environments	Gender
Physical Environments	Culture
http://www.phac-aspc.gc.ca/ph-sp/phdd/determinants/determinants.html#income	

resist the shocks of everyday life relate closely to those that promote disaster resilience, leading to the conclusion that reducing or addressing social vulnerability in emergency management poses essentially the same challenges as promoting health and well-being in sustainable communities.⁴¹

Knowing about high-risk people and places at the most local scale possible — and tracking social factors affecting their relative vulnerabilities and capacities over time — are important aspects of risk assessment and powerful planning tools for emergency managers at every phase of the disaster cycle. This knowledge also helps communities organize collectively to reduce risk and prioritize their mitigation efforts. But too often risk assessments are based on very short lists of “special populations” with presumed incapacities (e.g., the old or young, or people living in non-traditional family types). Alternatively, very long lists of “the vulnerable” may be circulated, but these are unwieldy and rarely found useful by emergency planners.

Instead, a functional analysis related to the social determinants of health is recommended when identifying high-risk groups, as this highlights cross-cutting constraints based on functions rather than presumed group characteristics. For example, it is most useful to consider planning issues raised by medical dependence, whether this is caused principally by illness, cognitive disability, pregnancy or other conditions. More traditional approaches tend to focus instead on broad undifferentiated social categories (e.g., the old or disabled), which may discourage the more nuanced approach needed. Recognizing common concerns that arise for people with particular health needs or language issues is the best foundation for coordinated outreach and is preferred to a “stovepipe” or population-based approach.

The value of a population health approach is that compounding or cross-cutting factors are clearly visible. For example, among the homeless are women and men, families, teens, persons with chronic illnesses, Aboriginal Canadians and new Canadians. The population health approach also highlights the need to anticipate trends endangering public health and well-being, which supports the same impetus in effective hazard and risk assessments. The further advantage of a health-based approach is the opportunity to integrate disaster risk-reduction approaches into healthy living initiatives under way across Canada.

With these considerations in mind, this project identified 10 high-risk population groups, drawing on expert consultation, literature review, analysis, and the application of the key social determinants of health and well-being.

Canada's 10 high-risk populations

Seniors	Persons with disability
Aboriginal residents	Medically dependent persons
Low-income residents	Children and youth
Persons with low literacy levels	Women
Transient populations	New immigrants and cultural minorities

It is important to note that these are not unitary or mutually exclusive categories but represent real people whose lives are, of course, informed by a multiplicity of identities, relationships and living conditions. Their relative vulnerability to a particular hazard at a particular moment in time and phase of the disaster cycle must be investigated, not assumed. Further, it is understood that these 10 sub-populations, which together constitute a majority group, are not the only groups of Canadians living at risk but those least able to anticipate, prepare for, cope with and recover from the effects of the next storm, flood or earthquake.

“If I do not understand the language, why am I going to turn on the radio?” —Young ethnic woman quoted in *Solis, Guidelines on Cultural Diversity and Disaster Management*, p. 6

3.0 The Red Cross High-risk Populations Survey

A primary goal of the Canadian Emergency Management and High-risk Populations Project was to collect baseline data about existing relationships between voluntary and emergency management organizations with respect to the needs and capacities of high-risk populations. As part of the project, two surveys were conducted over the summer of 2007, which focused on emergency management organizations at the federal, provincial and territorial levels, and on voluntary organizations serving populations at increased risk. Until further research is conducted at the local level, the findings cannot be readily generalized to the grassroots level where different problems and problem-solving strategies may exist.

The research was conducted through on-line surveys of 137 organizations with occasional follow-up telephone interviews. Representatives of predominantly national and provincial level emergency management organizations were asked to reflect on their experiences and intentions relative to socially vulnerable populations. Voluntary organizations were invited to assess their capacity and intention for emergency preparedness, and their existing and desired degree of integration with emergency management systems. Both surveys solicited data about existing tools, resources and networks that might promote disaster planning to reduce vulnerability.

3.1 Research Method

A sample was selected from two different organizational networks, “emergency management” and “voluntary organizations,” and two different but related surveys were administered to each. As the sample parameters were defined for practical reasons, the result is a purposive sample not expected to support generalization to all emergency management and voluntary organizations active in Canada. These two groups overlap somewhat in the surveys, as they often do in practice. Surveys were returned from 48 emergency management organizations and 89 voluntary organizations, constituting 35% and 65% of the sample, respectively.

The emergency management survey was administered to 64 federal, provincial, territorial government emergency management organizations and a subset of agencies and bureaus with emergency management responsibilities. The on-line survey (with an explanatory note from the Canadian Red Cross) was forwarded electronically to organizations in the areas of health, emergency social services and emergency management. These were identified on the basis of statutory responsibility and well-

known interagency networks, as well as the expert knowledge of key informants. The survey explicitly solicited the views of the directors or lead professionals, and respondents were asked to speak on behalf of their organization.

Five core organizations in the voluntary sector were also included in the emergency management survey, as they are widely regarded as integral to the nation's emergency management system and an important interface with high-risk groups. Although the study was not designed to assess activities at the local level, 17 municipal emergency management organizations actively engaged with high-risk populations were also included. Overall, this sample best represents the provinces and territories (54% of respondents), although surveys were also completed at the federal (21%), municipal (15%), and voluntary (10%) levels.

The voluntary organization survey was administered to 55 national organizations, based on a list developed through expert knowledge and a web-based search for national organizations actively engaging high-risk populations. This survey was also completed by 34 professionals based in government agencies (e.g., Office of Disability Issues) and should not be seen as exclusively nongovernmental. It was distributed to lead national organizations, and respondents were asked to broadcast the survey through their respective networks. The 89 voluntary organizations responding represented a wide range of groups that provide service to the 10 high-risk populations under consideration.

Survey Sample and Terminology

Emergency management organizations (48 completed surveys)

Designated organizations operating in different sectors at the federal, provincial, territorial, municipal levels and Aboriginal organizations with emergency management responsibilities.

Also included in this survey were five voluntary organizations traditionally active in disasters in Canada: Canadian Red Cross, St. John's Ambulance, The Salvation Army, Mennonite Disaster Services, and Christian Reformed World Relief Committee.

Voluntary organizations in high-risk sectors (89 completed surveys)

Community-based organizations serving, advocating or representing high-risk populations in disaster contexts, or knowledge about them.

Also included in this survey were five responses from government officials whose activities relate closely to these organizations.

3.2 Findings and Discussion

The findings from survey responses were reinforced by a literature review conducted as part of the project. Three major findings from the surveys emerged:

1. Significant gaps exist in meeting the needs of high-risk populations;
2. Emergency management and voluntary sector organizations strive to meet the needs of high-risk populations but do not always have either the relationships or the resources needed to meet their goals; and
3. Networking and bridge-building between emergency management and voluntary organizations serving high-risk populations is needed at all levels.

