OLDER PERSONS IN
EMERGENCY AND DISASTER SITUATIONS:
A CASE STUDY OF BRITISH COLUMBIA’S FIRESTORM 2003

November 2006
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Based on a study funded in part by the Social Sciences and Humanities Research Council of Canada, and the Michael Smith Foundation for Health Research.
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SUMMARY OF ISSUES AND RECOMMENDATIONS

Issue: Transportation is always a primary concern in rural areas and in this emergency it was critical to identify those needing transportation in the absence of a public transportation system. The unanticipated difficulty of getting the bus into Barriere because of the fire’s path and roadblocks left a number of community members, including volunteers, stranded.

Recommendation 1: Emergency plans, particularly in rural areas, need to identify and plan for those community members without personal vehicles or the ability to evacuate themselves. This planning needs to include contingency plans should access roads be blocked by the disaster.

Issue: During evacuations older adults can experience isolation and the loss or disruption of natural support networks. For many individuals the lack of involvement in meaningful activities or routines can further exacerbate stress and fear.

Recommendation 2: Consider billeting and/or housing evacuees in ways that support their ability to maintain existing support networks and neighbourhood structures. Consider ways of engaging older adults, particularly those with restricted mobility and/or independence in activities that provide social connections and meaningful engagement.

Recommendation 3: Consider ways to support a sense of continuity/normalcy for displaced residents. This may include creating sites for gathering socially away from the reception center where noise and activity levels, and the presence of non-evacuees may feel overwhelming and disorienting.

Recommendation 4: Consider ways to support the continuity of health care providers when possible for evacuated residents.

Issue: The losses incurred as a result of disasters include both material and symbolic losses. Older adults’ response to these losses is variable and can include resiliency or increased vulnerability.

Recommendation 5: Disaster recovery plans should include an acknowledgement of both material and symbolic losses and plan for the provision of support to address both and for the variable response of older adults to such losses.

Issue: The destruction of community spaces can undermine opportunities for mutual support, information sharing, and the necessary rebuilding of the social fabric of a community or neighbourhood.

Recommendation 6: Recovery plans should include a consideration of the social needs of affected residents. A temporary shelter/structure at or very close to the damaged area can provide those residents engaged in clean-up and/or rebuilding with a safe gathering space in which they begin rebuilding the social fabric of their community, share information, and develop collective plans that facilitate rebuilding.

Issue: Although outside help is a necessary component of disaster response, the opportunities for reciprocity and for building community through mutual aid can at times be lost in the focus on developing and accessing external aid.

Recommendation 7: Recovery plans should recognize and use the principle of reciprocity, the ability to help others through the process, as important for both individuals and communities.
**Issue:** Rural unincorporated communities face an additional challenge in meeting the needs of affected residents because of the lack of local governments and infrastructure and pre-existing technological and communication gaps.

**Recommendation 8:** Regional governments need to develop emergency response plans that provide for: (1) outreach planning and permit services (i.e., building permits, septic field permits); (2) potential communication obstacles (i.e., literacy issues, downed telephone lines, lack of computers), and (3) pre-existing or disaster-related technological gaps. Further, consideration should be given to providing ‘one-stop shopping’ options to facilitate access and minimize bureaucracy.

**Recommendation 9:** Community plans should include the consideration of older adults as repositories of valuable knowledge and expertise and assess and draw on those in the community who are willing able to assist in the recovery and rebuilding process.

**Issue:** There can be a cultural disconnect between public and non-governmental relief organizations and those they serve. At times this can impact the accessibility of services, or the relevance of what and how services are provided. Further, because recovery is complex it can require affected residents to deal with an overwhelming number of different organizations and workers.

**Recommendation 10:** Recovery planning should include a consideration of local cultural norms, and the need for coordinated processes for accessing relief; residents of all ages, especially in rural areas where people may have less experience in dealing with bureaucracies, should not be troubled by navigating through layers of bureaucratic processes.

**Issue:** In the absence of ongoing assessment and the provisions of adequate supports and resources, community volunteers, including older adults, can overextend themselves and become secondary casualties of the disaster. The shared expectation that women will assume the role of care-giving for their families and communities, and the lack of social support for this work, makes women particularly vulnerable.

**Recommendation 11:** Recovery planning should acknowledge and plan ways to support and resource care-giving tasks and those who provide them.

**Recommendation 12:** Disaster response and recovery planning should incorporate a gender analysis in order to ensure equal participation in decision making and the provision of financial and human resources to support the psychosocial aspects of recovery so women do not become disproportionately burdened with responsibility for providing these services.

**Issue:** Based on past experiences, some older adults will be viewed by their communities as resources during the time of a disaster. Relying on volunteer resources can at times place unexpected burdens on those directly affected by disasters and contribute to a sense of guilt for those who have chosen to focus on their own or their families needs.

**Recommendation 13:** Recovery plans must take into account the variability in older adults willingness and capacity to act as resources at any given time. Contingency plans should include provisions for training and mentoring alternate for those who fulfill leadership roles in the community.
**Issue:** Disaster affected communities can demonstrate enormous creativity and resourcefulness during and after a disaster.

**Recommendation 14:** Regional emergency plans should recognize and plan for the independence of smaller communities where aid from without may not be expected and thus local resources may have been mobilized already by including representative from affected communities in the planning for and allocation of resources.

**Issue:** There is a growing population of frail or near-frail elderly adults relying on publicly funded homecare services to provide assistance with daily living tasks in order to maintain their independence (e.g. bathing, meal preparation, and medication management). In the event of large scale disasters, individuals and the health system need to consider how they would maintain continuity of care for this population in the event that these services had to be differently deployed (during a pandemic, for example) or were no longer available as a result of transportation barriers, loss of available health care staff, widespread destruction, or dislocation.

**Recommendation 15:** Additional planning is required to develop multi-layered contingency plans that integrate community and primary care health service providers, family members, and community-based emergency management planners.

**Recommendation 16:** Encourage dependent elderly people and their families to anticipate potential disruptions in health care services and develop contingency plans for meeting the health care needs of older adult family members.

**Issue:** By virtue of their disability and level of dependence, frail older adults living in the community may require additional assistance in an emergency situation.

**Recommendation 17:** Emergency planners and health-care providers should establish collaborative emergency plans and procedures for identifying and delivering support services to the most vulnerable, dependent individuals in their community during and after a disaster.

**Issue:** During a disaster, dependent elderly people living in their homes may be relocated to healthcare facilities in order to ensure that their healthcare and basic living needs are met. During this process it may be difficult for families to determine the location of these family members.

**Recommendation 18:** Develop or modify existing identification and referral systems in order to ensure that family members of clients living in the community are made aware of their location during evacuations.

**Issue:** In an emergency situation, it may be necessary for a service system to quickly identify certain client groups either by service or geography.

**Recommendation 19:** Adapt health and social systems’ electronic records to allow for specific (e.g., geographic) searches to identify clients in the community who may be at risk during an emergency.

**Issue:** Dependent elderly people living in their own homes require a range of accessories and equipment that should be transported with them in the event of their disaster-related evacuation.

**Recommendation 20:** Create plans that include systematic ways of ensuring that evacuated older adults living in the community or their caregivers (formal or informal): (1) take all needed medications and other items such as: dentures, wheelchairs, glasses, prostheses such as raised
toilet seats, and any other equipment on which they rely, and (2) have ongoing support if needed to manage their medications, and address ongoing health and/or mobility concerns.

**Issue:** Mainstream media’s need for information will supersede the needs of emergency managers to control that information flow. Impaired relationships between the two parties can result in the dissemination of inaccurate information that creates new management problems and exacerbates survivor stress. This can be particularly difficult for vulnerable populations whose only source of information may be the media.

**Recommendation 21:** Emergency managers should engage with media as active partners, developing effective working relationships in advance of disasters so that during a disaster media can support the dissemination of accurate and helpful information.

**Issue:** Affluent older adults tend to have either more reliable support networks and/or the financial resources to create such supports in the aftermath of a disaster. Older adults with lower-incomes may experience a deteriorating spiral of support that creates or exacerbates vulnerability during the recovery period.

**Recommendation 22:** Consider ways of identifying and planning for lower-income older adults living in the community who may have limited resources and support networks and who may not have the necessary resources to re-establish themselves following a disaster.

**Issue:** While service providers may be able to observe the effects of disasters on older adults, they do not have systems or procedures for monitoring and addressing long-term health and social problems in the wake of a disaster.

**Recommendation 23:** Develop systems that ensure follow up for disaster-affected older adults living in the community in order to address potential health issues associated with the longer-term recovery process.

**Issue:** Individual health agencies that are not directly affiliated with government may develop emergency preparedness plans in isolation from local health authorities and other community plans. Such plans may address only internal or local emergencies and not consider and plan for the need to move frail elderly individuals living in residential care facilities not only out of the facility but out of the community in which the facility is located.

**Recommendation 24:** Residential care facilities need to plan in conjunction with local authorities and look beyond local or internal emergencies to establish plans for community/regional evacuation.

**Issue:** The majority of institutionalized frail elderly people have some level of physical disability that requires particular care

**Recommendation 25:** Ensure that emergency plans include the availability of adequate and appropriate modes of transportation (wheelchair buses, ambulances etc.) to accommodate residents and their mobility aids.