In the discussion below, issues of concern related to each of the findings are presented, as well as examples of work currently under way to integrate the needs and capacities of high-risk populations into emergency management systems. These good-practice examples are drawn from survey responses and include activities that have come to the attention of the research team over the course of the project. They are included here as significant steps being taken in Canada, despite the formidable challenges facing both emergency management and voluntary organizations in this area.

3.2.1 Significant gaps exist in meeting the needs of high-risk populations in Canada.

To determine which high-risk populations were being considered, emergency management organizations were asked, "Which of the following high-risk populations have your organization specifically considered in its emergency management activities?"

As indicated in Table 2, seniors, persons with disability, and Aboriginal residents are the high-risk populations most likely to be specifically considered in existing emergency management activities. Significantly, nearly two-thirds of responding organizations indicate that they do presently incorporate the concern of seniors and persons with disability into their activities. Workshops and consultations to date relating to disaster vulnerability have focused primarily on age and disability concerns. This suggests that these working groups are having a positive effect on the level of interest and consideration being given by emergency management organizations.

Table 2: Outreach to High-risk Populations

Canadian high-risk populations	Percent of responding emergency management organizations
Seniors	67%
Persons with disability	61%
Aboriginal residents	61%
Medically dependent persons	54%
Low income residents	51%
Children and youth	49%
Persons with low literacy	44%
Transient populations	40%
New immigrants/cultural minorities	35%
Women	26%
Other (e.g. students, mental health)	19%
None	9%

Low-income residents, those with medical dependencies, and children/youth, are also incorporated into emergency management activities by about half of the responding organizations. The concerns of transient populations, new immigrants/cultural minorities, and women are least likely to be considered, though outreach to these populations was also reported. For example, one respondent noted “a Reception Centre exercise that specifically tested evacuating vulnerable seniors, which tested the transportation and caring components within a shelter.” This organization also cited a “large community forum/workshop that focused specifically on diversity and trauma for new immigrants.” A second spokesperson for an emergency management organization explained, “We work with aboriginal groups in developing emergency plans. We have tailored and delivered basic emergency management courses specifically for aboriginals. We deliver public information material to senior groups on a regular basis.”

The appendices illustrate the kinds of initiatives currently under way to promote more effective outreach and attention to the concerns of high-risk populations. These present new opportunities for emergency management organizations and voluntary sector organizations alike. However, as noted below, for the most part voluntary organizations do not feel positively connected to emergency management, suggesting that these efforts are not yet sufficiently broad-based or scaled up from successful local practice.

Differential levels of awareness

It is encouraging that relatively high levels of outreach are given to particular groups of high-risk Canadians. However, the data cannot explain why the vulnerabilities and capacities of some groups are more salient than others.

With respect to emergency preparedness, the proactive approach to seniors and people living with disabilities may well reflect the development of strong advocacy groups— along with the corresponding number of checklists and other practical tools currently available — in these two communities. For example, the February 2006 World Health Organization conference conducted in Winnipeg brought attention to the implications of disasters for seniors, and certainly raised awareness in this area. In contrast, there is a lack of strong focus on the everyday living conditions of new immigrants who do not have deep connections to community, a local knowledge of weather patterns, or dominant language skills; on cultural minorities who have feelings of isolation or social exclusion based on sexuality, faith and gender inequities; and on women who experience a gender-based division of labour in disasters. The disparities may also simply reflect language barriers in emergency management practice that deter outreach to new immigrants, or a lack of training on the gender dimensions of disasters.

Lack of awareness of particular groups at increased risk, and how these groups can be reached, were barriers cited by emergency management organizations. A review of the social vulnerability literature confirms this awareness gap, which may be historically driven by emergency management as a profession and culture of practice focused on physical dynamics rather than the social determinants of disasters. To date, no social vulnerability courses or modules are routinely used in training or post-secondary education in the field. The social determinants of a health-based approach have not yet been adopted as a tool for identifying high-risk groups, nor has the resource approach to disaster vulnerability been used to identify risky living conditions. Certainly, resource constraints may also help explain disparities in service to different high-risk populations, such as high costs for transportation or language translation, or a lack of staff trained in outreach to particular high-risk populations.

More awareness at the local level

Emergency management organizations at the local level report substantially more outreach to high-risk populations than do their provincial/territorial or federal

counterparts. Virtually all responding local emergency management organizations do take into consideration persons with low income, persons with disability, new immigrants/cultural minorities, seniors and transient populations. Four in five (83%) of local emergency management organizations are also considering low literacy populations in their work, and 50% consider women as a high-risk group. In contrast, 11% of federal-level emergency management organizations more rarely consider low-income and high-risk women (11%), seniors (22%) and Aboriginal Canadians (44%). A full third of responding organizations at the federal level do not report taking high-risk populations into consideration in their activities, reflecting a difference in jurisdictional mandates and scope.

Limited range of activities engaging high-risk population concerns

Additional gaps in service to high-risk populations are evident when emergency management organizations are asked, “Which of the following activities has your organization carried out to meet the needs of high-risk populations?” (see Table 3).

Table 3: Emergency Management Core Activities and High-risk Populations

Activity being carried out by emergency management organizations	Percent of responding emergency management organizations
Planning	82%
Collaboration	74%
Training	54%
Practice guidelines/policy frameworks	41%
Advocacy	39%
Risk Communication	36%
Research	36%
Exercising	33%
Programming	33%
Translation	31%
Other	15%

Planning and collaboration are two primary activities carried out by emergency management organizations, so it is encouraging that the great majority of these organizations do indeed consider high-risk populations in their planning activities. However, as the literature review suggested and the data presented earlier in this report

indicate, not all high-risk population groups are seen as collaboration or planning partners. This may reflect a lack of awareness of the capacities and resources of populations traditionally stereotyped as “helpless” or “dependent,” and reinforce the need to balance vulnerabilities with capacities and to seek active collaboration with all groups at increased risk.

Training is conspicuously absent as a core activity in about half of the emergency management organizations surveyed (54%). This might include training to identify locally vulnerable people and places and risk factors that affect them, or specific practical issues likely to arise in these groups in different disaster scenarios, or strategies for recovery planning that increase human and social capacity, among other topics. Fewer emergency management organizations (41%) report having practice guidelines or policy frameworks in place for high-risk populations. Yet these are critical mechanisms for structures and processes that promote a holistic and sustained attempt to address social vulnerabilities.

Similarly, although it is through local inquiry that informed policy and programming can be developed, few emergency management organizations (36%) are now able to conduct research on the high-risk populations within their jurisdictions. Finally, just one-third of the emergency management organizations surveyed report conducting emergency exercises with high-risk populations. This is a striking gap as emergency plans and interagency roles and responses are tested and refined through exercising disaster scenarios. Without their own participation, can people especially vulnerable to the effects of hazards and disasters feel engaged, understood or valued?

More engagement locally

Local-level emergency management respondents reported much higher percentages of consideration in each of the categories of action reflected in Table 3, as might be expected. For example, two in three (64%) indicated that they have practice guidelines/policy frameworks — in contrast to the provincial/territorial (43%) and federal (29%) levels. Similarly, two-thirds (67%) of local emergency management organizations are indeed conducting research on high-risk populations, and all report collaboration as an activity, enabling outreach and integration with those most at risk. It is important to capture knowledge about these positive local integration strategies and explore them from the voluntary sector perspective as well.

These core activities are much less often geared to vulnerable people at the provincial and territorial level, where 43% have practice guidelines/policy frameworks, 33% are conducting research, and 90% are collaborating. Finally, at the federal level, while just over half of responding agencies report planning activities engaging high-risk groups, only 29% have practice guideline/policy frameworks in place, 29% are conducting research, and 29% are collaborating in some way with high-risk groups.

Good practice

Appendix B illustrates a number of activities that support a more integrated emergency management system that incorporates the strengths as well as the vulnerabilities of people living at increased risk of hazards and disasters. Appendix C provides more information about national, provincial, and local initiatives that address awareness and service gaps to high-risk populations. This strong foundational work, which points to a growing imperative for future work, is likely to build in momentum as successful practices become catalysts to action elsewhere or in different contexts.

Finding 1 – Issues of concern:

- Ø In collaboration with voluntary sector organizations, emergency management organizations should extend outreach to all 10 high-risk populations in order to better understand their needs and the capabilities and resources of the organizations that work with them on a daily basis.
- Ø Policy frameworks and better practice guidelines can help model and promote attention to social vulnerability in such core emergency activities as planning, training and exercises, research and awareness.
- Ø As the Canadian approach to risk management spreads responsibility across federal, provincial and territorial jurisdictions, there is a need for stronger federal-level leadership in this area.

3.2.2 Emergency management and voluntary sector organizations strive to meet the needs of high-risk populations but do not always have either the relationships or the resources needed to meet their goals.

Part of the mandate of emergency management organizations and high-risk sectors is to meet the emergency management needs of their respective client communities.

However, both currently lack the resources needed to realize these goals — especially at the local level.

Voluntary sector organizations were asked to report on the type of preparedness activities they had undertaken. A large proportion (59%) of responding voluntary organizations reported having disaster preparedness plans in place. This suggests a high level of desire to be proactively engaged in emergency preparedness, and is an important resource for further collaboration. It must be added, however, that despite having preparedness plans in place, a sizeable minority of voluntary organizations are not ready to maintain service in a disaster. Table 4 illustrates the benefits of disaster plans, but also indicates significant planning gaps — even among those community organizations that have emergency preparedness plans in place.

Nearly one in three (33%) of voluntary organizations with a preparedness plan have not conducted business continuity planning, and nearly one in four (24%) report having no emergency supplies. It is encouraging that 69% of voluntary organizations with a preparedness plan have indeed conducted pandemic planning — which may reflect campaigns to raise public awareness of the threat of pandemics— but nearly one in three (31%) have not done so.

Table 4: Preparedness Activities of Voluntary Organizations

Preparedness activities	Percent of responding voluntary organizations
Emergency supplies	76%
Evacuation drills	71%
Pandemic planning	69%
Business continuity planning	67%
Staff and volunteer disaster preparedness training	61%
Other (e.g., EM exercises, fire drills)	27%

Organizational constraints in the voluntary and emergency management sectors

Encouragingly, just under one-third of respondents suggested that it was their own internal organizational mandate that constrained further activities promoting preparedness. Fewer still (one-fifth) indicated that lack of organizational leadership and initiative were barriers, or that lack of awareness of hazards is a barrier (18%). These

findings suggest a strong platform of readiness to engage, and the fruitfulness of collaboration that can tap into the capabilities of these voluntary organizations active in the high-risk sector.

Table 5: Constraints facing voluntary sector organizations

Voluntary sector organizational constraints	Percent of responding voluntary organizations
Resource constraints	70%
Limited awareness of emergency management systems	36%
Not in organizational mandate	31%
Other (e.g. lack of trained staff; emergency preparedness not a top priority)	26%
Lack of organizational initiative/leadership	20%
Limited awareness of hazards and disasters	18%
No constraints	7%

What does limit action? When voluntary sector organizations were asked to indicate what limits their ability to promote emergency preparedness for their clients, over one-third indicated it is a simple lack of awareness about emergency management systems. For most, however (70%), resource constraints that most limit their capacity to provide the high-risk populations they serve with emergency management services.

An opportunity exists, then, for emergency management organizations to develop or strengthen the capacity of voluntary organizations working with high-risk groups. Increasing their organizational resiliency manifestly supports the goal of disaster response and recovery that leaves vulnerable people and places less, not more, vulnerable to the effects of subsequent disasters.

“It is important that in our work with the most vulnerable in our communities we continue to acknowledge that their vulnerability is felt by them as individuals but is the result of larger social processes they have limited, if any, influence on. We must not fall into a rhetoric of ‘the vulnerable know their own needs best so let them solve it themselves’ ” —John Lindsay, 2007, *Vulnerability – Identifying a Collective Responsibility for Individual Safety*, p. 8.

However, responding organizations also identified their own lack of resources as their greatest challenge in reaching high-risk populations. This appears to be a role that competes with a great many other responsibilities. In the words of one emergency manager, “My organization needs additional financial and human resources to enable all required program areas to be properly addressed, one of them being support for the needs of high-risk populations in emergencies.” Some respondents reported that the issue of high-risk populations was often performed as an add-on to already demanding regular duties (“off the side of the desk”). Asked to identify “what can be done to increase the capacity of your organization to meet the needs of high-risk populations in a disaster,” over half of the respondents (52%) cited “securing sufficient organizational resources (e.g., personnel, funding)” as the most challenging dimensions of their efforts to reach high-risk populations.

Local capacity lacking

Disparities in human resources — with the proportion of job duties devoted to emergency management — were identified by respondents. This was especially true at the local level where 43% of respondents stated that about half of their regular job relates directly to emergency management. This compares with 73% of respondents at the provincial level who stated that 90% or more of their job relates directly to emergency management operations. At the federal level, 90% of respondents stated that the great majority of their job duties (90% or more) relate directly to emergency management.