**Issue:** In disasters, families of vulnerable populations may respond by wanting to care for their family members themselves without adequate or appropriate resources or information

**Recommendation 26:** Clarify the role of families in emergencies and provide information that allows families to make informed choices about caring for their frail elderly at home. Plans
might also include addressing the ways and means of providing these families with the additional relevant resources to families to meet the needs of their frail elderly.

**Issue:** Some frail elderly people have a limited capacity to adapt to and thrive in the midst of change and different environments. Disasters, such as fires, may be unpredictable in terms of speed and geographic coverage and may necessitate rapid and sometimes multiple evacuations and movement far beyond the local area.

**Recommendation 27:** Identify a range of evacuation destinations for residential care facilities to minimize multiple moves for frail elderly people and thus reduce the potential impact on their physical and psychological health.

**Issue:** While a spirit of cooperation and shared concern may be present in communities involved in disasters, communities to which disaster evacuees are temporarily re-located may not themselves be involved in the disaster. In such instances, while evacuees’ basic needs are met, support to evacuees and relocated staff may not be as comprehensive and appropriate as it is in communities directly affected by the disaster.

**Recommendation 28:** Evacuation plans should consider ways of ensuring that evacuees and the staff that accompany them receive appropriate levels of support when evacuated to communities not directly affected by the disaster.

**Issue:** As the population in North America ages, longevity increases, and governments encourage older adults to remain at home, the populations of residential care facilities are older, frailer, and more cognitively impaired.

**Recommendation 29:** Identify a range of strategies for moving and caring for cognitively impaired older adults that would minimize the potential for increased confusion or anxiety.

**Issue:** During and following disasters, frail elderly people may suffer immediate and long-term affects on their physical and psychological health. Even though some may be resilient and adaptable to changes, management of frail elderly people during and after disasters should be aimed at minimizing disturbance, stress, or trauma.

**Recommendation 30:** Residential care facilities’ disaster preparedness/evacuation and recovery plans should include strategies for retaining as much that is familiar to residents as possible -- for example, move residents’ beds with them to new location, have familiar staff accompany residents during evacuation, continue to use familiar staff as caregivers in new temporary location, re-establish normalcy as quickly as possible on return.
1. INTRODUCTION

*Older Persons In Emergency and Disaster Situations: A Case Study Of British Columbia’s Firestorm 2003* is part of a global effort, initiated by the World Health Organization, to examine the impact of disasters and emergency situations on older persons. This case study is based on information about the impact of the 2003 forest fires on older adults living in three communities in British Columbia (BC), Canada -- Kelowna, a large urban centre, and Barriere and Louis Creek, two small rural communities -- and an analysis of their roles as both a vulnerable population and as a resource in planning, crisis response, and recovery. By focusing on these three communities this study also highlights some of the key differences between planning for older adults in disasters in rural versus urban environments. The case study identifies a number of issues and offers corresponding recommendations as the basis for future policy discussions.

This report is rooted in and confirms the view that older adults are a diverse population. The terms *older adult* and *senior* are usually used to denote an individual 65 years or older, based on the age at which certain public benefits related to retirement become available in Canada. However, as population health improves and longevity increases, we have recognized that talking about the time between 65 and the end of an individual’s life -- which can be 30 or more years -- may not be useful in some discussions. Like other large groupings, seniors vary in their age, gender, culture, language, education, health status, genetic predispositions, health practices, income, whether they live in rural or urban areas, activities, interests, marital status, living arrangements, and social supports. In dividing the subject of seniors and disasters into older adults as both a vulnerable population and a resource, the World Health Organization’s requirements for this case study recognize that seniors are not a homogeneous group.

The present case study takes the principle of the diversity of older adults further still as it argues that, like any other age group, seniors’ reactions to a natural disaster are unpredictable. The stories and comments of older adults interviewed and those who observed them suggested that a spectrum of factors shaped the impact of the fires in their lives including:

- the nature of the communities in which participants lived, (i.e. rural versus urban) and thus the availability and accessibility of social and health service systems
- individual and prevailing local cultural attitudes towards accessing formal support
- individual’s health status at the time of the fire and its implications for dependence on others
- the socio-economic status of participants and local economic conditions
- gender and the prevailing gender norms in their particular communities
We begin by describing the study context, Firestorm 2003, offering a brief overview of the three communities and the two specific fires that form the focus of the study, and providing a snapshot of BC’s health care system.

2. STUDY CONTEXT

FIRESTORM 2003

This case study focuses on two of the most devastating forest fires during a record-breaking forest fire season in BC. In the summer of 2003 over 2,500 wildfires swept through the interior of the province. Not only was the total number of fires above the season average of 2000, but more importantly, the number of interface fires -- those occurring at the boundaries between wilderness and human settlement – were significantly higher. Historically there has been an average of one serious interface fire per season (Filmon, 2004). In 2003, there were 15. Two of these interface fires, the Okanagan Mountain and McLure Fires, caused massive disruption that included large-scale and repeated evacuations, property loss, economic losses, job loss, loss of domestic animals and livestock, and the destruction of large tracts of range and wilderness land (BC Ministry of Forests, 2004). During a period of approximately 6 weeks over 45,000 people were evacuated. Although no specific age-related statistics were available, given the known demographics of the heavily affected areas it can be concluded that these evacuations affected a significant population of older adults. When the fires were finally brought under control, 334 homes, many small businesses, a regionally important lumber mill, and approximately 260,000 hectares (1,600 square miles) of range and forestland had been destroyed.

Historical context

“Firestorm 2003,” as the multiple fires have come to be known, was the largest such disaster in BC in the past fifty years, on par with other large disasters in Canada such as the Montreal ice-storm (Ontario-Quebec 1998), the Saguenay River flood (Quebec 1998), and the Red River Basin flood (Manitoba 1997). It was not, however, the first instance of destructive interface fires in the interior of BC.

In 1994, the Garnet Fire caused the evacuation of 3,000 in the Penticton area, just southeast of Kelowna where the Okanagan Mountain Fire occurred in 2003 (Filmon, 2004). The Garnet Fire destroyed 18 homes in the Upper Carmi subdivision and burned through over 5,000 hectares with a total cost of approximately five million dollars (Price Waterhouse, 1995). Four years
later, the Silver Creek Fire (1998) caused the evacuation of approximately 7,000 people in the Salmon Arm area, north of Kelowna and destroyed 40 structures at a cost of approximately $15 million (Filmon, 2004). As a result of recommendations made in the wake of these fires changes were implemented in the province’s approach to fighting interface fires. These included: (1) a more comprehensive early warning system for fires – the BC Fire Weather and Behaviour Advisory and Warning System, 2001– (Beck, Alexander, Harvey, & Beaver, 2002), primarily designed to protect fire fighters; (2) the development of educational materials to support communities and individuals disaster planning and preparation; and (3) other improvements to fire-fighting strategies and coordination of responses.

In a survey conducted in 2000 of BC communities at moderate or high risk from interface fires (Office of the Auditor General BC, 2001), only 5% of the fire chief surveyed believed that their communities were well prepared for evacuation during an interface fire and 47% of emergency program coordinators who were surveyed reported that their communities had no recovery plan in place to address the recovery concerns following an interface fire. A follow up report on the recommendations contained in the 2001/2002 report (Office of the Auditor General BC, 2004) highlighted many of the improvements and gains that had been made in implementing more effective fire-fighting and emergency response strategies and included a favourable review of the Provincial Emergency Program’s evacuation procedures during Firestorm 2003.

However, the report also highlighted again the generally inadequate community and regional planning for the recovery process following interface fires. No specific mention was made in this report of the importance of planning for the evacuation and recovery needs of particular vulnerable populations such as the frail elderly.

Many of the issues identified by residents and service providers in the three target communities of the present case study mirror the comments made in the aforementioned follow-up report by the BC Auditor General. The following section provides an overview of the McLure Fire and the Okanagan Mountain Fire and the three target communities highlighted in this case study.

THE McLURE FIRE

Community Context: Barriere and Louis Creek

Barriere and Louis Creek are situated side-by-side at the confluence of the Barriere and North Thompson rivers, approximately 350 kilometres northeast of Vancouver in the Thompson
Valley in the southern interior of BC. Both towns were unincorporated at the time of the present study. Although there are no specific population statistics for either community, Statistics Canada (2001) census data for the region encompassing Barriere and Louis Creek is listed at a little over 3,200. The Thompson Nicola Regional District (TNRD) supplies both communities with services such as building inspection, zoning and community planning, cemeteries, public library services, parks and fire protection.

Until the McLure Fire, Louis Creek consisted primarily of scattered residences in a number of loosely-defined neighbourhoods, some ranches, a small retail area that consisted of an antique store, a small post-office, and one of the region’s most important sawmills, the Tolko Fadear mill. As the primary employer in the area, the mill accounted for approximately 200 of the area’s top paying jobs, many of them occupied by residents of Barriere.

Barriere, defined as an improvement district, supplies its residents with public goods and services including water, garbage collection, a community hall and a number of schools. Barriere accounts for the majority of the population statistics for the area. It consists of multiple residential neighbourhoods, an industrial park, a multi-street retail and business area (approximately 115 businesses) in the centre of town, a health centre, a number of churches (i.e., Anglican, United, Baptist, Pentecostal, and Roman Catholic), two elementary schools, a high school, a fire department, a Royal Canadian Mounted Police detachment, an ambulance service, and a number of large ranches.

Historically, forestry has been the predominant industry in the region with 75% of the labour force directly or indirectly dependent on it (Barriere Chamber of Commerce, n.d.). Statistics for the area suggest a relatively stable population of mostly Canadian born, middle to low-income residents (Statistics Canada, 2001). As is true more generally, the population of Barriere and Louis Creek is aging, but it is also growing post-fire with an influx of mostly semi-retired and retired people, attracted in part because of the lower cost of housing, and the availability of services, including health services through the Barriere Health Centre, and other senior specific services (i.e. Barriere & District Seniors Drop-In Centre; Seniors Haven residential facility).

The Fire

On the morning of August 1st, 2003, Barriere and Louis Creek were on evacuation alert. Several days earlier, a carelessly discarded cigarette had ignited a forest fire approximately 20 minutes south by highway in the small community of McLure. A weather cell with high winds
combined with the intensely dry, hot conditions of that summer caused the McLure fire to break through fire guards and quickly spread northwards up the North Thompson Valley. A series of rolling evacuations occurred as the fire continued towards Louis Creek and Barriere. Early in the morning of August 1st, burning embers began falling in the communities and a State of Emergency was declared for the Thompson-Nicola region. Approximately 3,500 North Thompson Valley residents were evacuated. By mid-day, August 1st, the McLure Fire had virtually destroyed Louis Creek, burning through 73 homes and businesses and the Tolko mill. Fire fighters managed to hold the fire line at the outskirts of Barriere saving most of that town with the exception of an industrial park and some outlying homes.

By the time the McLure fire had been contained it had burned through significant tracts of forest land worth as much as 5.6 billion dollars (TNRD, 2003) and destroyed tens of thousands of hectares of range-land and fencing. The loss of the mill and the destruction of the forests occurred in the context of an already precarious economy. The softwood lumber industry was struggling under the weight of trade and the industry trend toward agglomeration and consolidation of infrastructure. Similarly, the loss of cattle, range, and fencing created additional hardship for the area’s ranchers who had been dealing with the impact of several years of severe drought and the devastating effects of the bovine spongiform encephalopathy (BSE) outbreak on the Canadian beef export industry.

THE OKANAGAN MOUNTAIN FIRE

Community Context: Kelowna

The city of Kelowna lies on the eastern shore of Okanagan Lake, about 470 km east of Vancouver in the southern interior of BC. Kelowna, the largest city in BC’s interior, has well-developed health and social service systems and is growing rapidly as a result of in-migration with a population estimated at approximately 109,000 (City of Kelowna, 2006). It is a relatively affluent community with an average annual household income of over $50,000 (Statistics Canada, 2001) and one of Canada’s fastest growing retirement centres. In 2001, it was estimated that approximately 18% of Kelowna’s population consisted of those over the age of 65, the vast majority of which was identified as middle to upper income seniors (Yates, Thorne, & Associates, 2006). The region’s economy has traditionally relied on agriculture, particularly
orchards and vineyards, tourism, and forestry. A relatively large segment of the working population are self-employed, working primarily in the service sector.

As with any large urban centre, Kelowna offers a broad range of health services to older adults living in the city and the region. These include the Kelowna General Hospital, the primary acute care health facility and referral hospital in the central Okanagan, the new Cancer Centre for the Southern Interior, three seniors’ recreation centres, and a wide range of home care and home support services, residential care facilities, counselling services, and seniors housing.

The Fire

The Okanagan Mountain Fire began in mid-August a little over two weeks after the McLure Fire. Over 800 other forest fires continued to burn throughout the province, including the McLure Fire, and a Provincial State of Emergency had been declared for the entire provinces on August 14th. The Okanagan fire was ignited by a lighting strike in the steep and rocky terrain of the Okanagan Mountain Provincial Park during the early morning hours of August 16th, 2003. Early efforts to contain the fire were hampered by the steep, rugged terrain, high winds, extreme heat, and the heavily timbered forest in that area of the park.

Over the next four days, the extreme heat, winds, and erratic fire behaviour caused the fire to spread. By Thursday evening, August 22nd, as the fire escalated, over 30,000 people had been evacuated, constituting the largest evacuation in BC’s history. According to Ministry of Forest reports (Protection Branch Ministry of Forests, 2003b), embers the size of dinner plates were raining down six to eight kilometres ahead of the fire, which had been ranked as a fire with the potential for violent fire behaviour (i.e., ranking 5–6). By the end of day, August 23rd, the fire had destroyed over 250 homes in an affluent neighbourhood on the south/eastern edge of the city (Filmon, 2004). Over the next few days, the immediate danger to the city subsided, but the fire continued to burn destroying a number of historic railroad trestles. Throughout the last days of August and the first week of September another series of evacuation orders and alerts were issued as new fires emerged and the Okanagan Mountain Fire took a second run at the community. Fire activity in the area continued well into October.

Health Services in BC

BC’s regionalized health care system means that the majority of services for older adults are managed and delivered by a local health authority. The Interior Health Authority (IHA) is one of six health authorities in BC (see Appendix A), five of which have regional responsibility for
managing and delivering most health services to the populations of their geographic areas. The IHA serves a population of approximately 717,000 people spread over a vast geographic area that stretches from Williams Lake to the U.S. border and from Anahim Lake in the Chilcotin to the Alberta border (BC Statistics, 2004).

In BC, people with ongoing, chronic health conditions are generally cared for in their own homes for as long as possible. In this report, home care services\(^1\) refer to the range of health and support services available to people who have acute, chronic, palliative or rehabilitative health care needs; these services may include home nursing care, rehabilitation, case management, care coordination, home support, adult day programs, respite care, and end-of-life care. The majority of the clients of these services are older adults. These services are provided through the IHA. If an individual has complex health needs and can no longer be safely and appropriately cared for at home, he/she may be placed in a residential care facility where 24 hour supervision and continuous professional care is provided in an institutional setting. Increasingly, older adults in BC are staying and receiving care in their own homes longer while eligibility criteria for residential care mean that most residents of care facilities are extremely frail, very old, and most often cognitively impaired. Residential care facilities may be owned and operated by a health authority or be privately owned and operated.

3. METHODOLOGY

The present study draws on qualitative interview data collected by the author during a two-year critical, multi-sited ethnographic study\(^2\) of the experiences of residents of two rural BC communities affected by the McLure Fire (Cox, 2006 – Phase I). This data was supplemented (September 2006 - Phase II) with a subsequent set of interviews with residents and health-care providers in the two Phase I communities, Barriere and Louis Creek, and in Kelowna. The Phase II interviews focused specifically on the experiences of older adults (see Appendix C – Interview Guides). Researchers employed a thematic analysis to identify key themes and patterns in the texts that illustrated the role of older adults as both resources and a vulnerable population in the context of the fire disasters. For a more comprehensive description of the methodology and participant characteristics, see Appendix B.

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\(^1\) Home and Community Care Program is the province-wide name given to these services.

\(^2\) Funded in part by a research grant from the Social Sciences & Humanities Research Council of Canada and the Michael Smith Foundation for Health Research.
In reporting the findings of the present case study, verbatim quotes were selected to illustrate the themes. Longer quotes (i.e., more than a word or short phrase) are identified by a participant number only (i.e., P1) in order to protect participants’ confidentiality. With respect to the age-related terminology used in this case study, the author chose to use the term *older adult* to refer to people over the age of 50 and the term *frail elderly* to designate a person usually over the age of 70 with one or more chronic health conditions who requires assistance to perform the activities of daily living. Nevertheless, those interviewed often used *senior*, a more common, though not necessarily transparent term, which has been retained in their verbatim quotes.

### 4. PLANS, CRISIS, & RECOVERY: BARRIERE AND LOUIS CREEK

It is interesting to note that the individuals interviewed in Barriere/Louis Creek did not tend to see their world in terms of age cohorts. All of those interviewed in Phase II were older adults -- over 50 -- but did not identify themselves as such. Even the executive committee of the local seniors’ organization had difficulty responding to questions about older adults and seemed puzzled about the basic premise of this case study.

**Planning**

In BC, the emergency response system relies heavily on the involvement of volunteers and volunteer organizations many of whom are organized under the umbrella of Emergency Social Services (ESS). ESS is mandated to provide temporary relief to those affected by disasters and is responsible for registering and tracking displaced persons. ESS typically sets up a central location, *reception centre*, to receive evacuees and provide them with services including psychosocial support, food, and vouchers for lodging, clothing, and other necessities. The local authority for Barriere and Louis Creek was the Thompson Nicola Regional District (TNRD).

By the morning of August 1st the McLure Fire had reached the outskirts of Louis Creek. Barriere’s ESS had 14 members at the time of the fire but only six members of the team, all of them older adults, participated in the evacuation. The ESS team had set up a reception centre in one of the community’s schools and had registered hundreds of evacuees from further south in the valley. Local Search and Rescue volunteers were now going door-to-door using their knowledge of the area to ensure that the evacuation notice reached all the remote and scattered residences outside the residential core of Barriere. The power had been out for two days and smoke had filled the valley.
A significant portion of the population in Barriere and Louis Creek are low-income, many of them older adults and single parents. Many of these individuals and families did not have transportation and the plan was to have them assemble at the reception centre to be transported by a school bus north to 100 Mile House. However, by 3 pm on August 1, the day of the evacuation order, the expected buses had not arrived. With the fire already at Louis Creek, those still present were told they had 15 to 20 minutes to evacuate as firefighters were unsure whether the fireguard at Barriere would hold. The ESS team leader began commandeering other residents to help evacuate those left at the school.