This well-known pattern has particular resonance here as it is at the local level that effective and sustained partnerships bridging emergency management organizations and high-risk populations (represented by voluntary organizations) can be built — and, of course, where the effects of hazards and disasters are felt most immediately. It is vital that community groups and agencies working at the local level with people in highly vulnerable living conditions remain functional to the degree feasible in the event of an emergency, disaster or catastrophe, as past experience clearly suggests that those most hard-hit will turn to these groups. Local community groups and agencies must develop the capacity to remain as functional as possible on behalf of low-income residents, single mothers, homeless teens, new immigrants, Aboriginal people on and off reserves, and others whose everyday lives put them at increased risk. Voluntary organizations can be a lifeline to at-risk groups — or can be overwhelmed by

them. Serving their natural constituency (as well as others in the community outside the organizations' network) must become a primary goal of voluntary organizations, working in partnership with local emergency management authorities

Finding 2 – Issues of concern:

- Ø Voluntary organizations may not consider emergency management to be part of their mandate (as reported by 31%), but may well be called upon to provide service to high-risk populations in the event of a disaster.
- Ø There is a lack of resources to support voluntary organizations that desire to improve the coping capacities in disasters of the high-risk population they serve, and to build grassroots organizations that are more resilient to the effects of disasters.
- Ø Local emergency management organizations especially face greater financial and human resource barriers that constrain their work with vulnerable groups.

3.2.3 Networking and bridge-building between emergency management and voluntary organizations serving high-risk populations is needed at all levels.

Emergency management organizations and voluntary organizations indicate a need to increase awareness and outreach between their communities of practice.

As illustrated above in Table 3, 7 in 10 (74%) emergency management organizations reported that they do currently collaborate with high-risk sector organizations to meet the needs of those most vulnerable to the effects of disaster. As expressed by one emergency management representative, “We work closely with these groups and to my knowledge have an open dialogue on information sharing. There have been projects in which we have worked with these groups to co-brand things such as home emergency kits. I also believe that there have been times of shared training.” Another respondent reported “training and awareness, building resilience individually and as a collective, regular meetings with many of these groups, exercises and collaborative work with NGO's. . .[a] tremendous amount of networking.” These are encouraging building blocks for reducing social vulnerability in disasters.

Partnerships with voluntary organizations — but which?

Seventy percent of emergency management organizations reported concrete examples of collaboration with organizations serving high-risk groups. For the most part, these involved on-going relationships with traditional voluntary sector organizations already active in disasters, such as the Canadian Red Cross (cited most often, by 18 respondents), the Salvation Army (cited by 15 respondents), and St. John's Ambulance (cited by 7 respondents).

Strong and valuable connections with these agencies have emerged because each is highly active in disaster response and serves a cross-section of high-risk populations on a daily basis. However, the emergency management organizations may not be aware of the needs and capacities of specific high-risk organizations. Those voluntary organizations that are population-specific have this grounded knowledge but were much less likely to be partnering with emergency management currently. For example, the Canadian National Institute for the Blind is extremely knowledgeable about sight impairment populations and their coping skills in everyday crises but was cited just three times as a partnering agency. Similarly, a food bank has specific insight into the survival strategies of low-income populations (Feed Nova Scotia was the only food bank cited), and the resources of women's shelters that provide emergency family services and safe space to abused women on a routine basis, and at an increased rate following disasters, were not cited by any respondents.

A myriad of organizational networks in the voluntary and private sectors are active, or become active, when particular communities, neighbourhoods and social groups are affected. Significantly, a number of networks among and between emergency management and community organizations were identified in this research project — ranging from the Disabled Women's Network and Neighbourhood Watch to the Council of Emergency Social Services Directors, First Nations Emergency Management networks, and Social Services Emergency Planning Advisory Committee, among many others. These system relationships are or can become the basis for a more interactive and holistic system that anticipates, reduces and responds to high-risk groups in disasters. Conversely, without a better understanding of the capacities and limitations of these organizations and networks, significant opportunities for protecting life and safety may be lost.

Lack of awareness about coping skills and resources

It was observed earlier that deficiencies, weaknesses or functional limitations are generally more self-evident than the capacities a community may develop on the basis of marginalization and enforced self-sufficiency. Six in 10 emergency managers echoed this when they reported that “learning about the resources and strengths of each high-risk group” poses the greatest challenge to their work with these groups. With respect to risk communication specifically, emergency management organizations reported that “reaching high-risk populations with targeted preparedness information and warnings” is most challenging.

A majority of voluntary organizations agree or strongly agree that emergency management organizations do in fact need to be more aware of high-risk populations in their area and seek greater collaboration with high-risk populations in policy development. The majority of voluntary sector respondents feel that more could be done to improve awareness within emergency management organizations of the needs of high-risk populations. A particular concern of 91% of voluntary sector organizations is that emergency management organizations need “greater sensitivity to misinformation and stereotypes about high-risk populations,” clearly suggesting the need to review existing materials for accessibility, and for cultural and gender sensitivity. The majority (95%) of voluntary organizations also indicate that emergency management organizations need “stronger lines of communication with high-risk groups,” and greater collaboration (92%) with the voluntary sector. Awareness-building initiatives can help make this possible.

Building local partnerships

As might be expected, voluntary organizations are most likely to be aware of emergency management organizations at the local and/or provincial/territorial levels (58%). Interestingly, nearly the same proportion (52%) of responding voluntary sector organizations agreed or strongly agreed that they were very aware of emergency management at the federal level. While voluntary sector agencies appear knowledgeable about federal-level activities, only (33%) indicate that their organization is very involved with federal-level emergency management. Local partnerships are more common. Just under half (49%) of voluntary organizations agreed or strongly agreed that their agencies were very involved with emergency management initiatives at the local and provincial levels.

To determine what aspects and levels of the emergency management system were most visible to voluntary organizations, they were asked, “Do you have existing relationships with any of the following emergency management organizations?” Table 6 illustrates the results.

Table 6: Voluntary and Emergency Management Relationships

Relationships with emergency management organizations	Percent of responding voluntary organizations
Emergency Social Services	53%
Health Emergency Management	45%
Local/Municipal Emergency Management	42%
Provincial/Territorial Emergency Management	42%
Federal Emergency Management	33%

These data clearly suggest opportunities for developing and strengthening relationships between government and voluntary sector organizations in the interests of building an integrated system that reduces the risks faced by high-risk groups. Voluntary organizations have relationships with emergency social service (53%) and emergency health (45%) branches of emergency management organizations. Emergency social services is the most likely conduit for voluntary sectors to engage with emergency management organizations. Unfortunately, as previously mentioned, emergency social services (especially at the local level) are based in local-level organizations likely to be understaffed and funded.

Confidence gap

Voluntary sectors asked whether emergency management organizations were, in their judgment, prepared to serve the high-risk populations with which they work so closely. Very few were confident that the concerns of those least able to protect themselves took priority. Just 7% of voluntary sector organizations find local-level emergency management organizations to be prepared, with similarly low levels of confidence in provincial/territorial (8%) and federal-level emergency management (2%) organizations.

Are either systems fully prepared to meet the urgent needs of seniors, non-English speaking newcomers, the poor and homeless, single mothers, or the increasing

number of Canadians who suffer from chronic illness and are dependent on medicine and medical equipment? Clearly, while many organizations serving these and other groups have preparedness plans in place, they too struggle to fully integrate preparedness into their organizational routine and, like emergency management organizations, are frustrated by the mandate to act but with insufficient resources.