The buses finally met the stranded evacuees in a nearby community after managing to find a way through to them via a small logging road. Several of the 12 evacuees on the bus were ill, one older man had emphysema and was on oxygen, others were described as “in very bad shape emotionally and physically, crying and terribly upset” (P1).

**Issue:** Transportation is always a primary concern in rural areas and in this emergency it was critical to identify those needing transportation in the absence of a public transportation system. The unanticipated difficulty of getting the bus into Barriere because of the fire’s path and roadblocks left a number of community members, including volunteers, stranded.

**Recommendation 1:** Emergency plans, particularly in rural areas, need to identify and plan for those community members without personal vehicles or the ability to evacuate themselves. This planning needs to include contingency plans should access roads be blocked by the disaster.

**The Evacuation**

As the McLure Fire edged toward Louis Creek, residents recalled, chunks of burning bark and incinerated branches were falling from the sky. They described seeing trees shooting up in flames on the hills surrounding the communities, the sky orange from the reflected flame, and the intense heat of the fire as it approached. With the power out and the smoke covering the sky, the town was dark, and residents said there was a sense of controlled panic as people tried to get themselves and their animals to safety.

People were leading animals up the highway, like a wave. Police were throwing horses onto the green fields hoping they’d be fine there, or as fine as they were gonna be. Chunks of bark falling from the air, everything’s going dark and trees are shooting up the side of the mountain. That’s how fast it hit. (P2)

It was like a ghost town, just a couple of horses running down the road. The road trip was surreal. Climbing up highway 24, it was like something out of a movie or a Stephen King novel. People standing beside their cars, radiators overheating, hoods up and nobody’s
stopping because everybody’s got to get out. There’s fear in their eyes. All they had stashed is piled in the back of their vehicles. (P3)

The challenge of needing to rapidly assess what is important and isn’t during an evacuation was repeated many times in evacuees stories of their departure. Very few of those interviewed had had a plan in place or strategies for prioritizing what they would take and the process of determining what to take was often described as very stressful.

One older adult who ultimately lost everything in the McClure fire described a rural reality – that much of the focus of evacuation has to be on companion and domestic animals. She stated with no regret that she took only a few pictures from the wall but was proud to have saved seventy-five animals.

During the evacuation, displaced residents were billeted in neighbouring communities, in hotels in the nearest city, Kamloops, or stayed with friends or relatives. Evacuees were scattered throughout Kamloops and interviewees reported that during this period, some older adults had felt isolated and had not been able to access routine support with such things as medication management. Separated from their normal support network, routines, and activities increased the stress for these individuals. Other interviewees who had been billeted by families in 100 Mile House spoke of the benefits of this arrangement. They described feeling not only cared for, but cared for by people who “got it,” that is, people who shared similar rural lifestyles and understood their concerns from that perspective. They also spoke of the benefit of meeting and getting to know the people providing help, saying that it personalized the aid and cushioned them from some of the fear and uncertainty of not knowing what was happening in their community and to their homes.

Medical staff from the Barriere Health Centre, supported by the IHA, set up a storefront clinic in Kamloops for Barriere and Louis Creek residents while they were dislocated. The clinic provided displaced residents with continuity of care and also a gathering place away from the stress and demands associated with the reception centre. Staff from the Barriere newspaper, the North Thompson Star Journal, also managed to produce an issue of the local paper during this time. Many of those interviewed described these two initiatives as godsend, providing a sense of hope and normalcy during a very stressful and uncertain time.
**Issue:** During evacuations older adults can experience isolation and the loss or disruption of natural support networks. For many individuals the lack of involvement in meaningful activities or routines can further exacerbate stress and fear.

**Recommendation 2:** Consider billeting and/or housing evacuees in ways that support their ability to maintain existing support networks and neighbourhood structures. Consider ways of engaging older adults, particularly those with restricted mobility and/or independence in activities that provide social connections and meaningful engagement.

**Recommendation 3:** Consider ways to support a sense of continuity/normalcy for displaced residents. This may include creating sites for gathering socially away from the reception center where noise and activity levels, and the presence of non-evacuees may feel overwhelming and disorienting.

**Recommendation 4:** Consider ways to support the continuity of health care providers when possible for evacuated residents.

**Early Recovery Process**

Residents most commonly identified the discomfort of uncertainty as the most significant challenge they faced in the post-fire environment. This was true whether they had suffered material losses or not. Many talked of “a loss of innocence,” of “being shaken out of their comfort zones,” and “having to grow up a lot” in the process. Others spoke of living now in a “world of no guarantees,” and realizing that they had been living “like ostriches sticking our heads in the sand.” For some, this seemed to engender a shift in the prioritizing of values. For still others, there was a sense of curiosity about what exactly it was they were struggling with.

I don’t think we really realize how changed we all are. We have so much. We’re protected. We have so much freedom…so how could this terrible thing happen to us? It’s really interesting when you get down to what it is that is we’re feeling. What is it we’re holding on to? What is it we can’t get by. There’s a vulnerability…if that’s the right word, that we didn’t realize we had. (P4)

Another individual who lost her home in the fire observed that you “re-evaluate your life and realize that all the stuff is just stuff” and further speculated that “as you get older you look at things differently, you look at mortality differently, you take different risks, I have far more compassion for others…” A senior who lost her Louis Creek home in the blaze was characterized as the kind of person who’d say “well that happened.”

**Issue:** The losses incurred as a result of disasters include both material and symbolic losses. Older adults’ response to these losses is variable and can include resiliency or increased vulnerability.

**Recommendation 5:** Disaster recovery plans should include an acknowledgement of both material and symbolic losses and plan for the provision of support to address both and for the variable response of older adults to such losses.
One of the consequences of the emergency management structure was that while residents in Barriere and Louis Creek were returning to their communities and beginning the process of recovery, regional district authorities (TNRD) were focusing their attention and resources on several other active fires in the region. By their own reports, this limited the TNRD’s immediate involvement in the early stages of recovery in these heavily affected communities. This, they agreed, created a “disconnect” between residents and the regional district authorities. For all intents and purposes residents were left on their own in these early days to navigate the confusing and complex bureaucratic processes required to begin re-establisihing and rebuilding their communities.

The extensive losses in Louis Creek were felt not only at the individual level but at the collective level as well. With the loss of so many homes and the sawmill, Louis Creek had in some significant way lost their community. For some residents, this loss was exacerbated when the TNRD decided not to establish a temporary structure in Louis Creek as a gathering space for residents who were cleaning up and beginning the long process of rebuilding. Many Louis Creek residents criticized the lack of support they received in rebuilding the social fabric of their community in the early recovery period. With no community structures and few homes still standing, residents who wanted to meet, talk, share information, and strategize had to travel to Barriere. Meetings there were often diffuse because of the disparities in concerns between Louis Creek and Barriere, as the latter had experienced the disaster as primarily an economic one.

**Issue:** The destruction of community spaces can undermine opportunities for mutual support, information sharing, and the necessary rebuilding of the social fabric of a community or neighbourhood.

**Recommendation 6:** Recovery plans should include a consideration of the social needs of affected residents. A temporary shelter/structure at or very close to the damaged area can provide those residents engaged in clean-up and/or rebuilding with a safe gathering space in which they begin rebuilding the social fabric of their community, share information, and develop collective plans that facilitate rebuilding.

Although many of the homes lost were uninsured, an unprecedented public response to the disaster resulted in a large relief fund, a significant portion of which was dedicated to the purchase of building material for uninsured home-owners. Building expertise and labour was provided through friends, and the help of various secular (i.e., Habitat for Humanity) and faith-based organizations (i.e., Mennonite Disaster Services, Adventist Development and Relief...
The communities relied on older adults, many of them long time residents, to provide advice and assistance throughout this process -- for example, a retired building inspector helped to assess damage to burned buildings and advise those who were rebuilding; others were called on to remember from their own experience the location of wells, fences, and property lines.

This kind of neighbour-helping-neighbour approach was also something that many noted as an important and sometimes missing aspect of their experience. For a number of those interviewed, reciprocity, the ability to help others, was cited as a key aspect of their own healing and a way of increasing their sense of connectedness and mitigating their shame at needing help. At the same time, several residents who were particularly hard hit by the disaster were surprised at the lack of help that was offered by neighbours who had suffered little or no damage, and were particularly concerned about their older, isolated neighbours. At the same time, they expressed a sense of frustration that they had not been able to do more for their each other, especially their elderly neighbours, because they were so overwhelmed by their own process.

**Issue:** Although outside help is a necessary component of disaster response, the opportunities for reciprocity and for building community through mutual aid can at times be lost in the focus on developing and accessing external aid.

**Recommendation 7:** Recovery plans should recognize and use the principle of reciprocity, the ability to help others through the process, as important for both individuals and communities.