There is little doubt that ample opportunity for improvement in both core sectors exists. The challenge is to capitalize and build upon the many good steps that have been taken across the nation and to work in an integrated way toward disaster resilience long before the waters rise, the ground shakes or the forest burns.

Finding 3 – Issues of concern:

- Ø Existing partnerships with voluntary sector organizations tend to be with well-known agencies that may lack the kind of working relationship with the 10 groups understood to be at the most risk.
- Ø The capacities of local- and provincial-level emergency management organizations are not yet sufficient to produce sustained relationships or partnerships with key voluntary organizations in the high-risk sector.
- Ø Despite a fairly high level of awareness and varying degrees of contact with emergency management organizations, voluntary organizations have very low confidence that they are or will be integrated into emergency management systems in a crisis.

4.0 Framework for Change

Building resilience to disaster is one of the most profound challenges of the future for the nation. Resources are stretched thin on all fronts, but especially at the local level, where disasters unfold and where very risky conditions put specific groups of people and neighbourhoods at risk every day. It is also “where the action is” and where failures and strengths alike are most visible, both in emergency management and in community groups serving high-risk people. With this in mind, and based on the survey and other project activities, action steps at the national level are recommended that would have positive implications for building local capacity and reducing local vulnerabilities.

4.1 Recommendations

The findings of this project support the need for a national initiative to reduce social vulnerabilities in disasters, building on the successful collaboration of the Canadian Emergency Management and High-risk Populations Project. A concerted five-year project capitalizing on the leadership, advocacy and resources of emergency management and the high-risk voluntary sector can be a catalyst for further development and support the good practices currently under way. The federal government especially can provide a cross-cutting and integrated framework at the national level and ensure that emergency management systems are accountable to those least able to help themselves. Practical steps can be taken now at all levels of government and in the voluntary sector to build stronger relationships and move toward implementation of shared goals to reduce avoidable suffering and loss.

Recommendations for national action are offered below with respect to knowledge building, communications and advocacy, awareness and outreach, capacity building, and roles and responsibilities. We note at the outset that all materials or strategies should be culturally appropriate and gender sensitive, with attention to specific hazard zones and changes through the life course. It is also recognized that material support from the public and private sectors will be needed.

Knowledge building

1. Initiate or support a social vulnerability reduction research agenda in Canadian disaster studies. Research capacities should be developed or strengthened to,

- for example, capture the experiences of high-risk populations in specific Canadian emergencies and disasters, track social changes affecting capacities and vulnerabilities in targeted populations, identify factors facilitating or hindering emergency preparedness in voluntary organizations, compare government initiatives at different levels, and evaluate good practice strategies over time.
2. Develop a document or website documenting good practice strategies that engage both emergency management and high-risk populations, with emphasis on collecting more information about issues and opportunities at the grassroots level.
 3. Write guidelines for risk assessments that promote coordination with high-risk groups in order to supplement statistical profiles with local knowledge about coping strategies, past disaster events, and organizational capacities.
 4. Support a system-wide review of training and post-secondary teaching materials to assess their sensitivity to the 10 high-risk population groups in Canada and to the population health approach recommended here. Develop the intellectual capacity to bring the social vulnerability perspective on disasters into emergency management policy and practice.

Communications and advocacy

5. Initiate a national high-risk expert working group to provide guidance to the emergency management sector at all levels, and to contribute to the development of policies and practice guides that reduce vulnerability.
6. Develop indicators of effective risk communications for reaching the 10 high-risk population groups, working in conjunction with a panel of high-risk populations — in particular, social and environmental contexts — and use these in program evaluation.
7. Develop and disseminate information kits and other forms of public education materials that address stereotypes and misinformation about high-risk populations in disasters, geared to the media, schools and other key actors.

Awareness and outreach

8. Review existing outreach and awareness strategies and materials for possible bias, stereotypes or misinformation, and consult with advocates for high-risk populations to revise as needed.

9. Develop training materials and education strategies that target both emergency management and voluntary organizations working with high-risk groups. Consultative panels of high-risk persons should be involved in the development of all training and awareness materials in order to represent the complexity of social vulnerability and increase knowledge of capacities as well as vulnerabilities.
10. Support the development by voluntary organizations of training and awareness materials that are specific to local communities and particular subpopulations, with attention to hard-to-reach or socially invisible groups.

Capacity building

11. Support the development of local or regional umbrella networks that unite high-risk population groups around specific activities designed to reduce risk in particular environmental and cultural contexts.
12. Develop a peer-learning training team and a model to assist high-risk organizations seeking increased emergency preparedness.
13. Develop train-the-trainer programs enabling representatives from high-risk populations to serve emergency management organizations as local experts.
14. Engage high-risk organizations in all local exercises, trainings and related opportunities for interaction and networking building.

Roles and responsibilities

15. Develop policy directives from the federal level of emergency management that support social vulnerability reduction as a core activity in the comprehensive all-hazard approach to risk management.
16. Develop a capacity-building competitive grant fund at the federal level to support local and provincial initiatives to reduce the risk of high-risk populations.
17. Support secondments, cross-training, internships, participatory action research and other opportunities for building trust and exchanging knowledge between high-risk and emergency management organizations

Appendix A: Selected Social Vulnerability Patterns and Trends

- Ø The gap between rich and poor has reached a three-decade high as earnings and after-tax income for 80% of families have stagnated or declined over the past generation.⁴²
- Ø 11.7% of Canadian children live in poverty, and 41% of low-income children live in families where at least one parent works full-time all year, and the family still lives in poverty.⁴³
- Ø One in five Canadian families lives below the low-income cut-off.⁴⁴
- Ø As more Canadians live alone, families will decline from 70% currently to 62% in 2026 as a percentage of all households.⁴⁵
- Ø Single mothers have the highest poverty rates of any group in Canada. In 2003, 38% of families headed by single mothers lived in poverty, compared with 13% of families headed by single fathers. The income of single mothers dropped in the last two years while those of single fathers and two-parent families rose.⁴⁶
- Ø Women with very young children show increased employment levels, with 70% of mothers with children ages 3 to 5 in the labour force. The vast majority of these working mothers hold full-time jobs.⁴⁷
- Ø While women are doing paid work in increasing numbers, they also do most of the unpaid domestic and child-care work in their homes, and most of the volunteer work in their communities.⁴⁸
- Ø The low-income rate among senior women (8.4%) remains more than double that among senior men (3.2%). The low-income rate for senior women living on their own is higher.⁴⁹
- Ø Half (52%) of low-income children live in female lone-parent families. Among recent immigrants the rate is 49%, and 34% for children in racialized families. One in four Aboriginal children and 40% of off-reserve children live in poverty.⁵⁰
- Ø The Aboriginal population will rise at double the rate of the overall population. In 2017, 4% of the population of Canada will be Aboriginal.⁵¹
- Ø One in eight First Nations children are disabled — double the rate of all Canadian children.⁵²
- Ø Overcrowding is double the Canadian rate in Aboriginal communities. Mould contaminates almost half of all First Nations households. Nearly 100 First Nations communities must boil their water.⁵³
- Ø Canadians living with disabilities will increase in number from about 3.9 million in 2001 to 6.1 million (high-growth estimate) in 2026.⁵⁴
- Ø In 2003, the average household income for senior men with disabilities was \$43,524, while it was \$37,637 for senior women with disabilities. These figures are

approximately \$3,000 less than household incomes for men and women without disabilities.⁵⁵

- Ø More than 40% of adult workers are functionally illiterate.⁵⁶
- Ø One in four Canadians in 2017 will have a mother tongue other than English or French.⁵⁷
- Ø 10% of the population in 2017 will follow a non-Christian religion, twice the proportion than in 2001.⁵⁸
- Ø Nearly one in five Canadians in 2017 will be immigrants (up from 18% in 2001), matching peak immigration in the 20th century. A similar proportion will be racially visible (up from 13% in 2001).⁵⁹
- Ø Single men remain the largest group of visibly homeless people, but the “new” homeless are women, families, youth and children. Four out of five homeless Canadians do not live on the street but in cars, temporary beds or a borrowed sofa.⁶⁰
- Ø Family violence is clearly the predominant reason for homelessness among children and youth. Among younger teens who are homeless, half are female.⁶¹

Appendix B: Selected Good Practices for Outreach

- Ø The 2006 National Forum on Emergency Preparedness and Response, co-hosted by the Public Health Agency of Canada and Public Safety Canada in December, brought together over 250 senior government and non-government officials in Vancouver to identify key policy and programming issues related to at-risk groups and resiliency building.
- Ø A “Community Resilience” workshop was co-hosted by the Ontario Ministry of Health and the Public Health Agency of Canada in Toronto in March 2006. The workshop brought together key community stakeholders from across Ontario to identify better practice interventions to strengthen the capacities of persons with disability during emergencies.
- Ø In November 2007, Canadian Mennonite University in Winnipeg hosted a meeting of a new coalition formed to collaborate on action projects that build resilience across all high-risk sectors. Partners include representatives from Brandon University’s Applied Disaster and Emergency Studies department, provincial and city emergency management, faith-based organizations active in disaster relief and recovery, and local nonprofits working with high-risk populations.
- Ø In February 2008, the Public Health Agency of Canada is planning a national workshop on resiliency. The workshop will bring together diverse stakeholders from across Canada to identify key principles of resiliency and begin to develop a Canadian resiliency agenda.
- Ø In March 2006, the Public Health Agency of Canada hosted a two-day international roundtable in Toronto that highlighted the need to recognize both the vulnerabilities and capacities of seniors and older persons in emergencies and disasters.
- Ø In February 2007, the Public Health Agency of Canada, in collaboration with the World Health Organization, hosted a three-day workshop in Winnipeg that brought together federal, provincial and local emergency management authorities, international experts, and local community groups to establish a framework for policies and better practices related to seniors and emergency preparedness.
- Ø In March 2008, as an outcome of the Winnipeg workshop, the Public Health Agency of Canada will host a second international workshop on seniors and emergency preparedness. The focus will be on the development and implementation of evidence-informed practices and tools to ensure the inclusion of seniors and older people in both domestic and international emergencies.
- Ø A related outcome of the 2007 workshop on seniors and emergency preparedness is a new Winnipeg-based group organized to promote community initiatives that enhance the capacity of seniors in emergencies. An invitational action planning meeting for emergency managers, advocates and service providers is planned for Portage La Prairie for January 2008.
- Ø The Canadian Association of Retired Persons (CARP), in collaboration with the Public Health Agency of Canada, organized a National Roundtable in Toronto in June 2007. The consultation focused on “Seniors as Partners in Environmental

Emergencies,” and resulted in a number of recommendations to strengthen seniors’ potential roles in emergency management in Canada.

- Ø A roundtable discussion on “Disability and Emergency Preparedness” was organized in March 2007 in Ottawa by the Public Health Agency of Canada and the Office for Disability Issues, Human Resources and Social Development Canada. This led to the formation of an inter-agency working group on people with disabilities and emergency management, which has been supported by the Public Health Agency of Canada.
- Ø In conjunction with the 2007 Canadian Risks and Hazards Network symposium, the BC Coalition for People with Disabilities and the Public Health Agency of Canada sponsored a pre-conference workshop on disability issues. The workshop focused on the functional-based approach as a better practice model to both assist and empower people with disabilities during emergencies.
- Ø A February 2008 plenary address on “Disaster Preparedness and Disability: Keeping All of Your Community Safe” will be delivered to the Manitoba Emergency Measures Organization conference, along with other presentations organized by the Disability Emergency Management Network (DEM-Net). DEM-Net is a community-led network that engages disability communities in proactive emergency preparedness, with outreach and education to local emergency management authorities in Manitoba. The group developed as a result of the spring roundtable in Winnipeg on disability and emergency preparedness , 2007.
- Ø The Canadian Risk and Hazards Network Symposium theme for 2007 was “Forging partnerships for disaster resilient communities,” which included roundtable discussions on the subject of “Social vulnerabilities and resilience.”
- Ø In 1999, women’s services, the Justice Institute of BC, Emergency Social Services and the BC Provincial Emergency Program co-sponsored a Vancouver workshop on “Women in Disaster: Exploring the Issues.” As a result, an emergency preparedness manual for women’s shelters was developed by the B.C Coalition of Specialized Victim Services and Counseling, with support from number of provincial ministries.
- Ø Cape Breton University collaborated with private sector and government funding bodies to sponsor a two-day workshop on “Gender and Disaster in Canada: New Thinking, New Directions” in October 2006. The Canadian Gender and Disaster Network and a related website are under development as a result.
- Ø With support from the Prairie Women’s Health Centre of Excellence and the Public Health Agency of Canada, Brandon University’s Applied Disaster and Emergency Studies Program co-sponsored two women’s workshops for disaster resilience in 2007 in Winnipeg. Anticipated follow-up activities include cross-training modules, voluntary sector capacity-building and public awareness materials.
- Ø In November 2006 and November 2007, the Public Health Agency of Canada supported national roundtable consultations on psychosocial preparedness and resiliency building. The Agency also supports a Canadian inter-agency psychosocial working group, which aims to strengthen policy, programming and education/training in the area of psychosocial preparedness and emergencies.

- Ø In 2007, the Public Health Agency of Canada supported the development of a number of better practice resources. This included: a discussion paper defining vulnerability and emergency management in Canada; a review and compilation of existing emergency management tools to assist at-risk persons during emergencies; functional-based guidelines to support people with disabilities; a review of psychosocial issues common to seniors during emergencies; and psychosocial guidelines for seniors, persons with disability, children and youth, and other groups who may be at risk
- Ø In April 2007, Public Safety Canada convened a meeting with Nova Scotia's Department of Community Services, in Dartmouth, Nova Scotia, to better understand provincial efforts under way to address and better integrate high-risk groups and emergency management.
- Ø Public Safety Canada, in consultation with other federal government departments and non-government organizations representing the disability and senior's community, is developing an *Emergency Preparedness Guide for People with Disabilities and Seniors*. Expected release date for the Guide is Spring 2008.