Many of the residents of Louis Creek pointed to the difficulty of having to deal with “everyday rules” in the context of “exceptional circumstances.” For example, residents who had lost their homes had to navigate complex permit requirements with little community infrastructure and limited personal resources because of the very losses (e.g., homes, telephone lines, computers) they were attempting to address. Many of the older adults involved did not have cellular phones, and most were unfamiliar with the use of computers and the internet even when those services were restored or made available in nearby Barriere. Further, this process often required residents to travel between where they were temporarily residing, Louis Creek, and government offices in Kamloops. They expressed a sense of frustration and disappointment at what they described as a lack of leadership at a critical time in their recovery process.

The rebuilding process, and other recovery activities that involved accessing relief funds, required that residents navigate their way through a lot of bureaucratic processes. Again, this assumed that people had access to a vehicle as many of these processes required that residents travel to Kamloops. Further, it assumed literacy because so much of the work required reading...
and understanding forms. A number of those interviewed described older neighbours who could not read and who could not therefore, with any confidence, access help. Many of these individuals were also described as very independent and self-reliant types whose pride prevented them from asking for help. Additionally, although relief agencies were eager to offer help to residents, many times the way this help was offered was experienced as intrusive, confusing, and intimidating and not always sensitive to local cultural norms and expectations.

**Issue:** Rural unincorporated communities face an additional challenge in meeting the needs of affected residents because of the lack of local governments and infrastructure and pre-existing technological and communication gaps.

**Recommendation 8:** Regional governments need to develop emergency response plans that provide for: (1) outreach planning and permit services (i.e., building permits, septic field permits); (2) potential communication obstacles (i.e., literacy issues, downed telephone lines, lack of computers), and (3) pre-existing or disaster-related technological gaps. Further, consideration should be given to providing ‘one-stop shopping’ options to facilitate access and minimize bureaucracy.

**Recommendation 9:** Community plans should include the consideration of older adults as repositories of valuable knowledge and expertise and assess and draw on those in the community who are willing able to assist in the recovery and rebuilding process.

Other themes that emerged included those related to the small “c” cultural relevancy of the services and recovery measures that were provided. Many of those interviewed in Phase I described a recovery process that was controlled by a small group of individuals, mostly non-resident, and their feeling that residents had been largely excluded from decisions that affected their futures and that of their community. From their perspective, this resulted in the absence of some needed services, and the provision of some services that were not sensitive to the differences between urban and rural environments and cultures and the specific needs of older adults living in rural environments. For example, during recovery, homes without pantries/root cellars were constructed for people who had until the fire relied economically on their ability to can and store food.

**Issue:** There can be a cultural disconnect between public and non-governmental relief organizations and those they serve. At times this can impact the accessibility of services, or the relevance of what and how services are provided. Further, because recovery is complex it can require affected residents to deal with an overwhelming number of different organizations and workers.

**Recommendation 10:** Recovery planning should include a consideration of local cultural norms, and the need for coordinated processes for accessing relief; residents of all ages, especially in rural areas where people may have less experience in dealing with bureaucracies, should not be troubled by navigating through layers of bureaucratic processes.
Longer-Term Recovery

A stereotypical gender split was evidenced in the recovery environments in Barriere and Louis Creek such that interviewees suggested that women had “naturally” focused their energy in the private sphere (i.e., home, family) or “nesting,” whereas men had “naturally” focused their attention on work and economic development. Decision makers in the recovery process were almost without exception male and disaster related resources were predominantly focused on job creation. It went largely unquestioned that women bore the responsibility for nurturing their families and rebuilding the fabric of their communities through volunteer work (i.e., volunteering in social service organizations, church, and school groups). Although many of those interviewed, men and women, spoke of the role of women in knitting together their families and their communities, this work was often made invisible and under-resourced.

The story of the ESS director who had been so instrumental in the evacuation process exemplifies one of the potential consequences of the invisibility of women’s work. This Barriere resident continued to volunteer with ESS throughout the evacuation period and into the recovery process, helping at the local food bank and clothing shelter and working with various organizations to ensure that those who had lost homes, jobs, and possessions could access appropriate material and emotional support. Finally, in the spring following the fire, on the day that the Salvation Army temporary aid site closed, she left that building and in her own words “came apart:"

I cried all the way home. I absolutely cried all the way home. And I couldn’t have said why I was crying. I was tired, darn tired, but I just. And every day I cried. For about the next week and a half. I guess it just built up, to the point where I had to do something. And I’ve never done that before in my life and I have been in situations that have been pretty hard. I would still go to bed crying. Wake up in the middle of the night crying. But I guess, with all those months of it, because by that time it was 8 months or more. I guess I just pushed it too far, too long. (P1)

This woman’s personal psychosocial resources and orientation were such that she was both able and willing to become an enormous resource to her community in the time of this disaster. However, after months on the front-line of caring for the community, she experienced emotional and psychological exhaustion. The potential for over-extension is heightened in an environment where the demands are extensive and the work of meeting those demands is invisible and in some ways assumed.
**Issue:** In the absence of ongoing assessment and the provisions of adequate supports and resources, community volunteers, including older adults, can overextend themselves and become secondary casualties of the disaster. The shared expectation that women will assume the role of care-giving for their families and communities, and the lack of social support for this work, makes women particularly vulnerable.

**Recommendation 11:** Recovery planning should acknowledge and plan ways to support and resource care-giving tasks and those who provide them.

**Recommendation 12:** Disaster response and recovery planning should incorporate a gender analysis in order to ensure equal participation in decision making and the provision of financial and human resources to support the psychosocial aspects of recovery so women do not become disproportionately burdened with responsibility for providing these services.

Another older adult, a Barriere resident who had also previously been very active in her community as an organizer and community volunteer brought a different perspective to volunteering in the disaster. Viewed by others as a potential resource during the evacuation period, this resident reported being surprised by her decision not to accept this role. She described retreating to the private world of her home and family and spoke of her need to do what many others did, focus on her home and family: “I just wanted to get my grandchildren and my foster son out… I thought I should stay and help people but I felt the family obligation very strong.” She described struggling with her sense of obligation to help and her desire not to be further involved.

I thought I would come back and do things for people. After the fire I went to the Salvation Army and people were asking “What do I do? Where should I put this?” At Christmas people started phoning and saying, “What are we [the community] doing for Christmas?” I didn’t know what to say. I didn’t want to be a leader at that time. I stepped right out of the picture. I just wanted to take care of my family. I didn’t want to take care of anyone. I wanted no responsibility. It was about year before I started doing stuff again. (P5)

**Issue:** Based on past experiences, some older adults will be viewed by their communities as resources during the time of a disaster. Relying on volunteer resources can at times place unexpected burdens on those directly affected by disasters and contribute to a sense of guilt for those who have chosen to focus on their own or their families needs.

**Recommendation 13:** Recovery plans must take into account the variability in older adults willingness and capacity to act as resources at any given time. Contingency plans should include provisions for training and mentoring alternate for those who fulfill leadership roles in the community.

As might be anticipated given the adoption of traditional gender roles, older men’s volunteering most often focused on job creation and business and economic development. Several older adults were involved in supporting a Community Forest initiative designed to
generate employment and community income in the wake of the decision not to rebuild the Tolko mill. One of those who helped this society come to fruition was an older Barriere resident with a long history working in the forest industry. He had intended to retire shortly after the fire but lent his experience and connections to support this initiative. Then, in response to the ongoing unemployment and the threat of younger families moving away to find work, he decided to build a small mill that now employs 15 community members. His comments regarding this endeavour included his disappointment that this project and other smaller job creation endeavours had been marginalized by key decision makers – most of whom were not residents of the affected communities – whose attention and allocation of recovery funding was focused primarily on large-scale projects.

The independence of smaller communities and their tendency to care for their own is further illustrated by how the small private care facility in Barriere managed the events of August 2003. Seniors’ Haven is a private home that accommodates up to six frail elderly people unable to live independently. Its oldest resident, who was evacuated during the fire, is now 103 years old. As a private facility, Seniors’ Haven had its own emergency plan so when the community was placed on alert, the owner/operator called residents’ families who came to pick up residents and took them home where they remained for five and a half weeks. However, after the evacuation order, the IHA called to offer assistance and places for residents to stay at Ponderosa Lodge, a residential care facility in Kamloops. The owner/operator expressed surprise that the IHA was even aware of Seniors’ Haven much less considering its fate during the emergency.

| Issue: Disaster affected communities can demonstrate enormous creativity and resourcefulness during and after a disaster. |
|______________________________________________________________________________________________________________________________________|
| Recommendation 14: Regional emergency plans should recognize and plan for the independence of smaller communities where aid from without may not be expected and thus local resources may have been mobilized already by including representative from affected communities in the planning for and allocation of resources. |

| Summary |
|______________________________________________________________________________________________________________________________________|
| In spite of being somewhat bemused by the distinction between older adults and other members of the community, residents of Barriere/Louis Creek were unanimous in their view that the fire had not had a particular impact on older adults. The following were typical observations: |

I remember stopping at the evacuation centre at the ridge and there were a couple of elderly ladies in there….very angry….they were waiting for someone to take them out…what they were angry about was not having to wait, but if someone would just give them a car, they’d drive themselves.
All the seniors I know seemed to be fine. It was not a big thing for them. I think maybe seniors have already gone through so much, gone through the war. During the fire, I think the seniors were the ones who were out in front….the seniors’ centre was the place to get food. They were the first people you gave a hug to, but they seem to be the strongest.