Appendix C: Opportunities For Engagement

Current Initiatives	Region	Agencies	Description	For More Information
Emergency Preparedness and Response (EPR) and People with Disability	Canada wide	Public Health Agency of Canada (PHAC), Office for Disability Issues- Human Resources and Social Development Canada	An inter-agency working group on people with disabilities and emergency management.	Dave Hutton 613-941-6764 dave_hutton@phac-aspc.gc.ca
	Manitoba	Prairie Women's Health Centre of Excellence, Brandon University/ADES	Initiative underway to facilitate womens disaster resilience through workshops, voluntary sector capacity building and public awareness.	Margaret Haworth-Brockman (204) 982-6632 m.haworth-brockman@uwinnipeg.ca Elaine Enarson eenarson@earthlink.net
	British Columbia	BC Coalition of People with Disabilities	An initiative to engage both the disability and emergency management communities in planning for people with disabilities in emergencies	Karen Martin 604-875-0188 bod@bccpd.bc.ca
Seniors and Emergency Preparedness – Canadian Steering Committee and associated working groups	Canada wide	PHAC - Division of Aging and Seniors Secretariat	Established following the 2007 Winnipeg International Workshop on Seniors and EP. Serves as a platform for ongoing communication among diverse stakeholders; coordinating opportunities for collaborative work; raising awareness of seniors needs and contributions in emergencies	Patti Gorr (613) 957-8901 Patti_Gorr@phac-aspc.gc.ca

	Manitoba	Prairie Women's Health Centre of Excellence, Brandon University/ADES	Initiative underway to facilitate womens disaster resilience through workshops, voluntary sector capacity building and public awareness.	Margaret Haworth-Brockman (204) 982-6632 m.haworth-brockman@uwinnipeg.ca Elaine Enarson eenarson@earthlink.net
	British Columbia	BC Coalition of People with Disabilities	An initiative to engage both the disability and emergency management communities in planning for people with disabilities in emergencies	Karen Martin 604-875-0188 bod@bccpd.bc.ca
Seniors and Emergency Preparedness – Canadian Steering Committee and associated working groups	Canada wide	PHAC - Division of Aging and Seniors Secretariat	Established following the 2007 Winnipeg International Workshop on Seniors and EP. Serves as a platform for ongoing communication among diverse stakeholders; coordinating opportunities for collaborative work; raising awareness of seniors needs and contributions in emergencies	Patti Gorr (613) 957-8901 Patti_Gorr@phac-aspc.gc.ca
Gender and Disaster Network of Canada (GDNC) www.gdnc.ca	Canada wide	University of Ottawa, PHAC, Brandon University/ADES (steering committee members)	A new initiative to increase gender sensitivity in emergency management through education, training, and awareness.	Elaine Enarson eenarson@earthlink.net Carol Amaratunga carol.amaratunga@uottawa.ca

Disability in Emergency Management Network (DEM-NET)	Manitoba	The network is chaired by the Independent Living Resource Centre	Disability organizations and emergency management experts supporting disability inclusion through networking, public education and training.	Doug Lockhart 204-947-0194 dougl@ilrc.mb.ca
Canadian Interagency Psychosocial Working Group	Canada wide	PHAC	Working group aimed to strengthen policy, programming, and education/training in psychosocial preparedness in emergencies.	Dave Hutton 613-941-6764 dave_hutton@phac-aspc.gc.ca
Social Services Emergency Planning Advisory Committee (SSEPAC)	Region of Waterloo	Various community agencies	Membership of 25 community organizations that both inform and implement Emergency Social Services during a disaster.	Steve LaRochelle 519-883-2087 lsteve@region.waterloo.on.ca
Vulnerable Populations Working Group	City of Victoria	Victoria Emergency Management Agency	A new municipal initiative to identify issues pertaining to high-risk populations in emergency management	Rob Johns 250-920-3377 rjohns@victoria.ca

Endnotes

¹ Etkin, D., E. Haque, L. Bellisario and I. Burton (2004). "An Assessment of Natural Hazards and Disasters in Canada: A Report for Decision-Makers and Practitioners." Public Safety Canada. Retrieved December 4, 2007, from: http://www.crhnet.ca/reports/Hazards_Assessment_Summary_eng.pdf

² Don Shropshire, National Director of Disaster Management for the Canadian Red Cross, initiated and managed the project in consultation with Dave Hutton, Manager, PHAC, Centre for Emergency Preparedness and Response, and Val Hwacha, Policy Advisor, PSC. Those attending the initial consultation were John Lavery, Director, Emergency Health Services, MOH, B.C.; Yutta Fricke, Disabilities Consultant, Disabilities Issues Office; Barb Crumb, PHAC, CEPR; Gerry Delorme, Director, Emergency Health Services, MOH, Manitoba; Val Hwacha; Dave Hutton; and John Webb, Director, Emergency Social Services, Nova Scotia and Chair, Council Emergency Social Services Directors.

³ The Framework can be viewed on Public Safety Canada's website at: www.publicsafety.gc.ca/prg/em/emfrmwrk-eng.aspx. Readers are referred to the Glossary for related concept and terms used in this report.

⁴ The report is informed by new perspectives on vulnerability in disasters, such as: Bolin, R., and L. Stanford, "The Northridge Earthquake: Vulnerability and Disaster" (New York: Routledge, 1998); Enarson, E. and B.H. Morrow, eds., "The Gendered Terrain of Disaster: Through Women's Eyes" (Westport, CT: Greenwood Publications, 1998); Enarson, E., "Identifying and Addressing Social Vulnerability," in Waugh, W., and K. Tierney, eds. *Emergency Management: Principles and Practice for Local Government*. 2nd ed. (International City and County Management Association, 2007); pp. 257–278; Hewitt, K., "Regions of Risk: A Geographical Introduction to Disasters" (Essex: Longman, 1998); Lindsay, J., "The Determinants of Disaster Vulnerability: Achieving Sustainable Mitigation through Population Health," in D. Etkin, E. Haque and G. Brooks, eds., *An Assessment of Natural Hazards and Disasters in Canada* (Dordrecht: Kluwer Publishers, 2003). pp. 291–304; W. Peacock, B.H. Morrow and H. Gladwin, eds., *Hurricane Andrew: Ethnicity, Gender and the Sociology of Disasters* (New York: Routledge, 1997); and Wisner, B., P. Blaikie, T. Cannon and I. Davis, *At Risk: Natural Hazards, People's Vulnerability and Disasters*. 2nd ed. (London: Routledge, 2004).