I don’t know any seniors who still have problems. I know some younger people who still have problems with it.

Many of the issues identified in Barriere and Louis Creek (i.e., the need for: contingency planning in the development of evacuation plans; gender as a factor in response and recovery services, and the role of older adults in disasters) also characterized experiences of the Okanagan Park fire in Kelowna. However, rather than repeat these themes, this case study focuses on the findings related to the experiences of frail elderly people living in the community and in residential care facilities. This focus is based on the fact that within the urban environment this vulnerable population often has minimal informal support networks and can be perceived as invisible or forgotten. The following findings are based on the perceptions of health care providers who worked with this population during the events of Firestorm 2003.

5. PLANs, CRISIS, & RECOVERY: KELOWNA

Exploring how frail older adults managed during the Okanagan Mountain Fire required a significant shift in perspective. This shift involved not only the move from a rural setting to an urban one, but also a shift from experience filtered through the lens of affected residents, to the perspective of the health care system and its service providers. The decision to focus on health care providers in Kelowna reflected the nature of the community and the effects of the disaster but were also based on exploratory interviews with key informants who cited the management of home care clients who were evacuated and the evacuation of Sutherland Hills Rest Home as events likely to shed light on the effects of the disaster on older adults in this urban centre.

HOME CARE CLIENTS IN THE COMMUNITY

Planning

It has been documented elsewhere (Info-Lynk Consulting Services Inc., 2004) that the IHA did not have an adequate disaster plan at the time of the 2003 fire. Although some health authority staff described their responses to the fire as “flying by the seat of your pants,” “kind of making it up as we went along,” these ad hoc responses on the part of home care managers and
nurses, in concert with hard work, good luck, and many health care providers’ capacity for managing the unexpected, resulted in what most study participants described as a good outcome.

The most compelling observation arising from the analysis of the interviews about managing home care clients of the health care system reaches beyond the incident of the fire. Several participants questioned how vulnerable or dependent individuals living in the community would get support in the absence or breakdown of the public system of services in the face of other scenarios (i.e., influenza pandemic) given the current reliance on those services. This idea came forward through the recognition that the speed and unpredictability of the Okanagan Mountain fire required a variety of contingency plans – what many respondents referred to as a “Plan B” – in order to direct the course of action should the primary plan be thwarted.

**Issue:** There is a growing population of frail or near-frail elderly adults relying on publicly funded homecare services to provide assistance with daily living tasks in order to maintain their independence (e.g. bathing, meal preparation, and medication management). In the event of large scale disasters, individuals and the health system need to consider how they would maintain continuity of care for this population in the event that these services had to be differently deployed (during a pandemic, for example) or were no longer available as a result of transportation barriers, loss of available health care staff, widespread destruction, or dislocation.

**Recommendation 15:** Additional planning is required to develop multi-layered contingency plans that integrate community and primary care health service providers, family members, and community-based emergency management planners.

**Recommendation 16:** Encourage dependent elderly people and their families to anticipate potential disruptions in health care services and develop contingency plans for meeting the health care needs of older adult family members.

**Issue:** By virtue of their disability and level of dependence, frail older adults living in the community may require additional assistance in an emergency situation.

**Recommendation 17:** Emergency planners and health-care providers should establish collaborative emergency plans and procedures for identifying and delivering support services to the most vulnerable, dependent individuals in their community during and after a disaster.

**The Evacuation**

When various parts of Kelowna were placed on evacuation alert, staff identified home care clients who would need assistance and drafted interview forms for staff; later, case managers prepared clients for potential evacuation and asked them to plan where they would go, with whom, how, and to report their plan and location. Additional beds were added to a local residential care facility in case they were required. Those who used ventilators at home were of concern and identified early. Although the most vulnerable clients were identified first, this seems to have been an intuitive rather than a planned response.
According to those interviewed, identifying clients in order to help them plan for possible evacuation presented a serious challenge as electronic records were not accessible by geographic location, thus the files had to be searched manually, a time and labour-intensive process in the face of the approaching fire. Another major challenge was that the fire occurred at the peak of staff summer vacation; thus, many staff were absent, while others were on evacuation alert and preparing to leave their homes. The dual concerns of staff for themselves, their families and homes on the one hand and for their clients on the other was a theme that emerged repeatedly.

One of the chief health concerns of and for older adults while the fire was burning was air quality. There was heavy smoke throughout the Okanagan valley, and the IHA responded to an inundation of inquiries by posting information on their website and supporting the dissemination of information to caregivers. Interruptions and difficulties in the delivery of home care and other services, the cancellation of elective surgeries, and the provision of accurate and timely health and service related information were also cited as challenging aspects of the response, particularly during the evacuation period.

Everyone interviewed agreed that the media, especially the radio, was important in informing people of the progress of the fire and thus in allowing people to make plans to evacuate. People were impressed by the calmness of radio announcers and the timely information that was clear and much repeated. In the Okanagan Fire, emergency managers actively engaged with mainstream media to provide consistent, accurate updates and avoided some of the problems that had occurred in the McLure Fire. In the latter case, a more arm’s-length approach to managing the media was adopted; for example, immediately following the fire in Barriere and Louis Creek, the media were kept out of the area. This strategy appeared to significantly contribute to the dissemination of misinformation (i.e., that Barriere had burned down, rather than Louis Creek) contributing to the distress of many of the areas residents. By contrast, media in Kelowna were continually fed updates and were bussed into the destroyed neighbourhood immediately following the fire so that their reporting was more accurate and immediate.

**Issue:** During a disaster, dependent elderly people living in their homes may be relocated to healthcare facilities in order to ensure that their healthcare and basic living needs are met. During this process it may be difficult for families to determine the location of these family members.

**Recommendation 18:** Develop or modify existing identification and referral systems in order to ensure that family members of clients living in the community are made aware of their location during evacuations.

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November 2006

Robin Cox
**Issue:** In an emergency situation, it may be necessary for a service system to quickly identify certain client groups either by service or geography.

**Recommendation 19:** Adapt health and social systems’ electronic records to allow for specific (e.g., geographic) searches to identify clients living in the community who may be at risk during an emergency.

**Issue:** Dependent elderly people living in their own homes require a range of accessories and equipment that should be transported with them in the event of their disaster-related evacuation.

**Recommendation 20:** Create plans that include systematic ways of ensuring that evacuated older adults living in the community or their caregivers (formal or informal): (1) take all needed medications and other items such as: dentures, wheelchairs, glasses, prostheses such as raised toilet seats, and any other equipment on which they rely, and (2) have ongoing support if needed to manage their medications, and address ongoing health and/or mobility concerns.

**Issue:** Mainstream media’s need for information will supersede the needs of emergency managers to control that information flow. Impaired relationships between the two parties can result in the dissemination of inaccurate information that creates new management problems and exacerbates survivor stress. This can be particularly difficult for vulnerable populations whose only source of information may be the media.

**Recommendation 21:** Emergency managers should engage with media as active partners, developing effective working relationships in advance of disasters so that during a disaster media can support the dissemination of accurate and helpful information.

**Recovery**

An important factor in looking at the effect of the Okanagan Mountain Park Fire on older adults living in the community was that the area of Kelowna from which there was the most evacuation required, the south side, is also the most affluent residential area of the city. Health care providers noted that most of the home care clients facing evacuation had family and friends to go to and transportation to get there. The story might have been different if the fire threatened some of the apartments in Kelowna that house lower-income seniors who may not have support networks and resources available. This fact had a considerable bearing on the outcomes -- there were no deaths among the home care clients and none of them ended up in the hospital’s emergency department or required shelter at the various evacuation shelters provided through Emergency Social Services.

Those interviewed had differing views of the effects of the Okanagan Mountain Park Fire on home care clients. One service provider believed that it is an incorrect assumption that people, especially older people, can’t cope: “Seniors know where their supports are; they just need to be given sufficient information, then they can cope…..[They] have lots of survival skills.”

Another service provider identified a “range of abilities to cope,” in which some trusted that their support system would deliver them from harm while for others the fire was “very
traumatic.” This individual believed that there were more (perhaps premature) deaths following the fire, as well as an increased need for care and an acceleration in degenerative dementias, which may have hastened the move to residential care for some individuals.

**Issue:** Affluent older adults tend to have either more reliable support networks and/or the financial resources to create such supports in the aftermath of a disaster. Older adults with lower-incomes may experience a deteriorating spiral of support that creates or exacerbates vulnerability during the recovery period.

**Recommendation 22:** Consider ways of identifying and planning for lower-income older adults living in the community who may have limited resources and support networks and who may not have the necessary resources to re-establish themselves following a disaster.

**Issue:** While service providers may be able to observe the effects of disasters on older adults, they do not have systems or procedures for monitoring and addressing long-term health and social problems in the wake of a disaster.

**Recommendation 23:** Develop systems that ensure follow up for disaster-affected older adults living in the community in order to address potential health issues associated with the longer-term recovery process.

## THE FRAIL ELDERLY IN RESIDENTIAL CARE FACILITIES

A major event during the Okanagan Mountain Fire was the evacuation of Sutherland Hills Rest Home. Sutherland Hills Rest Home is a privately owned and operated residential care facility that is home to around 100 frail elderly people and is located in a south-east area of Kelowna, in a semi-rural setting at the end of a winding road amid pastures and small farms.

**Planning**

Like many organizations, Sutherland Hills had emergency plans that only considered local or internal emergencies that would require evacuation of their premises, not the community. Sutherland Hills standing evacuation plan called for moving its residents to a local school two blocks away. However, as the fire encroached on south-eastern Kelowna and it was apparent that it would be difficult to predict the fire’s behaviour, it was decided that residents would be evacuated to another community to avoid the possibility of multiple moves and the additional stress that caregivers believed could not be borne by such frail people. This decision and accompanying arrangements were made by the IHA. The unpredictability of the fire also meant that when the evacuation order was received there was very little time to prepare for the move.
**Issue:** Individual health agencies that are not directly affiliated with government may develop emergency preparedness plans in isolation from local health authorities and other community plans. Such plans may address only internal or local emergencies and not consider and plan for the need to move frail elderly individuals living in residential care facilities not only out of the facility but out of the community in which the facility is located.

**Recommendation 24:** Residential care facilities need to plan in conjunction with local authorities and look beyond local or internal emergencies to establish plans for community/regional evacuation.

**Issue:** The majority of institutionalized frail elderly people have some level of physical disability that requires particular care

**Recommendation 25:** Ensure that emergency plans include the availability of adequate and appropriate modes of transportation (wheelchair buses, ambulances etc.) to accommodate residents and their mobility aids.

**Issue:** In disasters, families of vulnerable populations may respond by wanting to care for their family members themselves without adequate or appropriate resources or information

**Recommendation 26:** Clarify the role of families in emergencies and provide information that allows families to make informed choices about caring for their frail elderly at home. Plans might also include addressing the ways and means of providing these families with the additional relevant resources to families to meet the needs of their frail elderly.

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**Evacuation**

The staff of Sutherland Hills, working in concert with IHA personnel, had the daunting task of moving the rest home residents. At approximately five p.m., at the end of the work day, the administrator of Sutherland Hills called all staff back to work. An important self-reported characteristic of the staff of Sutherland Hills is their high level of dedication to the facility and its residents. Some staff have worked there for more than 20 years and in some cases more than one generation of a family is employed there. As staff were being called back to work, the care manager made a general announcement to residents, who were at dinner, about the need to evacuate, then visited the tables of the cognitively intact to answer questions and reassure them. It is important to remember that only about one quarter of the residents of Sutherland Hills were cognitively intact whereas the majority had mild to severe dementias.

With a limited number of ambulances (3), an important consideration was evaluating which residents were too sick or frail to manage a bus trip and should be transported by ambulance. By departure time, large ash was falling around Sutherland Hills and the smell of smoke was in the air. Ambulances, wheelchair access buses, and trucks were used to move residents, their beds, mobility aids, and minimal possessions and supplies from Kelowna to Vernon. Interviewees reported that a trip that ordinarily takes a little over 30 minutes, on this occasion took several hours as traffic carrying other evacuees moved out of town at a snail’s pace. Arriving in Vernon,
a community 47 km. northeast of Kelowna, residents, staff, and beds were taken to the two identified care facilities (Gateby House and Noric House) and moved into make-shift wards set up in dining rooms and other open areas. The evacuees remained there for nearly a week.

Asked to consider what worked well in the facility’s response to the emergency, staff noted the importance of taking residents’ beds and the efficiency of the process of readying them for transport. “We put masking tape on the beds with residents’ names, we pulled the covers back, threw in a paper bag of meds, the chart, pulled the covers back, and put the bed on the semi…and put the next one on top, we had them three deep.” A glitch in this process emerged later when it was difficult to match resident to bed as they were transported to two different facilities and residents did not disembark in the same order in which their beds were unloaded.

After the event, staff identified a significant problem in evacuating elderly clients. When the evacuation notice was given, many family members were naturally very concerned about their family members at Sutherland Hills. Some families took their frail family members home without realizing what was involved in caring for them. One resident fell during her sojourn with her family and broke her hip; for this person, the fracture has become a more vivid memory that the forest fire. With hindsight, staff reported that they would caution against families taking on such responsibilities without the training, physical environment, and mobility aids that support residents in the facility.

Another notable observation of staff about the Sutherland Hills experience during the fire was that because they were evacuated from Kelowna to Vernon, where there was no fire or state of emergency, there was not the level of assistance and support that would have been available in Kelowna through Emergency Social Services. Staff of Sutherland Hills arrived in Vernon with no transportation or accommodation; residents had only one change of clothes. The shared sense of purpose that led to Emergency Social Services, individuals, and businesses distributing food, clothing, and other resources in Kelowna and other fire-affected communities in the midst of this emergency, was simply not present in Vernon.

**Issue:** Some frail elderly people have a limited capacity to adapt to and thrive in the midst of change and different environments. Disasters, such as fires, may be unpredictable in terms of speed and geographic coverage and may necessitate rapid and sometimes multiple evacuations and movement far beyond the local area.

**Recommendation 27:** Identify a range of evacuation destinations for residential care facilities to minimize multiple moves for frail elderly people and thus reduce the potential impact on their physical and psychological health.
**Issue:** While a spirit of cooperation and shared concern may be present in communities involved in disasters, communities to which disaster evacuees are temporarily re-located may not themselves be involved in the disaster. In such instances, while evacuees’ basic needs are met, support to evacuees and relocated staff may not be as comprehensive and appropriate as it is in communities directly affected by the disaster.

**Recommendation 28:** Evacuation plans should consider ways of ensuring that evacuees and the staff that accompany them receive appropriate levels of support when evacuated to communities not directly affected by the disaster.

**Issue:** As the population in North America ages, longevity increases, and governments encourage older adults to remain at home, the populations of residential care facilities are older, frailer, and more cognitively impaired.

**Recommendation 29:** Identify a range of strategies for moving and caring for cognitively impaired older adults that would minimize the potential for increased confusion or anxiety.

**Recovery**

Everyone interviewed agreed that the effects of the evacuation, and the return on residents was minimized by the continual presence of familiar staff. Sutherland Hills staff travelled on the buses to Vernon with residents (some held sing-songs during the protracted road trip) and continued to care for residents during their stay in Vernon. According to a staff member, the residents managed “amazingly well…we were all there…familiar faces…some you didn’t think they recognized you, but in Vernon, oh yes they recognized you.” Even though conditions were less than optimal -- “It’s like pictures you see in Third World countries where all the beds are crammed together and you’re changing the urine-soaked beds in the morning” -- the displacement was likely not as traumatic for residents as it might have been without their familiar caregivers.

While some residents demonstrated resilience, others exhibited increasing agitation and distress three or four days after the evacuation. Caregivers reported that changes and relocations, and the loss of familiar routines, place, and activities were particularly hard on some residents with cognitive impairments. More long-term effects on the health of the residents were noted within 6 weeks of return when more flu, colds, and depression emerged. Staff also indicated their suspicions that at least two deaths may have been attributable to the evacuation and return, although one resident was already receiving palliative care at the time of departure and died shortly after arriving in Vernon.

What emerged from this experience was the unpredictability of the frail elderly residents’ responses to the emergency. The resilience of many residents calls into question our perception
that frail elderly people are automatically considered vulnerable and that their wellbeing is rooted in the familiar and predictable. According to staff, some residents seemed to benefit from the stimulation of travel and a new environment. Although sleep patterns and routines were disrupted and some residents required medication to sleep, some residents became more alert and cheerful. One resident who has recently arrived at Sutherland Hills had been very aggressive and difficult, but settled right down during and after the evacuation. Another usually pleasant individual became aggressive and difficult after the fire. One elderly person commented that the experience was the “best holiday in Hawaii I ever had.” It would seem that responses to disasters and the changes that accompanied them were rooted more in past life experiences and temperament than in age or health condition.

**Issue:** During and following disasters, frail elderly people may suffer immediate and long-term affects on their physical and psychological health. Even though some may be resilient and adaptable to changes, management of frail elderly people during and after disasters should be aimed at minimizing disturbance, stress, or trauma.  

**Recommendation 30:** Residential care facilities’ disaster preparedness/evacuation and recovery plans should include strategies for retaining as much that is familiar to residents as possible -- for example, move residents’ beds with them to new location, have familiar staff accompany residents during evacuation, continue to use familiar staff as caregivers in new temporary location, re-establish normalcy as quickly as possible on return.

6. **CONCLUSION**

*Older Persons In Emergency and Disaster Situations: A Case Study Of British Columbia’s Firestorm 2003* seeks to better understand, on the one hand, how older adults are a resource in disasters and, on the other, how vulnerable older adults are managed and affected by such disasters. This case study has been informed by and confirmed the efficacy of the principle of diversity among older adults and has suggested that age alone should not be used as a predictor of older adults’ resiliency or vulnerability in disasters in isolation from a consideration of a complex web of intersecting factors.