⁵ Enarson, "Identifying and Addressing Social Vulnerability," p. 263.

⁶ Wisner, et al., *At Risk: Natural Hazards*, p. 11.

⁷ Etkin, et al, *An Assessment of Natural Hazards and Disasters in Canada*, p. 29.

⁸ Among others, see Enarson, E., "Identifying and Addressing Social Vulnerability." The instructor's guide to "A Social Vulnerability Approach to Disasters," developed for the US Federal Emergency Management Agency, provides additional discussion on root causes of vulnerability in developed and developing nations. See Enarson, E., with C. Childers, B.H. Morrow, D. Thomas and B. Wisner (2003), available through FEMA Higher Education Project and forthcoming in hard cover from Taylor & Francis publishing.

⁹ This point is developed by Etkin, D., et al., *An Assessment of Natural Hazards and Disasters in Canada*, with attention to factors reducing and factors increasing population vulnerability. See Table 2: Outreach to High-risk Populations, p. 28.

¹⁰ Walker, A. "Vulnerability: Who's Most at Risk?" (*Health Policy Research Bulletin* 11, "Climate change: preparing for the health impacts," 2006). Retrieved December 4, 2007, from: www.hc-sc.gc.ca/sr-sr/pubs/hpr-rpms/bull/2005-climat/2005-climat-6_e.html.

¹¹ Handmer, J., "American Exceptionalism or Universal Lesson? The Implications of Hurricane Katrina for Australia" (*Australian Journal of Emergency Management*, 21 (1), 2006), pp. 29–40.

¹² Crowe, C., "Homelessness and the pandemic flu" (Electronic newsletter No. 21., March 2006) Retrieved December 4, 2007, from http://tdrc.net/resources/public/Crowe-Newsletter_mar_06.htm

¹³ Buckland, J., and M. Rahman, "Community-based Disaster Management During the 1997 Red River Flood in Canada" (*Disasters*, 23 (2), 1999), pp. 174–191.

¹⁴ For both statements, see Epp, D., E. Haque and B. Peers, "Emergency Preparedness and First Nation Communities in Manitoba" (Emergency Preparedness Canada, 1998), p.25. Retrieved December 4, 2007, from: <http://dsp-psd.pwgsc.gc.ca/Collection/D82-52-1998E.pdf>

¹⁵ Lindsay, J., and M. Hall, "Older Persons in Emergency and Disaster: A Case Study of the 1997 Manitoba Flood" (Unpublished manuscript prepared for the World Health Organization, 2007), p. 5.

¹⁶ Lindsay and Hall, "Older Persons in Emergency and Disaster," p. 16.

¹⁷ Enarson, E., and J. Scanlon, "Gender Patterns in Flood Evacuation: A Case Study in Canada's Red River Valley" (*Applied Behavioral Science Review*, 7 (2), 1999), pp. 103–124.

¹⁸ Enarson and Scanlon, "Gender Patterns in Flood Evacuation," p. 111.

¹⁹ Enarson, E., "Violence Against Women in Disasters: A Case Study of Domestic Violence Programs in the United States and Canada" (*Violence Against Women*, 5 (7), 1999), pp. 742–768. More evidence in this point is available online through the Gender and Disaster Sourcebook. Among others. See the fact sheet, *Violence Against Women in Disasters*, retrieved December 4, 2007, from: www.gdnonline.org/resources/VAW%20in%20Disasters%20Fact%20Sheet%202006.doc.

²⁰ Ibid.

²¹ As reported in Enarson (1999), program representatives expressed interest in developing an emergency plan (63%), ensuring that their facility is included in existing evacuation and emergency response plans (63%), establishing protocols for emergency response with related agencies nearby (54%), training staff on disaster preparedness and response (52%), attending area meetings on preparedness (48%) and requesting technical evaluation of the security of their facility (27%).

²² Enarson, "Violence Against Women in Disasters," p. 754.

²³ Maltais, D., "The Ice Storm and its Impact on Seniors." Document prepared for the Public Health Agency of Canada, 2007. Winnipeg International Workshop on Seniors and Emergency Preparedness, Winnipeg, February 6–9, 2007. Unpublished manuscript.

²⁴ Maltais, "Ice Storm and its Impact on Seniors."

²⁵ Barile, M., C. Fichten, V. Ferraro and D. Judd, "Ice Storm Experiences of Persons with Disabilities: Knowledge is Safety" (*Review of Disability Studies*, 2 (3), 2006), p. 44.

²⁶ Laplante, D.P., R.G. Barr, A. Brunet, G. Galbaud du Fort, M.J. Meaney, J-F Saucier, et al. "Stress during pregnancy affects general intellectual and language functioning in human toddlers" (*Pediatric Research*, 56, 2004), pp. 400–410. Cited in Walker, "Vulnerability: Who's Most at Risk?"

²⁷ Crowe, C., "Disaster, poverty and neglect" (Crowe electronic newsletter No. 27, September 2006.) Retrieved December 4, 2007, from http://tdrc.net/resources/public/Crowe-Newsletter_sept_06.htm. Indeed, a "social autopsy" of the 1995 Chicago heat wave suggested that low-income older women and men living in two ethnic neighbourhoods feared assault and so failed to open windows or leave sweltering residences. African-American older men with weak or non-existent family ties were especially likely to die alone relative to older women and to older men in Latino neighbourhoods with vibrant street cultures and strong intergenerational ties. See Klinenberg, E., "Heat Wave: A Social Autopsy of Disaster in Chicago" (Chicago: University of Chicago Press, 2003).

²⁸ This section draws on the *2004 World Disasters Report: Focus on Community Resilience* from the International Federation of Red Cross and Red Crescent Societies. In particular, see Chapter 1.

²⁹ Murphy, B., "Enhancing Local Level Emergency Management: The Influence of Disaster Experience and the Role of Households and Neighbourhoods." Report No. 43 prepared for the Institute for Catastrophic Loss Reduction, 2005. Retrieved December 4, 2007, from: www.iclr.org/pdf/pine%20lake%20brenda%20murphy.pdf.

³⁰ "Voluntary Sector Framework for Health Emergencies," p. 7. Report prepared for the Public Health Agency of Canada by the Canadian Red Cross and other voluntary sector organizations (n.d.). Retrieved December 4, 2007, from: www.redcross.ca/cmslib/general/crc_disastermanagement_voluntary_e.pdf.

³¹ Lindsay and Hall, "Older Persons in Emergency and Disaster," p. 7.

³² Enarson, "Identifying and Addressing Social Vulnerability," p. 258.

³³ Anderson, M., and P. Woodrow, *Rising from the Ashes: Development Strategies in Times of Disaster* (Boulder, Colo.: Westview Press, 1989). Also see the Community Risk Assessment Tool Kit and other resources of the ProVention Consortium at: <http://www.proventionconsortium.org/?pageid=39>

³⁴ Murphy, "Enhancing Local Level Emergency Management," p. 61.

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