In 2006, the BC Provincial Emergency Program published a disaster recovery-planning template for BC local authorities and First Nations. This comprehensive document outlines a planning strategy that addresses many of the issues identified in the present case study in a general way. The document identifies *elderly* and *seniors* as particular populations that may have special needs, and points to the need to plan for particular challenges including transportation, delivery and accessibility of services. The document does not address, however, some of the specific challenges faced by rural communities, particularly unincorporated...
communities, in developing such plans given the lack of local government structures and the almost complete reliance on volunteers for initiating and sustaining such plans.

In examining the Firestorm 2003 experiences in Barriere and Louis Creek, rural communities that rely on volunteers many of whom are older adults, we have seen that while older adults often emerge as community leaders and resources, we should not assume their resilience, strength, and resourcefulness or necessarily rely on them unilaterally as a resource in disasters. Similarly, we heard from health care providers in Kelowna that some dependent frail elderly people, though commonly viewed as a vulnerable population requiring protection, may possess a surprising resilience and capacity to adapt to change.

The findings of this case study argue for a reframing of disaster resilience as a process rather than a personal characteristic, shaped by the intersection of an individual’s personal characteristics (i.e., self-esteem, coping styles), gender, life conditions (i.e., employment, housing), economic, and social resources as they intersect with a parallel complex of resources at the community and social levels (i.e., infrastructure, local and regional economy, social support, social cohesion) over time. This in turn implies the need for the development of disaster planning and response frameworks that encourage and support intersectoral collaboration between health care, social service, and community and regional emergency planners, and that meaningfully consider some of the specific issues raised in this study; issues arising from and associated with such factors as rurality and gender and their socio-economic implications for different populations of older adults. Such plans, if they are to be relevant and effective, must engage older adults as active partners in a planning process that recognizes them as both a potentially vulnerable population but also as resources to their families and communities.
REFERENCES

Primary


**Secondary**


APPENDIX A: BC HEALTH AUTHORITIES

The province of British Columbia is divided into five geographic health authorities and a province-wide health authority that ensures provincial access to a coordinated network of specialized health services. The Interior Health Authority, with head offices in Kelowna, serves a region that stretches from Williams Lake to the US border, and from Anahim Lake in the Chilcotin to the Alberta border, an area populated with approximately 690,000 people.
APPENDIX B: METHODOLOGY

Phase I: During the course of the initial study (December 2003 - August 2006), the author conducted 65 days of field work in Barriere and Louis Creek, undertaking a series of semi-structured, qualitative interviews with residents of Barriere and Louis Creek about their recovery process following the McLure Fire. A total of 43 individuals participated in the interviews with several key informants participating in multiple interviews over the study period from November 2003 to November 2005. This resulted in a total of 49 interviews with individuals and couples, and one focus group consisting of 6 resident and non-resident service providers who were involved in the provision of disaster-recovery related social services.

All interviews were audio-taped and transcribed. An iterative approach to coding the data was employed in which data collection and analysis occurred simultaneously (Glaser & Strauss, 1967). A thematic analysis was employed using: a) open and selective coding and memo making (Charmaz & Mitchell, 2001), and b) the constant comparison strategies described in social constructionist iterations of the grounded theory methodological approach (Charmaz, 1990; Pidgeon & Henwood, 1997).

Description of Phase I Participants: Of those interviewed during Phase I, 35 were residents of either Barriere or Louis Creek, and 8 were non-resident service providers working in these two communities on behalf of non-governmental organizations, or were government officials who were involved in the recovery process in Barriere and Louis Creek. The majority (N = 24) of those interviewed had lived in their respective communities for over 10 years; many of those (N = 15) had lived there for more than 20 years. The majority of those interviewed (N = 31) ranged between the ages of 40 – 60 years at the time of the first interviews. Four of those interviewed were between the ages of 20 – 40 years, and 6 were above 60 years. Of those who responded to the question regarding income (N = 31), the majority declared a household income that ranged from $10 - $60 thousand (N = 17). Although there is a substantial First Nations population in the North Thompson, the majority live to the north of Barriere on the Chu Chua reservation. There is an additional small reservation in Louis Creek constituted of approximately 22 residents. Only one official representative of the North Thompson Indian band was interviewed.

Phase II: A subsequent data set was collected in September 2006 (Phase II) in order to target more specifically those who had provided services to older adults during the McLure and Okanagan Mountain Fires or could speak to the experiences of older adult residents. The choice of who to interview was influenced by key informants in the target communities and differences in the delivery of services between these urban and rural environments.

Key informants in the Kelowna area directed the researchers to individuals providing services for older-adults, particularly the frail elderly. Most of these individuals were involved in the care of frail elderly and other older-adults by virtue of their paid employment as health care providers. In contrast, most of those who were identified as likely interview subjects in Barriere and Louis Creek were community members who were themselves older-adults and who had been involved in the response and recovery process as volunteers with Emergency Social Services, various churches, or in their capacity as informal leaders in their communities. All of these individuals had experienced the evacuation personally and some had directly experienced losses (i.e., homes, ranch land, businesses).

The Phase II data set consisted of a total of 34 semi-structured interviews guided by two sets of interview prompts, one designed for health care providers, and the other for older adults. Again these interviews were audio-taped and transcribed and analyzed using a thematic analysis until saturation was achieved (i.e., no new themes emerged). The findings of the present case study reflect the themes identified in the analysis of the Phase II data, and those identified in Phase I that contrasted or provided further illustration or elaboration of the Phase II themes.

Description of Phase II Participants: Fifteen interviews were conducted in Kelowna with health system service providers (N=12) and with very frail elderly residents of a residential care facility that had been evacuated during the Okanagan Mountain Fire (N = 3). Nineteen additional interviews were conducted in Barriere with older adults, many of whom were directly involved in the provision of disaster response and recovery services.
APPENDIX C: PHASE II INTERVIEW GUIDES

Questions for Public/Volunteers
1. First of all, we would like to get a picture of what it was like for you during and following the disaster by asking a general question. What happened for you during the fires of 2003?
2. What has the recovery process since the fires been like for you, your family, and more generally for your community?
3. Can you describe any specific issues, or factors that have influenced this process for you thus far? This could include services provided or not provided, aspects of the evacuation, return, or recovery process that you found particularly helpful or aspects of the community’s process that you found helpful, or detrimental.
4. Can you describe what were the most important considerations for you as the fire approached?
5. Can you describe what might be the most important considerations for you during the evacuation?
6. What about during the immediate return to the community and the initial recovery process?
7. Can you talk about what you think are the most important considerations influencing your long-term recovery… and this might include things that are still happening or that you anticipate for the future?
8. How, if at all, did the fires affect your health and well being? (Try to get at specifics of both physical and psychological health, and social well being)
9. How, if at all, did the fires affect your social networks or sense of the community?
10. Is there anything else that you think would be important for us to know in order to understand the recovery process for you and other seniors in your community?
11. Is there anything else that you think would be important for us to know in order to support seniors in our response to disasters and disaster recovery?

Questions for Health Care Providers
1. First of all, we would like to get a picture of what it was like for you during and following the disaster by asking a general question. What happened for you during the fires of 2003?
2. What has the recovery process since the fires been like for you and your patients/clients?
3. Can you describe any specific issues, or factors that have influenced this process thus far? This could include services provided or not provided, aspects of the evacuation, return, or recovery process that you found particularly helpful or detrimental to the client group you serve (older adults)?
4. Can you describe your sense of what might be the most important considerations for seniors as the fire approached?
5. Can you describe your sense of what might be the most important considerations for seniors during the evacuation?
6. What about during the immediate return to the community and the initial recovery process?
7. Can you talk about what you think are the most important considerations influencing seniors long-term recovery… and this might include things that are still happening or that you anticipate for the future?
8. How, if at all, did the fires affect health and well being of the seniors you work with? (Try to get at specifics of both physical and psychological health, and social well being)
9. How, if at all, did the fires affect seniors’ social networks or sense of the community?
10. Is there anything else that you think would be important for us to know in order to understand the recovery process for seniors in your community?
11. Is there anything else that you think would be important for us to know in order to support seniors in our response to disasters and disaster recovery?
APPENDIX D: PHASE II INTERVIEWEES

Barriere/Louis Creek

Jill Hayward, Editor of Star/Journal
Bea Thalheimer
Executive Members of the Barriere and District Seniors Society
Donna Kibbles, Executive Director, North Thompson Volunteer & Information Centre
Kathy Simrock, owner and operator of Seniors Haven
Al and June Bush
Ron Hindson, board member, Yellowhead Pioneer Residence
Residents of the Yellowhead Pioneer Residence

Kelowna

Gloria Mohr
Manager Access and Strategic Information
Interior Health Authority

Trish Willis
Manager, Community Care and Emergency Preparedness
Interior Health Authority

Darlene Rogers-Neary
Leader Admin Support Residential Services
Interior Health Authority

Lori Holloway
Regional Director
Interior Health Authority

Wendy Calhoun
Administrator Sutherland Hills

Elizabeth Gerlitsch, resident of Sutherland Hills
Rolande Terkot, resident of Sutherland Hills
Bertha Odegaard, resident of Sutherland Hills

Denise Cockerill, care aide, Sutherland Hills
Linda Will, care aide, Sutherland Hills
Tara-Lee Calhoun, Director of Care, Sutherland Hills

Nancy Kilpatrick
former Director, Residential Care
Interior Health Authority